



# COLLEGE CATALOG

2022 – 2023 ACADEMIC YEAR



## Message from the President



Hello from LCC:

You know what? I think you are one step closer to finding what you're looking for.

Because you're reading this, you've likely decided that the next chapter of your journey includes college. You're looking for the right place to pursue your degree, certificate and transfer credit. Or perhaps you need to finish what you've already started. You've also decided that community college is a great place to get started, and I couldn't agree more.

You want a college that offers low-tuition, amazing programs with high-quality, hands-on learning. You want expert faculty, personalized support and resources, classes that transfer, and options for continued growth. Lansing Community College is consistently ranked among the best in the state and nation for our innovative programs. Our college is filled with diverse voices and backgrounds, and we are proud to be inclusive of everyone and focused on your success. You're looking for a great college for you. I think you've found it.

In this Course Catalog, I'm confident that you will find a program that fits your passion and a pathway to completion that fits your life. Our outstanding faculty and staff, along with our state-of-the-art facilities are just the resources you need from start to finish.

You want a college that will help you achieve your goals and reach your next chapter - we are that College.

Ready when you are, Go Stars!

Steve Robinson, Ph.D.  
President

## Message from the Provost



Welcome to Lansing Community College! I am delighted you are here and cannot wait to see you on one of our campuses.

As a community college, LCC is part of a uniquely American educational model that provides low-cost, high-quality education to anyone who wants to learn. You can train here to become a nurse or firefighter or manufacturing engineer, or you can use your classes as an on-ramp to a university for your bachelor's or master's degree. Whatever you want to do, you belong here.

As a community college, LCC is also uniquely dedicated to student success. We offer a plethora of free student services, including academic advising, mental health counseling, tutoring and more. In addition, as an LCC student, you will be assigned to one of our expert Academic Success Coaches who will serve as your personal mentor, coach and cheerleader to help you through your college journey.

After two years of disruption, we are back on campus and ready to help you with a smile. But we've also retained all of our online expertise. Do you like the flexibility of online classes, or the interaction of in-person? Maybe a mix of both? Need to drop by for a quick chat with your Academic Success Coach before your next class? Or do you prefer to hop on a video chat with a financial aid expert between shifts? No problem. We are ready wherever you need us because you, the student, are the reason we are here.

I encourage you to browse this catalog to get a sense of your degree and certificate choices and find some classes that look interesting. If you need a little friendly guidance, please contact our [StarZone](#) to get started. I'm excited for you and hope to see you soon.

Sincerely,

Sally Welch  
Provost

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## Disclaimers

LCC provides equal opportunity for all persons and prohibits discriminatory practices based on race, color, sex, age, religion, national origin, creed, ancestry, height, weight, sexual orientation, gender identity, gender expression, disability, familial status, marital status, military status, veteran's status, or other status as protected by law, or genetic information that is unrelated to the person's ability to perform the duties of a particular job or position or participate in educational programs, courses, services or activities offered by the College.

The following individuals have been designated to handle inquiries regarding the nondiscrimination policies: Equal Opportunity Officer, Washington Court Place, 309 N. Washington Square Lansing, MI 48933, 517-483-1730; Employee Coordinator 504/ADA, Administration Building, 610 N. Capitol Ave. Lansing, MI 48933, 517-483-1875; Student Coordinator 504/ADA, Gannon Building, 411 N. Grand Ave. Lansing, MI 48933, 517-483-1885; Human Resource Manager/Employee Title IX Coordinator, Administration Building, 610 N. Capitol Ave. Lansing, MI 48933, 517-483-1879; Student Title IX Coordinator, Gannon Building, 411 N. Grand Ave. Lansing, MI 48933, 517-483-9632.

Lansing Community College is accredited by the Higher Learning Commission. The commission can be contacted at the [Higher Learning Commission](#) webpage or 800-621-7440. Its mailing address is 230 S. LaSalle St., Suite 7-500, Chicago, IL 60604. The Downtown Campus of Lansing Community College is located in downtown Lansing. Student service offices are located at 422 N. Washington Square and can be contacted at lcc.edu or 517-483-1957.

This document is for informational purposes only and is not to be construed as a binding offer or contract between the college and the student. This document is subject to change without prior notice. The listing of instructors' names in the Banner class schedule is for informational purposes only and does not constitute a contract of employment or offer to employ any named instructor. Instructional assignments are subject to change in accordance with college policies as needs of the college may require. The college reserves the right to cancel classes which do not have sufficient enrollment. Students enrolled in classes which are cancelled will have the opportunity to add another class. Classes may be held in a different room at an off-campus location if there is insufficient space on campus. This document is intended to be used with the Banner registration system, which provides complete information on courses.

# Downtown Campus Map



## Downtown Campus

### Building Locations

- |   |   |
|---|---|
| <b>505</b> 505 N. Capitol                 | <b>HHS</b> Health and Human Services Building |
| <b>515</b> 515 N. Capitol                 | <b>HRC</b> Herrmann and Rogers-Carrier Houses |
| <b>601</b> 601 N. Washington Square       | <b>MB</b> Mackinaw Building                   |
| <b>A&amp;S</b> Arts and Sciences Building | <b>TLC</b> Technology and Learning Center     |
| <b>ADM</b> Administration Building        | <b>UC</b> University Center                   |
| <b>AOF</b> Academic and Office Facility   | <b>WCP</b> Washington Court Place             |
| <b>DRT</b> Dart Auditorium                |   |
| <b>GB</b> Gannon Building                 |   |
| <b>HB</b> Huron Building                  |   |

- Available Parking  
6, 12, 15, 17, 20, 22, 23, 26, 27  
and Gannon Ramp
- Restricted Parking  
28 and 29

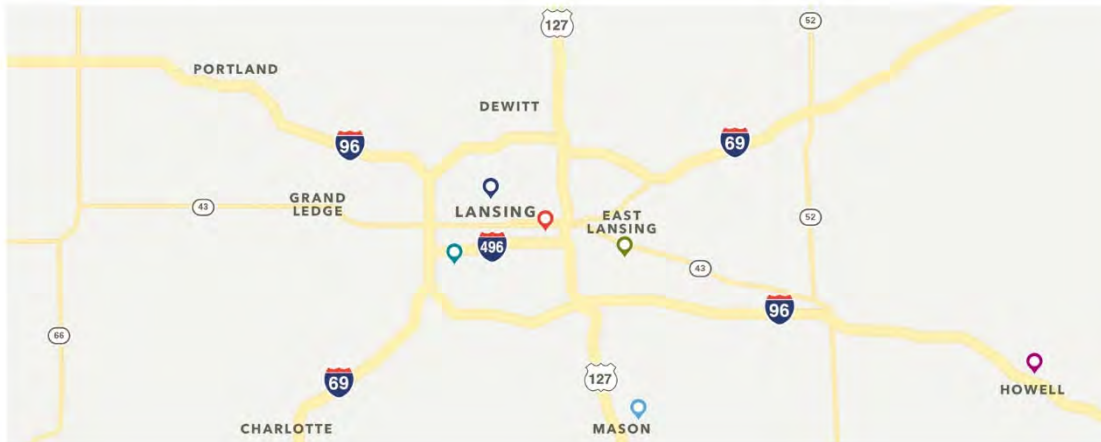


If having difficulty accessing this map please  
[visit LCC's Downtown Campus webpage](#)

## Other Campus Maps

### LCC Locations

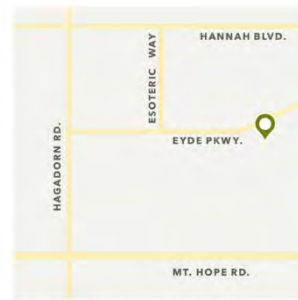
For more information about LCC locations, visit [lcc.edu/maps](http://lcc.edu/maps).



**Downtown Campus**  
411 N. Grand Ave.  
Lansing, MI 48933



**LCC West Campus**  
5708 Cornerstone Dr.  
Lansing, MI 48917



**LCC East**  
2877 Eyde Parkway  
East Lansing, MI 48823



**Mason Jewett Field**  
661 Aviation Dr.  
Mason, MI 48854



**Livingston Center**  
402 Wright Rd.  
Lansing, MI 48943



**AIS Construction**  
3175 Remy Dr.  
Lansing, MI 48906

Visit the [LCC Locations](http://lcc.edu/maps) webpage for more information

## Lansing Community College Administration & Board

### BOARD OF TRUSTEES

Ryan Buck, Chair  
Angela L. Mathews, Vice Chair  
Robert E. Proctor, Treasurer  
Lawrence Hidalgo, Jr., Secretary  
Andrew Abood, Trustee  
LaShunda Thomas, Trustee  
Samantha Vaive, Trustee

### PRESIDENT

Steve Robinson

### PROVOST AND SENIOR VP OF ACADEMIC AFFAIRS

Sally Welch

### SENIOR VP OF BUSINESS OPERATIONS

Seleana Samuel

### ASSOCIATE VP, EXTERNAL AFFAIRS & DEVELOPMENT & K-12 OPERATIONS

Toni Glasscoe

### CHIEF DIVERSITY OFFICER

vacant

### CHIEF FINANCIAL OFFICER

Donald Wilske

### CHIEF INFORMATION OFFICER

Bill Garlick

### DEAN, ARTS & SCIENCES

Andrea Hoagland

### DEAN, COMMUNITY EDUCATION AND WORKFORCE DEVELOPMENT

Baldomero Garcia

### DEAN, HEALTH & HUMAN SERVICES

Elizabeth Burger

### DEAN, STUDENT AFFAIRS

Ronda Miller

### DEAN, TECHNICAL CAREERS

Catherine Wilhm

### ADMINISTRATIVE SERVICES EXECUTIVE DIRECTOR

Christopher MacKersie

### CENTER FOR DATA SCIENCE EXECUTIVE DIRECTOR

Matthew Fall

### HUMAN RESOURCES EXECUTIVE DIRECTOR

James Mitchell

# Academic Calendar

## Fall 2022 Academic Calendar

### Fall Semester 2022 – Registration begins April 25, 2022

Length of Course	Dates
Full Semester (16 Weeks)	August 18 – December 12, 2022
First 8 Weeks	August 18 – October 12, 2022
First 12 Weeks	August 18 – November 9, 2022
Last 15 Weeks	August 25 – December 12, 2022
Last 14 Weeks	September 1 – December 13, 2022
Last 12 Weeks	September 15 – December 11, 2022
Last 8 Weeks	October 13 – December 12, 2022

Pre-Registration Tasks	Registration Schedule		
	Number of CREDITS earned at the time of registration	Register during or after	Date
<ul style="list-style-type: none"> <li>• <a href="#">Establish Placement Levels*</a></li> <li>• <a href="#">Attend orientation if a new student**</a></li> <li>• <a href="#">Meet with an Academic Advisor</a></li> <li>• <a href="#">Verify and Update Program of Study</a></li> <li>• <a href="#">Create a Course Schedule</a></li> <li>• <a href="#">Search All Course Descriptions and Required Prerequisites</a></li> <li>• <a href="#">Search for Available Course Offerings for Fall Semester</a></li> <li>• <a href="#">Estimate your Tuition Cost</a></li> <li>• <a href="#">Know your Payment Responsibilities and View Options on How to Fund your Education</a></li> <li>• <a href="#">Verify and Update Address and Phone</a></li> <li>• <a href="#">Check for Holds</a></li> <li>• <a href="#">Verify Placement Test Scores and Residency in myLCC</a></li> </ul>	60 or more	8 - 10 a.m.	Monday, April 25, 2022
	30 or more	10 - 12 noon	
	12 or more	12 - 2 p.m.	
	1 or more	2 - 4 p.m.	
	Current & Returning Students	After 4 p.m.	
	*New students	After 8 a.m.	
<p>*Additional prerequisite and placement information can be found on the <a href="#">Waiver Information</a> webpage.</p> <p>**New students are <b>required</b> to attend orientation prior to registering for courses. Visit the <a href="#">Registration</a> page for more information</p>			

Event	Date
Orientation available online, required for new students - For more details visit our <a href="#">Orientation</a> page.	Monday, April 25, 2022
Web registration begins - For more details visit our <a href="#">Registration</a> page.	Tuesday, April 12, 2022
Priority Financial Aid FAFSA file date - For more details visit our <a href="#">Financial Aid</a> page.	Friday, July 1, 2022
Priority Financial Aid document submit date - For more details visit our <a href="#">Financial Aid</a> page.	Friday, July 15, 2022
Financial Aid book vouchers begin – For more details visit our <a href="#">Financial Aid Disbursements</a> page.	Friday, July 29, 2022
Financial Aid supply advances begin – For more details visit our <a href="#">Financial Aid Disbursements</a> page.	Thursday, July 28, 2022
Semester Begins	Thursday, August 18, 2022
End 100% refund tuition and fees - Full semester and first 8 week & 12 week only – For more details visit our <a href="#">Registration</a> page.	Wednesday, August 31, 2022
End 50% refund, tuition & student support fee only - Full semester and first 8 week & 12 week only – For more details visit our <a href="#">Registration</a> page.	Wednesday, August 31, 2022
Labor Day – College closed	Monday, September 5, 2022
Financial Aid <a href="#">Refunds</a> for <a href="#">Grants</a> , <a href="#">Scholarships</a> , and first half of loans begin	Monday, September 12, 2022
Last day to <a href="#">change residency</a>	Thursday, September 29, 2022
Last day to <a href="#">change program of study</a>	Thursday, September 29, 2022

Event	Date
Financial Aid <a href="#">refunds</a> for second half of loans begin	Thursday, October 20, 2022
Last day to <a href="#">submit Associate Degree/Certificate</a> applications for Fall semester	Tuesday, November 15, 2022
Thanksgiving Holiday - College Closed	Thursday, November 24 - Sunday, November 27, 2022
Semester Ends	Monday, December 12, 2022
End of semester grades posted and available for view	Thursday, December 15, 2022

#### Fall 2022 Teaching Periods

		Last Date for 100% Refund TUITION and FEES	Last Date for 50% Refund TUITION and SUPPORT FEE ONLY	Last Date to Change to Audit/Credit	Last Date to Drop With No Grade	Last Date to Drop Course. Course with a Record of a W & Last Date to Drop Online
<b>Standard Teaching Periods</b>	[start - end]					
Full Semester	[8/19-12/13]	8/24	8/31	8/31	8/31	11/28
First 8 weeks	[8/19-10/13]	8/24	8/31	8/31	8/31	10/5
Last 8 weeks	[10/14-12/13]	10/19	10/26	10/26	10/26	12/6
First 12 weeks	[8/19-11/10]	8/24	8/31	8/31	8/31	10/30
Last 12 weeks	[9/16-12/12]	9/21	9/28	9/28	9/28	11/30
Last 14 weeks	[9/2-12/13]	9/7	9/14	9/14	9/14	11/30
Last 15 weeks	[8/26-12/13]	8/31	9/7	9/7	9/7	11/30
<b>Variable-Start Courses</b>						



		<b>Last Date for 100% Refund TUITION and FEES</b>	<b>Last Date for 50% Refund TUITION and SUPPORT FEE ONLY</b>	<b>Last Date to Change to Audit/Credit</b>	<b>Last Date to Drop With No Grade</b>	<b>Last Date to Drop Course. Course with a Record of a W &amp; Last Date to Drop Online</b>
Community and Continuing Education (Non-Credit Courses)	[Section Specific]	Please call (517) 483-1415 for assistance.				
Open Entry Courses or Modules	[Based on learning contract]	Day prior to the learning contract start date	Per learning contract	Day prior to the learning contract start date	Day prior to the leaning contract start date	NONE
Less than 8 weeks	[Section Specific]	Day prior to the start of class	N/A	Midpoint of class	Day prior to start of class	NONE
8 weeks or more	[Section Specific]	7 days into the class	14 days prior to the last week of class	14 days into class	14 days into class	Day prior to the last week

To view on LCC’s Website, go to the [Fall 2022 Academic Calendar](#).

## Spring 2023 Academic Calendar

Spring 2023 – Registration begins October 3, 2022

Length of Course	Dates
Full Semester (16 Weeks)	January 9 - May 8, 2023
First 8 Weeks	January 9 - March 13, 2023
First 12 Weeks	January 9 - April 10, 2023
Last 15 Weeks	January 17 - May 8, 2023
Last 14 Weeks	January 24 - May 8, 2023
Last 12 Weeks	February 7 - May 8, 2023
Last 8 Weeks	March 14 - May 8, 2023

Pre-Registration Tasks	Registration Schedule		
	Number of CREDITS earned at the time of registration	Register during or after:	Date
<ul style="list-style-type: none"> <li>• <a href="#">Establish Placement Levels*</a></li> <li>• <a href="#">Attend orientation if a new student**</a></li> <li>• <a href="#">Meet with an Academic Advisor</a></li> <li>• <a href="#">Verify and Update Program of Study</a></li> <li>• <a href="#">Create a Course Schedule</a></li> <li>• <a href="#">Search All Course Descriptions and Required Prerequisites</a></li> <li>• <a href="#">Search for Available Course Offerings for Fall Semester</a></li> <li>• <a href="#">Estimate your Tuition Cost</a></li> <li>• <a href="#">Know your Payment Responsibilities and View Options on How to Fund your Education</a></li> <li>• <a href="#">Verify and Update Address and Phone</a></li> <li>• <a href="#">Check for Holds</a></li> <li>• <a href="#">Verify Placement Test Scores and Residency in myLCC</a></li> </ul> <p>*Additional prerequisite and placement information can be found on the <a href="#">Waiver Information</a> webpage.</p> <p>**New students are <b>required</b> to attend orientation prior to registering for courses. Visit the <a href="#">Registration</a> page for more information</p>	60 or more	8 - 10 a.m.	Monday, October 3, 2022
	30 or more	10 - 12 noon	
	12 or more	12 - 2 p.m.	
	1 or more	2 - 4 p.m.	
		Register after:	
	Current & Returning Students	4 p.m.	
	*New students	After 8 a.m.	Tuesday, October 4, 2022

Event	Date
Orientation available online, required for new students - For more details visit our <a href="#">Orientation</a> page.	TBA
Web registration begins - For details visit our <a href="#">Registration</a> page.	Monday, October 3, 2022
Priority Financial Aid FAFSA file date - For more details visit our <a href="#">Financial Aid</a> page.	Tuesday, November 1, 2022
Priority Financial Aid document submit date - For details visit our <a href="#">Financial Aid</a> page.	Tuesday, November 15, 2022
Financial Aid supply advances begin - For more details visit our <a href="#">Financial Aid Disbursements</a> page.	Thursday, December 8, 2022
Financial Aid book vouchers begin - For more details visit our <a href="#">Financial Aid Disbursements</a> page.	Friday, December 9, 2022
Semester Begins	Monday, January 9, 2023
End 100% refund tuition and fees - Full semester and first 8 week and 12 week only - <a href="#">See below for all teaching periods.</a>	Sunday, January 15, 2023
Martin Luther King Jr Day - College Closed	Monday, January 16, 2023
End 50% refund, tuition & student support fee only - Full semester and first 8 week and 12 week only - <a href="#">See below for all teaching periods.</a>	Sunday, January 22, 2023
Financial Aid <a href="#">Refunds</a> for <a href="#">Grants</a> , <a href="#">Scholarships</a> , and first half of loans begin	Thursday, February 2, 2023
Last Day to <a href="#">change residency</a>	Monday, February 20, 2023
Last Day to <a href="#">change program of study</a>	Monday, February 20, 2023
Spring Break - No Classes	Monday, March 6 through Sunday, March 12, 2023

Event	Date
Last day to <a href="#">submit Associate Degree/Certificate</a> applications for Spring semester	Wednesday, March 15, 2023
Financial Aid <a href="#">refunds</a> for second half of loans begin	Tuesday, March 21, 2023
Semester Ends	Monday, May 8, 2023
<a href="#">Commencement</a> - Breslin Student Events Center, MSU Campus, 7:00 p.m.	Thursday, May 11, 2023
End of semester grades posted and available for view	Thursday, May 12, 2023

Spring 2023 Teaching Periods

		Last Date for 100% Refund TUTION and FEES	Last Date for 50% Refund TUTION and SUPPORT FEE ONLY	Last Date to Change to Audit/Credit	Last Date to Drop With No Grade	Last Date to Drop Course. Course with a Record of a W & Last Date to Drop Online
<b>Standard Teaching Periods</b>	[start - end]					
Full Semester	[1/9-5/8]	1/15	1/22	1/22	1/22	4/24
First 8 weeks	[1/9-3/13]	1/15	1/22	1/22	1/22	3/6
Last 8 weeks	[3/14-5/8]	3/20	3/27	3/27	3/27	5/2
First 12 weeks	[1/9-4/10]	1/15	1/22	1/22	1/22	3/31
Last 12 weeks	[2/7-5/8]	2/13	2/20	2/20	2/20	4/27
Last 14 weeks	[1/24-5/8]	1/30	2/6	2/6	2/6	4/27
Last 15 weeks	[1/17-5/8]	1/23	1/30	1/30	1/30	4/26
<b>Variable-Start Courses</b>						
Community and Continuing Education (Non-Credit Courses)	[Section Specific]	Please call (517) 483-1415 for assistance.				

		<b>Last Date for 100% Refund TUTION and FEES</b>	<b>Last Date for 50% Refund TUTION and SUPPORT FEE ONLY</b>	<b>Last Date to Change to Audit/Credit</b>	<b>Last Date to Drop With No Grade</b>	<b>Last Date to Drop Course. Course with a Record of a W &amp; Last Date to Drop Online</b>
Open Entry Courses or Modules	[Based on learning contract]	Day prior to the learning contract start date	Per learning contract	Day prior to the learning contract start date	Day prior to the leaning contract start date	NONE
Less than 8 weeks	[Section Specific]	Day prior to the start of class	N/A	Midpoint of class	Day prior to start of class	NONE
8 weeks or more	[Section Specific]	7 days into the class	14 days prior to the last week of class	14 days into class	14 days into class	Day prior to the last week

To view on LCC’s Website, go to the [Spring 2023 Academic Calendar](#).

## Summer 2023 Academic Calendar

### Summer Semester 2023 – Registration begins March 27, 2023

Length of Course	Dates
Full Semester (12 Weeks)	May 15 - August 8, 2023
First 6 Weeks	May 15 - June 26, 2023
8 Weeks	June 5 - August 1, 2023
Second 6 Weeks	June 27 - August 8, 2023

Pre-Registration Tasks	Number of CREDITS earned at the time of registration	Register during or after:	Date	
<ul style="list-style-type: none"> <li>• <a href="#">Establish Placement Levels*</a></li> <li>• <a href="#">Attend orientation if a new student**</a></li> <li>• <a href="#">Meet with an Academic Advisor</a></li> <li>• <a href="#">Verify and Update Program of Study</a></li> <li>• <a href="#">Create a Course Schedule</a></li> <li>• <a href="#">Search All Course Descriptions and Required Prerequisites</a></li> <li>• <a href="#">Search for Available Course Offerings for Fall Semester</a></li> <li>• <a href="#">Estimate your Tuition Cost</a></li> <li>• <a href="#">Know your Payment Responsibilities and View Options on How to Fund your Education</a></li> <li>• <a href="#">Verify and Update Address and Phone</a></li> <li>• <a href="#">Check for Holds</a></li> <li>• <a href="#">Verify Placement Test Scores and Residency in myLCC</a></li> </ul> <p>*Additional prerequisite and placement information can be found on the <a href="#">Waiver Information</a> webpage.</p> <p>**New students are <b>required</b> to attend orientation prior to registering for courses. Visit the <a href="#">Registration</a> page for more information</p>	60 or more	8 - 10 a.m.	Monday, March 27, 2023	
	30 or more	10 - 12 noon		
	12 or more	12 - 2 p.m.		
	1 or more	2 - 4 p.m.		
			Register after:	
	Current & Returning Students	4 p.m.		
		*New students	After 8 a.m.	Tuesday, March 28, 2023

Event	Date
Orientation available online, required for new students - For more details visit our <a href="#">Orientation</a> page.	TBA
Web registration begins - For details visit our <a href="#">Registration</a> page.	Monday, March 27, 2023
Priority Financial Aid FAFSA file date - For more details visit our <a href="#">Financial Aid</a> page.	Saturday, April 1, 2023
Priority Financial Aid document submit date - For more details visit our <a href="#">Financial Aid</a> page.	Saturday, April 15, 2023
Financial Aid book vouchers begin - For more details visit our <a href="#">Financial Aid Disbursements</a> page.	Friday, April 28, 2023
Financial Aid supply advances begin - For more details visit our <a href="#">Financial Aid Disbursements</a> page.	Monday, May 1, 2023
Semester Begins	Monday, May 15, 2023
End 100% refund tuition and fees - Full semester and first 6 weeks only - <a href="#">See below for all teaching periods</a> .	Sunday, May 21, 2023
Memorial Day - College closed	Saturday, May 27 through Monday, May 29, 2023
End 50% refund, tuition & student support fee only - Full semester and first 6 weeks only - <a href="#">See below for all teaching periods</a> .	Sunday, May 28, 2023
Juneteenth – College closed	Monday, June 19, 2023
Financial Aid <a href="#">Refunds</a> for <a href="#">Grants</a> , <a href="#">Scholarships</a> , and first half of loans begin	Monday, June 26, 2023
Last day to <a href="#">change residency</a>	Monday, June 26, 2023
No Classes Scheduled	Monday, July 3, 2023

Event	Date
Independence Day - College closed	Tuesday, July 4, 2023
Financial Aid <a href="#">refunds</a> for second half of loans begin	Monday, July 10, 2023
Last day to <a href="#">submit Associate, Degree/Certificate</a> applications for Summer semester	Saturday, July 15, 2023
Last day to <a href="#">change program of study</a>	Monday, July 17, 2023
Semester Ends	Tuesday, August 8, 2023
End of semester grades posted and available for view	Friday, August 11, 2023

#### Summer 2023 Teaching Periods

		Last Date for 100% Refund TUITION and FEES	Last Date for 50% Refund TUITION and SUPPORT FEE ONLY	Last Date to Change to Audit/Credit	Last Date to Drop With No Grade	Last Date to Drop Course. Course with a Record of a W & Last Date to Drop Online
<b>Standard Teaching Periods</b>	<b>[start - end]</b>					
Full Semester	[5/15-8/8]	5/21	5/28	5/28	5/28	7/25
First 6 weeks	[5/15-6/26]	5/21	5/28	5/28	5/28	6/20
8 weeks	[6/5-8/1]	6/11	6/18	6/18	6/18	7/26
Last 6 weeks	[6/27-8/8]	7/3	7/10	7/10	7/10	8/2
<b>Variable-Start Courses</b>						
Community and Continuing Education (Non-Credit Courses)	[Section Specific]	Please call (517) 483-1415 for assistance.				
Open Entry Courses or Modules	[Based on learning contract]	Day prior to the learning	Per learning contract	Day prior to the learning	Day prior to the learning	NONE



		<b>Last Date for 100% Refund TUTION and FEES</b>	<b>Last Date for 50% Refund TUTION and SUPPORT FEE ONLY</b>	<b>Last Date to Change to Audit/Credit</b>	<b>Last Date to Drop With No Grade</b>	<b>Last Date to Drop Course. Course with a Record of a W &amp; Last Date to Drop Online</b>
<b>Standard Teaching Periods</b>	<b>[start - end]</b>					
		contract start date		contract start date	contract start date	
Less than 6 weeks	[Section Specific]	Day prior to the start of class	N/A	Midpoint of class	Day prior to start of class	NONE
6 weeks or more	[Section Specific]	7 days into class	14 days prior to the last week of class	14 days into class	14 days into class	Day prior to the last week

To view on LCC’s website, go to the [Summer 2023 Academic Calendar](#).

## About LCC

### Vision

Serving the learning needs of a changing community.

### Mission

Lansing Community College provides high-quality education ensuring that all students successfully complete their educational goals while developing life skills necessary for them to enrich and support themselves, their families, and their community as engaged global citizens.

### Motto

Where Success Begins

### Guiding Principles

1. LCC will be a “Comprehensive Community College,” focused upon offering learning opportunities in four areas: career and workforce development, general education, developmental education, and personal enrichment.
2. LCC will have a careers emphasis and, in support of this, maintain a technology-rich environment, fostering “user-” vs. classroom-level information technology skills.
3. LCC will maintain and support a well-qualified, committed, and competitively compensated faculty and staff who use both proven traditional and progressive student-centered learning approaches.
4. LCC commits to continuous improvement in its programs and services and will maintain high expectations of its students.
5. LCC will be flexible, affordable, and accountable, continuously improving student learning and support services through the assessment of measurable outcomes.
6. LCC will strive to be “state of the art” in all that it does, while pursuing a select number of cutting-edge initiatives.
7. LCC will have a local emphasis in allocating its resources, while maintaining vital connections to the world, culturally and technologically.
8. LCC, within its broader purpose of serving its entire community in diverse ways, recognizes a special responsibility to young adults, those from lower income brackets, and those requiring developmental academic or entry-level career skills.
9. LCC seeks cooperative relationships with both private and public organizations, pursuing growth not as an end in itself but only when it best serves student and community needs.
10. LCC will prepare those it serves to thrive in a diverse world by reflecting that diversity in its student enrollment, staffing, planning, and allocation of resources.
11. LCC will manage its finances in a responsible manner; allocating resources and achieving efficiencies to best serve the priority needs of its students and the taxpayers who support its operation.
12. LCC is a dedicated community member working for the betterment of all.

## A History of LCC

Lansing Community College (LCC) is one of the largest community colleges in Michigan, serving more than 23,000 students each year. It offers more than 200 associate degree and certificate programs in addition to career and workforce development and personal enrichment options. The college was founded in 1957 and has since grown from its flagship campus in downtown Lansing to include locations in Delta Township, East Lansing, Mason and Livingston County. LCC is consistently named one of Michigan's best community colleges, and students enjoy unsurpassed instruction, beautiful facilities, cutting-edge technology and comprehensive support services to help them succeed.

## Accreditation

Lansing Community College is accredited by the Higher Learning Commission (HLC), an agency that accredits degree-granting institutions of higher education throughout the United States. Accreditation validates the quality of an institution as a whole and evaluates multiple aspects of an institution, including its academic offerings, governance and administration, mission, finances, and resources. Institutions that the HLC accredits are evaluated against the Commission's [Criteria for Accreditation](#), a set of standards that must be met in order for the institution to receive and/or maintain accredited status. The HLC's Criteria for Accreditation reflect a set of [guiding values](#). Accreditation is largely a peer-based review and evaluation process. HLC decision-making bodies are comprised of institutional representation from colleges and universities accredited by the Commission; public members are also sometimes involved.

## Board of Trustees

Lansing Community College is directed and governed by a Board of Trustees, consisting of seven members, elected at large in the community college district on a nonpartisan basis. Members are elected to serve 6-year terms.

## Board Policies

As with any other professional or workplace responsibility, failure to follow any Board policy which applies to any College employee may result in disciplinary action up to and including discharge where appropriate. Before any discipline is administered, the College will follow applicable established administrative procedures with respect to non-bargained for employees, and applicable provisions of any collective bargaining agreement. To view Board Policies, go to the [Board of Trustees' Policies](#) webpage.

## Program Accreditations

The following occupational programs are accredited, approved, certified, licensed, or regulated by the association, agency, or governmental agency identified. For the most current list, please visit our [Program Accreditation](#) website.

Program Area	Accrediting Agency	Date of Next Review	Status
Automotive Technology	<a href="#">National Automotive Technicians Education Foundation (NATEF)</a> 1503 Edwards Ferry Rd., NE Suite 401 Leesburg, VA 20176	1/1/23	Accredited
Aviation Technology	<a href="#">Federal Aviation Administration (FAA)</a> Federal Aviation Administration 800 Independence Ave, SW Washington, DC 20591	Quarterly	Certified
Child Development & Early Education	<a href="#">National Association for Education of Young Children (NAEYC)</a> 1401 H St. NW, Suite 600 Washington, D.C. 20005	2025	Accredited
Construction Management	<a href="#">Accreditation Council for Construction Education (ACCE)</a> 300 Decker Drive, Suite 330 Irving, TX 75062	07/2026	Accredited
Criminal Justice - Correctional Officer Certificate	<a href="#">Michigan Department of Corrections (MDC)</a> Grandview Plaza 206 E. Michigan Ave. P.O. Box 30003 Lansing, MI 48909	Annual Report 6/30/2023	Certified
Criminal Justice - Local Corrections Officer Academy	<a href="#">Michigan Sheriffs Coordinating &amp; Training Council</a> 600 S. Capital Ave. Lansing, MI 48933	Annual Report 11/2023	Certified
Dental Hygiene	<a href="#">Commission on Dental Accreditation (CODA)</a> 211 East Chicago Ave. Chicago, IL 60611	2025	Accredited (Approval without Reporting Requirements)

Program Area	Accrediting Agency	Date of Next Review	Status
Diagnostic Medical Sonography	<a href="#">Commission on Accreditation of Allied Health Education Program (JRCDEMS-CAAHEP)</a> 25400 US Highway 19 North Suite 158 Clearwater, FL 33763	2027	Accredited
Emergency Medical Services	<a href="#">Michigan Department of Health &amp; Human Services (MDHHS) Bureau of EMS, Trauma, &amp; Preparedness (BETP) Division of EMS and Trauma</a> P.O. Box 30207 Lansing, MI 48909-0207	07/2024	Approved
Emergency Medical Technician - Paramedic	<a href="#">Commission on Accreditation of Allied Health Education Programs (CAAHEP) upon recommendation of the Committee on Accreditation of Educational Programs for Emergency Medical Services Professionals (CoAEMSP)</a> Commission on Accreditation of Allied Health Programs (CAAHEP) 25400 U.S. Highway 19 North Suite 158 Clearwater, FL 33763  To contact CoAEMSP: 8301 Lakeview Parkway Suite 111-312 Rowlett, TX 75088	2023	Accredited
Fire Academy	<a href="#">Michigan Firefighters Training Council (MFFTC)</a> 3101 Technology Blvd, Suite H Lansing, MI 48910	Annual Report 12/30/2023	Approved Training

Program Area	Accrediting Agency	Date of Next Review	Status
Legal Studies	<a href="#">American Bar Association (ABA)</a> Chicago Headquarters American Bar Association 321 North Clark Street Chicago, IL 60654  Washington DC Office American Bar Association 1050 Connecticut Ave. N.W. Suite 400 Washington, D.C. 20036	08/2026	Approved
Massage Therapy	<a href="#">Commission on Massage Therapy Accreditation (COMTA)</a> 900 Commonwealth Place Suite 200-331 Virginia Beach, VA 23464	2024	Accredited
Nursing	<a href="#">Society for Simulation in Healthcare (SSH) Accreditation</a> 2021 L Street, NW Suite 400 Washington, DC 20036	2024	Accredited
	<a href="#">Accreditation Commission for Education in Nursing (ACEN)</a> 3343 Peachtree Road NE, Suite 850 Atlanta, Georgia 30326	2026	Accredited
Police Academy	<a href="#">Michigan Commission on Law Enforcement Standards (MCOLES)</a> 927 Centennial Way Lansing, Michigan 48909	Annual Report 12/31/23	Approved
Radiologic Technology	<a href="#">Joint Review Committee on Education in Radiologic Technology (JRCERT)</a> 20 N. Wacker Dr, Ste. 2850 Chicago, IL 60606-3182	2029	Accredited

Program Area	Accrediting Agency	Date of Next Review	Status
Surgical Technology	<a href="#">Commission on Accreditation of Allied Health Education Programs (CAAHEP)</a> 25400 US Highway 19 North Suite 158 Clearwater, FL 33763	2029	Accredited

To review LCC’s most up-to-date accreditations, go to the [Program Accreditation](#) webpage. To review LCC’s accreditation documents, contact the Academic Affairs Office at 517-483-1618 or via [email](#).

### Family Educational Rights and Privacy Act (FERPA)

The Family Educational Rights and Privacy Act (FERPA) (20 U.S.C. § 1232g; 34 CFR Part 99) is a Federal law that protects the privacy of student education records. The law applies to all schools that receive funds under an applicable program of the U.S. Department of Education. For more information, please visit the [Family Educational Rights and Privacy Act \(FERPA\)](#) website.

Except as permitted under FERPA students educational records will be disclosed only to individuals or organizations as listed on a signed [Release of Information \(FERPA\) form](#).

In compliance with the [Family Educational Rights and Privacy Act \(FERPA\)](#) of 1974 Lansing Community College gives notice that it may release certain data about individual students as directory information. Directory Information may be released without a student's permission. Lansing Community College considers the following items to be directory information:

- Name of student
- Dates of attendance
- Enrollment status
- Awards, degrees, or certificates received
- Participation in officially recognized activities
- Sport, weight, and height of members of athletic teams
- Previous educational agency or institution attended
- Email address

Directory information may be released at the discretion of College officials for any student who has not submitted a completed “Request to Prevent Disclosure of Directory Information” form to the Registrar's Office, which can be located on the [Privacy of Student Records](#) webpage. The Request to Prevent Directory Information form remains in effect until the student provides a written release to the Registrar's Office.

## Behavioral Intervention Team (BIT)

LCC is concerned with the safety, health, and well-being of its students, faculty, staff, and community. The Behavioral Intervention Team (BIT) works to promote the sharing of information internally when significant circumstances pertaining to the health and safety of LCC's students arise. Members of the team intake and assess information, take action when necessary, and monitor details about behavioral concerns noted on campus. The team links students of concern to appropriate services either on or off campus while balancing the individual's rights with the rights of all others for safety.

## Title IX Resources

Lansing Community College policies prohibit sexual harassment, sexual discrimination, and sexual misconduct in its employment and educational programs. The Prohibited Sex or Gender Based Discrimination, Harassment, and Sexual Misconduct, and can be found on the LCC [Title IX and Sexual Misconduct Resources](#) webpage along with additional resources and forms to file a complaint. Students, employees, and visitors are encouraged to report any allegations of sexual discrimination, sexual harassment, or sexual misconduct to:

Christine Thompson Director of Student Compliance/Student Title IX Coordinator Gannon Building 411 N. Grand Ave. Lansing, MI 48933 517-483-1261	Lisa Thomas Human Resource Manager/Title IX Coordinator Administration Building 610 N. Capitol Ave. Lansing, MI 48933 517-483-1879	JR Beauboeuf Director of Risk Management & Equal Opportunity Officer 309 N. Washington Square Lansing, MI 48933 517-483-1730
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## LCC Police and Public Safety

Any location:

- [LCC Police and Public Safety](#) (non-emergency) (517) 483-1800
- Main Campus: Lansing Police Department (non-emergency) (517) 483-4600
- East Campus: Meridian Township Police (non-emergency) (517) 332-6526
- West Campus: Eaton County Sheriff (non-emergency) (517) 543-3512
- Mason Jewett Airport: Ingham County Sheriff (non-emergency) (517) 676-2431
- Livingston County Center: Livingston County Sheriff (non-emergency) (517) 546-2440

Emergencies Call 911



## Equal Opportunity & Nondiscrimination, Harassment & Retaliation

Lansing Community College is committed to providing equal employment opportunities and equal education for all persons regardless of race, color, sex, age, religion, national origin, creed, ancestry, height, weight, sexual orientation, gender identity, gender expression, disability, familial status, marital status, military status, veteran's status, or other status as protected by law, or genetic information that is unrelated to the person's ability to perform the duties of a particular job or position or that is unrelated to the person's ability to participate in educational programs, courses, services or activities offered by the college.

For more information please visit the [Title IX and Sexual Misconduct Resources](#) webpage.

The College prohibits retaliation or reprisals against any individual because they have filed a complaint or report, participated in an investigation, or otherwise opposed unlawful discrimination.

The following individuals have been designated to handle inquiries regarding the nondiscrimination policies:

Equal Opportunity Officer  
Washington Court Place  
309 N. Washington Square  
Lansing, MI 48933  
517-483-1730

Employee Coordinator 504/ADA  
Administration Building  
610 N. Capitol Ave.  
Lansing, MI 48933  
517-483-1875

Christine Thompson  
Director of Student  
Compliance/Student Title IX  
Coordinator  
Gannon Building  
411 N. Grand Ave.  
Lansing, MI 48933  
517-483-1261

Lisa Thomas  
Human Resource Manager/Title IX Coordinator  
Administration Building  
610 N. Capitol Ave.  
Lansing, MI 48933  
517-483-1879

Student Coordinator 504/ADA  
Gannon Building  
411 N. Grand Ave.  
Lansing, MI 48933  
517-483-1885

## Consumer Information Notices and Disclosures

The Higher Education Act of 1965 (HEA), as amended, requires that postsecondary institutions participating in federal student aid programs make certain disclosures. The [Consumer Information](#) page discloses the following information to enrolled and prospective students, employees, parents, and the public.

- Institutional and Student Information
- Financial Information
- Student Outcomes
- Health and Safety Information

For any questions or a paper copy of a disclosure, please contact the Office of Compliance at 517-483-5298 or via [email](#).

## Annual Security Report

The Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act (also referred to as the “Clery Act”) requires colleges and universities that receive federal funding to disseminate a public [Annual Security Report \(ASR\)](#) to all current students and employees and make its availability known to prospective students and employees. The purpose of this report is to provide an overview of the College’s security resources, policies and procedures.

The ASR is published annually on or before October 1st and contains statistics for the previous three years concerning crimes that occurred on campus, on non-campus buildings, on properties owned or controlled by the College, and on public property within or adjacent to campuses of the College. The report also includes College policy statements concerning campus security, crime prevention, reporting of crimes; timely warnings; emergency response and evacuation; and alcohol, drug use, and sexual offenses.

The Annual Security report is available on the [Public Safety](#) webpage. A paper copy of the ASR is available upon request by contacting LCC Public Safety office at 517-483-1800 or in person at 411 N. Grand Avenue, Gannon Building, Room 2110, Lansing, MI 48933.

## Drug and Alcohol Abuse Prevention Program (DAAPP)

In compliance with the Drug-Free Schools and Communities Act the College maintains a [DAAPP](#) that is distributed annually and on an ongoing basis to all employees and students. The DAAPP contains descriptions of the health risks of drug and alcohol abuse; drug and alcohol counseling, treatment, and rehabilitation programs; and the legal sanctions for violations of College policies, local, state or federal laws relating to illicit drugs and alcohol. A biennial review of the DAAPP is also conducted. A paper copy of the DAAPP is available upon request by contacting LCC Public Safety at 517-483-1800 or in person at 411 N. Grand Avenue, Gannon Building, Room 2110, Lansing, MI 48933.

## State Authorization

Lansing Community College offers distance education learning opportunity for students and is an institutional participant in the National Council for State Authorization Reciprocity Agreements (NC-SARA), a voluntary and regional method to oversee distance education. The [State Authorization](#) page discloses the following information to enrolled and prospective students, employees, parents, and the public.

- Accreditation Information
- Student Compliant Information
- Professional Licensure and Certification
- Refund Policy
- Adverse Actions
- Approved States & Territories
- Location & Residency Status
- International Students

## Student General Rules and Guidelines and Code of Conduct

A positive and successful learning environment provides opportunities for all students to successfully complete their educational goals while developing life skills necessary to enrich and support themselves, their families, and their community as global citizens. The College recognizes the value and importance of a safe and orderly learning environment that encourages honesty, integrity, and ethical conduct conducive to academic success, personal growth, and responsible social behavior.

The Student General Rules and Guidelines and Student Code of Conduct ensure the protection of student rights and the health and safety of the College community, as well as to aid in the efficient operation of College programs, activities, and services; and apply from the time of admission and continue as long as the student remains enrolled at the College. They are also applicable to a student's conduct even if the student withdraws from school while a disciplinary matter is pending.

The Office of Student Compliance is an integral part of the positive educational environment at Lansing Community College (LCC), and is responsible for upholding the Student General Rules and Guidelines and Student Code of Conduct. We support the Mission of the College by responding to and resolving situations in which the behavioral choices of students are negatively impacting the college community, or other students, including themselves.

## Access to College Buildings

During normal business hours, to access most building doors on LCC's Downtown Campus, a StarCard will be required. These are available to employees, students, and alumni. Currently, this protocol is not being implemented at the West, East, Livingston or Mason Aviation sites.

Access to College buildings after normal hours of operation is restricted. Contact Police, Public Safety and Parking at 517-483-1800 for access outside of normal hours of operation.

## Animals

For the protection, health, and safety of the members of the College community animals are not permitted on campus. This provision excludes service animals. For additional information please refer to [Service Animal](#), Board Policy 7.003.

## Cell Phones

The use of cell phones for conversations during class is at the discretion of the instructor.

## Children on Campus

Children under the age of 16 are not permitted on campus unless accompanied by a parent or guardian. Exceptions are for minor students who are enrolled in courses or attending programs at the College.

## Drugs and Alcohol

Lansing Community College complies with the Drug-Free Workplace Act and the Drug-Free Schools and Community Act.

See the [Drug and Alcohol Policy](#), Section 4.003, for details.

## Examinations

Students are required to take examinations at scheduled appointed time and place at the discretion of instructors. Generally, examinations are given during the regularly scheduled class period with a final exam during the last week of the semester. Please see course syllabi for details.

## Field Trips and College Sponsored Events and Activities

Students participating in field trips and other College-sponsored events and activities must abide by all College policies.

## LCC Email Account

Students are responsible for checking their LCC assigned student email accounts on a regular basis. Official notifications and information are routinely sent to student email accounts. Students who use other email accounts should make sure they are monitoring their LCC email accounts as well.

## Student Organizations

Certain student clubs and organizations are registered at the College. For information about certain clubs and organizations or how to start a student club or organization please contact the Student Life Office. For more information, go to the LCC [Clubs & Organizations](#) webpage.

## Smoking

LCC is a smoke free campus. See the [Smoking Policy](#), Section 6.009, for details.

## Technology Resources - Acceptable Use

The LCC Acceptable Use Policy describes guidelines for the use of the College's technology resources and use of College wide data. Use of College-owned technology resources is a privilege extended by the College to students as a tool to promote the mission of the College and to enhance technological/computer literacy. College computer labs and devices/equipment for checkout from the Library and Information Technology Services are available on campus for students to complete their course work. Students are expected to follow the rules for any lab or the department which houses the computer they use.

This policy applies to all users of College technology resources and data, including those using the College's network via a personally owned device. Violations of this policy may result in loss of computer privileges and/or disciplinary action under the Student Code of Conduct. In addition, the user may be subject to civil and criminal liabilities. See the [Acceptable Use Policy](#), Section 6.001, for details

## Student Code of Conduct

In addition to being familiar with the Student General Rules and Guidelines, all students are responsible for knowledge of and adherence to the [Student Code of Conduct](#).

## Campus Departments, Locations, and Contact & General Information

### Academic Success Coaches

Academic Success Coaches are responsible for ensuring that students receive persistent, proactive, individualized mentoring, and academic coaching and support throughout their enrollment at Lansing Community College. For more information please visit the [Academic Success Coach](#) webpage or contact them via [email](#). The Academic Success Coach program is located in the Gannon building in the Success Coach Lounge – room 2202. Academic Success Coaches have offices at all campus locations and are available to meet virtually.

#### What We Do:

Academic Success Coaches meet with students! Students are encouraged to reach out to an Academic Success Coach; they may also be referred to us by instructors or other members of the LCC community. During the meetings Academic Success Coaches will learn about the students' experiences at LCC, identify obstacles that may be barriers to their academic success, and help strategize solutions and next steps. Some of the topics discussed may include:

- Study strategies - how to effectively study, take notes, and keep organized
- Time Management - how to balance work, school, and other responsibilities
- Self-Awareness - helping students identify their strengths, purpose, and goals
- Campus Engagement and Resources - identifying opportunities and resources on campus and helping students make those connections

### Academic Advising

Academic advisors provide students with guidance and clarity on program details to achieve a degree or certificate at LCC, or to transfer to a four-year university. For more information, please visit the [LCC Academic Advising](#) webpage. To set up an appointment, call 517-483-1904, and select option 4.

### Access to College and Careers with Excellence through Student Services (ACCESS)

The Cesar Chavez Learning Center's (CCLC) ACCESS Program provides student support for the personal, social, cultural, and academic adjustment of Black and Indigenous People of Color (BIPOC), LGBTQ+, First-Generation, Low Income, Adult Students, students with varying abilities and other marginalized and underrepresented student groups. The primary focus of the ACCESS program is to increase student persistence, promote degree completion, assist students in realizing their career or academic goals, and help students transfer to a four-year institution. For further information, please review the [Cesar Chavez Learning Centers](#) webpage.

## Admissions

Lansing Community College is an open-admissions college. Prospective students must complete an admissions application before registering for classes. For a paper application, call the Admissions Office. All accepted applicants will receive a letter confirming their admission to LCC. Applicants who do not receive a letter within two weeks should call the Admissions Office or [email](#). For further information, call 517-483-1200. Certain programs, however, require students to complete a selective admissions application. Please see the [Admissions webpage for additional information](#).

## Arts & Sciences Division

The Arts & Sciences (A&S) Division offers Math, Science, English, Humanities, Social Sciences, Business, Communication, and the Arts courses as well as programs that prepare students to successfully complete junior and senior university level courses upon transfer.

The Arts & Sciences Division courses build a foundation for both transfer students and applied certificate and degree students that allows them to fulfill their educational goals.

## Athletics

LCC Athletic Department offers student-athletes the opportunity to further their educational plans and enhance their athletic experience by continuing to recruit and provide equal opportunities for all student-athletes through scholarship awards while promoting pride, respect, and integrity throughout our athletic programs. Lansing Community College Athletics competes as a Division II member of the National Junior College Athletic Association comprised of over 500 institutions across the United States competing at the two-year institution level. LCC offers nine varsity sports Men's and Women's Cross Country, Volleyball, Men's and Women's Basketball, Softball, Baseball, Women's and Men's Outdoor Track and Field. LCC offers athletic scholarships for all nine sports helping cover the costs of student athletes' tuition and course-related fees. For more information regarding Athletics, go to the [LCC Stars](#) webpage or call the Athletics Office at 517-483-1622.

## Business & Community Institute – Specialized Workforce Training

The Business and Community Institute utilizes mobile, sustainable training to provide synergistic and innovative workforce development solutions. Our customized programs create and retain jobs across the region and provide our clients with the means of strengthening their assets from within. For more information, please visit the [Business & Community Institute](#) website.

## Campus Locations

Lansing Community College community has six locations in the mid-Michigan area. Each provides learning spaces and staff dedicated to your academic success and positive college experience. In addition LCC has specialized operations at other locations which include AIS, Capital Area Michigan Works, and the Job Training Center (JTC). Below is a comprehensive list of LCC locations.

Within our more than 1.5 million square feet of learning facilities are student support spaces dedicated to celebrating cultural diversity, fostering equitable learning opportunities, catering to the needs of our student-veterans, engaging first-generation and returning students, and welcoming international students.

Our diverse student body is our biggest asset; different views and ideologies challenge and open the minds of our LCC community.

### Downtown Campus

411 N. Grand Avenue, Lansing, MI 48933

LCC's downtown campus is the main campus.

### West Campus

5708 Cornerstone Drive, Lansing, MI 48917

Located in Delta Township, West Campus is home to the Technical Careers and Community Education and Workforce Development divisions of Lansing Community College.

The 290,536-square-foot facility features the [Center for Manufacturing Excellence](#), [Mid-Michigan Police Academy](#), Fire Academy, Regional Fire Training Center, Corrections Academy, Computer Information Technology, Geospatial Science, Unmanned Aerial Systems (Drones), Cybersecurity, Automotive Technology, Building Construction, Electrical Technology, Lineworker, Legal Studies, HVAC, in-demand skilled trades, and much more.

### LCC East

2827 Eyde Parkway, East Lansing, MI 48823

Located in East Lansing, LCC East offers convenience for those who live in Haslett, Okemos, East Lansing and Williamston areas with 12 classrooms, excellent instructors, free parking and a variety of academic and student support services. The location provides extensive support to guest students from other educational institutions looking to supplement their course schedule. For more information, please visit the [LCC East](#) webpage, [email](#) or contact us at 517-483-1860 for assistance.



### [Livingston County Center](#)

402 Wright Road, Howell, MI 48843

Located at the Parker Campus in Howell, the Livingston County Center conveniently serves students in Howell and surrounding areas. A wide variety of courses are offered in fall, spring, and summer semesters and students benefit from small class sizes and qualified faculty. Students can easily access tutoring services, test proctoring, and academic advising. For more information, please visit the [LIVCEN](#) webpage, [email](#) or contact us at 517-545-3522 for assistance.

### [Aviation Maintenance Technology Center](#)

Mason Jewett Field, 661 Aviation Drive, Mason, MI 48854

The state-of-the-art Aviation Maintenance Technology Center is located at the Jewett Airfield in Mason. Considered top-notch by the industry, educators and the community, the facility is widely regarded as the best in the Midwest.

All Lansing Community College students learn on industry-current equipment and technology while working hands-on with large and small planes, turbine and jet engines, traditional aircraft construction and advanced composite materials. The facility is equipped with classrooms, a computer lab and separate bay workstations for 1-on-1 and group instruction.

### [Job Training Center \(JTC\) at Capital Area Michigan Works](#)

2110 S. Cedar Street, Lansing, MI 48910

Our vision is to serve unemployed, underemployed, and at-risk populations in our region and create bridge programs that link to credit programs or employment opportunities. JTC (formally known as Center for Workforce Transition) delivers accelerated or compressed programs in high demand areas to obtain the jobs skills necessary for employment, while providing support and resources at Capital Area Michigan Works. For more information, visit the [JTC](#) website, [email](#) or contact us at 517-492-5580 for assistance.

### [AIS Training Center](#)

3600 North Grand River, Lansing, MI 48906

Lansing Community College trains its [Heavy Equipment Repair](#) students at the best heavy machinery training facility in Lansing, the AIS Training Center. Here LCC faculty offer “real world” hands-on training in machine operation, heavy equipment maintenance and technology, and safety. The AIS Training Center is located in North Lansing off Grand River Avenue and boasts the latest machinery and technology, as the AIS Company has been serving Michigan for more than 55 years in the heavy equipment industry.

### Mid Michigan College

1375 S. Clare Avenue, Harrison, MI 48625

The Magnetic Resonance Imaging (MRI) program is offered through a partnership with other Community Colleges as part of the Michigan Educational Program in Collaboration (Mi-EPiC) consortium. For additional information, go to the [Michigan Radiologic and Imaging Science \(MiRIS\) Consortium](#) website.

### Michigan State University

426 Auditorium Road, East Lansing, MI 48824

Veterinary Nursing is offered through a joint agreement between Lansing Community College (LCC) and Michigan State University (MSU), with Major courses taught by MSU and General Education courses taught by LCC.

Agricultural Technology is offered through a joint agreement between Lansing Community College (LCC) and the Michigan State University Institute of Agricultural Technology (IAT), with Major courses taught by MSU and General Education courses taught by LCC.

## Capital Area Michigan Works

Capital Area Michigan Works! (CAMW!) is a network of resources available to LCC students. CAMW! partners with businesses to develop recruiting and retention strategies and partners with job seekers to enhance education and career opportunities. For more information, visit the [CAMW!](#) website or call 517-492-5580 for assistance.

## Career & Employment Services

Career & Employment Services (CES) assists students and alumni with exploring career options, developing employability skills, learning job search strategies, and connecting with employers. Through one-on-one appointments, class presentations, job fairs, and other events, CES helps individuals make informed career choices, develop résumés and cover letters, prepare for interviews, pursue internships, navigate the job search, and gain successful employment. Visit us at the Career Center, Gannon Building 2nd floor, to get started!

For more information please visit the [Career & Employment Services](#) webpage or call 517-483-1172.

## Childcare Grants

The Child Care Grant is designed to provide eligible custodial parents with childcare funding assistance while the parent is attending Lansing Community College. The grants are based on specific criteria and provide partial payment of licensed childcare services for the recipient. For more information, please contact us at 517-483-1199 or by [email](#).

## Computer Labs

### Aviation Technology Center

25 PCs and one printer are available for student use.

### Downtown Campus

67 student-use computers are available on the 2nd and 3rd floor of TLC's open computer lab. The open computer lab is located within the TLC building's Library and Learning Commons. In addition to PCs and Macs, this space includes laptops that students can check out for the semester and a technology lab. The Technology Lab includes 3D printers, poster printer, virtual reality machines, and audio recording.

### LCC East

Ten PC's and one MAC are available for student use with one printer.

### Livingston County Center

Students have access to two computer labs with 24 PCs and a printer in each room.

### West Campus

Up to 18 student-use computers are available in M123 along with three printers.

## Community Education and Workforce Development (CEWD) Division

CEWD is made up of diverse individuals, units, and departments who craft unique solutions for our students, businesses, customers, stakeholders and educational partners. CEWD is collaborative and supports the institutional mission at its highest level.

Community Education and Workforce Development acts as a gateway to success for traditional and non-traditional students. Enhancing the College's academic mission, CEWD ensures that all learners are offered an opportunity to thrive through access to education. For more information, please contact 517-483-1857.

### Continuing Education

The Continuing Education program at Lansing Community College offers high quality, non-credit career and workforce development training, to improve professional and occupational skills. Through LCC's certificate programs and other non-credit classes, students can receive the accelerated or self-paced training needed to keep up on licensure requirements, increase skill sets for career advancement, obtain skills for new career opportunities, and become exceedingly stronger in current career. LCC's non-credit programs are developed in close collaboration with industry partners and Lansing Community College's subject matter experts. For more information, please visit the [Continuing Education](#) webpage, [email](#) or call 517-483-1857.

### Lifelong Learning (Adult Enrichment and Youth Program)

LCC provides access to educational opportunities that connect LCC's strengths with our community's needs. Courses include non-credit offerings in a wide spectrum of disciplines. Adult Enrichment is here to provide interesting and fun learning experiences that help discover the "Best You." The [Youth Program](#) offers engaging STEAM (Science, Technology, Engineering, Arts, and Math) classes to students in 2nd through 12th grade. Please find additional information at [Adult Enrichment](#) and/or the [Youth Program](#) webpage(s) or contact the Lifelong Learning Office by [email](#) or call 517-483-1415.

### Center for Student Support

LCC's Center for Student Support facilitates student success by providing comprehensive support services that engage students in achieving their personal and academic goals. The center encompasses the Adult Resource Center, Counseling Services, Global Student Services, Fostering Stars, the Center for Student Access, the Office of Student Compliance, and the Office of Veteran and Military Affairs.

#### Adult Resource Center

The ARC provides specialized support services to help returning adult students and those students with children who require childcare to allow for their attendance at LCC. Please see the [ARC](#) webpage to learn more about the childcare scholarship and tuition scholarship for Occupational Students. To make an appointment please call 517-483-1199 or [request an appointment online](#).

#### Counseling Services

Counseling is provided by licensed professional counselors to help students with personal matters so that they may be academically successful. Counseling is confidential and is provided at no cost to students. Visit the [Counseling Services](#) webpage for more information. To schedule an appointment please call 517-483-1924 or [schedule an appointment online](#).

#### Global Student Services

Global Student Services staff is here to help International Students navigate the admission and registration process, including issuance of Form I-20 documents and following visa regulations. GSS staff also provides support services to English Learner students. For more information, go to the [Global Student Services](#) webpage, call 517-483-5323, or [email](#).

#### Fostering Stars

The Fostering S.T.A.R.S. Program provides an opportunity and a supportive network for students currently engaged in or aging out of the foster care system. Some of the services provided in this program include advising, academic support, community outreach, transportation assistance, specific emergency assistance, care-packages, one-on-one mentoring, and group membership and networking opportunities. Additionally, students involved in this program will be able to connect with an independent life skills coach who is trained in providing guidance, empowerment and improvement in all areas of life. A life skills

coach seeks to empower others by helping them make, meet and exceed goals. For more information, go to the [Fostering S.T.A.R.S.](#) webpage, visit the StarZone in the Gannon Building, or call 517-483-1924.

#### [Center for Student Access](#)

The Center for Student Access (CSA) consults with students, faculty, and staff to support the ongoing development of an accessible college. LCC encourages and welcomes all students with disabilities to meet with an Access Consultant. A meeting with an Access Consultant is a required step in receiving approved accommodations.

LCC also recognizes that CSA is part of a larger system of support that includes parents, families, community advocates and organizations, and the many high schools that feed into LCC. CSA regularly speak with families, work with various community partners, and visit with high school classes to discuss the transition to college. To request an appointment please call 517-483-5323 or [email](#). View the [Center for Student Access](#) webpage.

#### [The Office of Student Compliance](#)

The Office of Student Compliance (OSC) is an integral part of the positive educational environment at Lansing Community College (LCC); and is responsible for upholding the Student Code of Conduct and General Rules and Guidelines, Student Title IX and Sexual Misconduct Complaints, and the LCC Behavior Intervention Team. OSC supports the Mission of the College by responding to and resolving situations in which the behavioral choices of students are negatively impacting the college community, or other students, including themselves.

Please refer to the following pages for further information:

- [Student Code of Conduct](#)
- [Title IX and Sexual Misconduct](#)
- [Behavioral Intervention Team \(BIT\)](#)

Students can visit the Office of Student Compliance in the Gannon Building, first floor or contact the office by calling 517-483-1261 or via [email](#).

#### [Office of Veteran and Military Affairs](#)

The overall goal of the Office of Veteran and Military Affairs (OVMA) is to achieve the position and prestige of being the #1 Veteran-oriented campus in Michigan. The mission of the office is to provide a one-stop-shop atmosphere for our veteran and dependent students with the main goal being to assist our students in selecting the proper VA GI Bill® education benefit and help them enroll in a chosen GI Bill® benefit. The OVMA also acts as a liaison between students, the VA, and other LCC departments, making contacts on behalf of students when needed. In addition, the OVMA offers a dedicated academic advisor, and a large veteran lounge area as a place for veteran students to meet, relax, and work on schoolwork. For more information please call 517-483-5246 or visit the [Veteran and Military Affairs](#) webpage.

GI Bill® is a registered trademark of the U.S. Department of Veterans Affairs (VA). More information about education benefits offered by VA is available at the official U.S. government Web site for [U.S. Department of Veterans Affairs](https://www.va.gov).

### Office for the Center of Diversity and Inclusion

Lansing Community College's Office of Diversity and Inclusion (ODI) provides resources that foster awareness as well as empower students with knowledge, tools and experiences that promote global citizenship and a more inclusive campus. ODI thus embraces an inclusive community that brings together students, faculty, and staff of different racial and multi-racial, ethnic and multi-ethnic, gender and sexually diverse, economic, religious, and national identities and ages. ODI envisions a college that is supportive of all perspectives, cultures, and differences. Our core values are evident through services, programs, and initiatives that ensure the creation and maintenance of a diverse and inclusive community that affirms diverse perspectives, attitudes, beliefs, and experiences.

### Centre for Engaged Inclusion

The Centre for Engaged Inclusion (CEI) engages the campus and Lansing area in building an equitable and inclusive community through intellectual exploration and collaboration. The Centre is the premier space for training, learning, engagement, and exploration of topics in the Advocacy, Belonging, Diversity, Engagement, and Inclusion for all identities.

The Centre envisions a community where everyone has a sense of belonging and possibility and is empowered to cultivate an equitable world.

For more information, please come to the CEI in the Gannon Building (GB 2204), call 517-483-1616, visit the [CEI](#) webpage, or [email](#).

### The Caesar Chavez Learning Center

The Caesar Chavez Learning Center (CCLC) provides a comfortable atmosphere where students of diverse backgrounds can get academic, social, and personal support. The Center's staff assist students and provide guidance on how to navigate campus resources and other educational opportunities. Visit the [CCLC](#) webpage for more information.

Programs at CCLC: Committed to the values of meeting the needs of our times, social justice, radical hospitality, student leadership and cultivating brave spaces, ODI created programs focused on instilling these values and meeting the needs of our students. We believe that all students, regardless of age, family background, learning style, or diverse-ability, should have equal opportunity to reach their full personal, academic, and career potential.

### [ACCESS Scholars](#)

The ACCESS Program provides wraparound student support services and intervention efforts and is designed to support LCC students' personal, social, cultural, and academic adjustment, particularly BIPOC, LGBTQ+, First-Generation, Low Income, adult students; varying ability; and other marginalized and underrepresented students' groups. For more information, view the [ACCESS](#) webpage or via [email](#).

### [LUCERO](#)

Latinos Unidos con Energia Respeto y Orgullo (LUCERO) is a support services program designed to assist in the recruitment, retention, graduation and transfer of LCC students of color, particularly Latinx students. The focus of the LUCERO program is to create a positive connection for Latinx students with each other and with LCC to develop exceptional academic, leadership and professional skills while learning about and celebrating their culture and diversity. For more information, visit the [LUCERO webpage](#) or via [email](#).

### [Men About Progress](#)

Men About Progress (MAP), is an initiative established by the Office of Diversity and Inclusion at Lansing Community College (LCC) to increase, encourage, and support the inclusion and educational success of male students of color, particularly African-American males (AAM). Housed within the Caesar Chavez Learning Center, MAP serves as an intentional intervention to assist program participants in both, their academic and their career endeavors while promoting and advocating for an improved educational experience at LCC and enhanced quality of life. For more information, visit the [MAP](#) webpage or via [email](#).

### [WISE](#)

Women Inspiring Scholarships through Empowerment (WISE) Program WISE is an initiative that seeks to inspire, support and empower individuals who self-identify as women by offering educational opportunities to develop knowledge and leadership skills, build professional and personal connections, promote the presence of professional women, and foster mentoring relationships. Housed within the Cesar Chavez Learning Center. For more information, visit the [WISE](#) webpage or via [email](#).

### [Summer Impact Pre-College Experience](#)

This program is intended for local high school students and recent high school graduates, particularly students from under-served communities - African-American, Latino, Indigenous, students in the foster system, immigrant, and refugee, LGBTQIA+, first-generation college students. The Summer Impact Program aims to help students increase their knowledge and skills in diversity, equity, and inclusion while building a bridge between what they are learning in high school to their future college and employment success. These will be highly interactive sessions. Participants that complete all four Summer Impact sessions will receive a Digital Badge Certificate in

Diversity and Inclusion. For more information and registration, visit the Summer Impact webpage, or via email.

## Department Directory

For the most up to date information, go to the [Office & Department Directory](#) webpage.

## eLearning Department

The eLearning Department is responsible for the administration of D2L, LCC's Course Management System (CMS). D2L support is provided, both in-person and online, to all students and instructors using D2L and online tools integrated into D2L.

### D2L – LCC's Course Management System (CMS)

D2L is used for the delivery of courses and course content for face-to-face, hybrid and/or online offerings. Courses utilize D2L for providing course content and lectures, communication in courses through discussions and email, assessments such as quizzes and uploading assignment submissions and for providing grades and feedback.

### Resources for Using D2L

The eLearning Department maintains a Student Resource Site that provides easy access to a variety of useful eLearning resources that focus utilizing tools within D2L, useful student tips, and technology tools. This includes 100s of step-by-step support pages and demonstration videos for using D2L. The eLearning Student Resource Site also provides on-demand resources for using other online tools integrated into D2L, including:

- Alternative Formats
- Google Apps
- Kaltura My Media
- ReadSpeaker
- WebEx

For more information, please visit our [eLearning Student Resource Site](#).

### Student Trainings in D2L Comprehensive D2L Trainings for students

The eLearning Department provides multiple on-demand and in-person trainings to prepare students for using D2L in their courses as well as using integrated tools to enhance the learning experience, including:

- Learning Online in D2L
- Attending Online Class Sessions Using WebEx in D2L
- Creating Multimedia for Courses Using Kaltura in D2L



### Tech It Out Trainings for students

The Tech It Out series of trainings for students focuses on smaller topics in D2L and can be completed in 30 minutes or less. Topics include Using Text to Speech in D2L, Viewing Instructor Feedback in D2L, and more with new titles added each semester.

### eLearning Live! Sessions for Students

In addition to on-demand trainings, the eLearning Department offers multiple eLearning Live! sessions for students each semester that offer live training via WebEx on a variety of student-centric topics.

For more information of trainings for students offered by the eLearning department, please visit our [Student Trainings in D2L](#) webpage.

## Emergency Management & Preparedness

The [Emergency Management Department](#), under Administrative Services Division, develops and administers an emergency management and preparedness program. Important aspects include:

- A college [Emergency Response Guide](#) with color and symbol-coded posters, a webpage, and video
- [Emergency notification/communication information](#): including preparedness messages communicated via newsletters and email updates, including social media, and outreach presentations on a regular basis, at least monthly
- **Emergency Planning Teams**
  - The Emergency Management Policy Team
  - The Emergency Preparedness Planning Team (EPPT)
  - The Continuity of Operations (COOP) Planning Team
- **Emergency Response Teams**
  - The Incident Management Team
  - The Building Emergency Response Team (BERT)
- **Emergency Plans**
  - A Training and Exercise Plan that specifies needed training and exercises, including drills, which take-place regularly
  - Emergency Operations Plan with response procedures
  - Continuity Plans

## English for Speakers of Other Languages

The English for Speakers of Other Languages (ESOL) program works toward developing the English skills to successfully achieve competency in ESOL for students at the low intermediate level (level 3) or higher. This program builds upon the beginning ESOL literacy classes already offered in the community and serve as a bridge into LCC. ESOL courses are part of the English

Department. For information regarding credit or non-credit courses, email [Yvonne Creamer](#) in Student Affairs.

This program also serves as a connection to short-term, accelerated, or certificate-based Career Technical Education learning opportunities offered at LCC for both non-credit and credit programs. For more information, please contact the Job Training Center at 517-483-1857.

## Environmental Safety & Health

The college's Environmental Safety and Health program works towards ensuring all aspects of our programs meet or exceed local, state and federal rules and regulations related to environmental safety & health. The department works with the programs to advise them regarding mitigation of risks. The Director of Occupational/Environmental Safety & Health regularly coordinates with Michigan Occupation, Safety & Health Administration (MIOSHA) and Michigan Department of Environment, Great Lakes, & Energy (EGLE) to ensure program compliance.

## Faculty Information

To contact a faculty member or other instructional personnel, please call the appropriate division office. Visit our website to view the [Program Contact Directory](#).

## Financial Aid

The Financial Aid Office assists students with finding resources to finance their postsecondary education. Financial Aid resources are available through the federal government, state government, private organizations, and Lansing Community College. Students can contact the Financial Aid Office by calling 517-483-1200, Option 1, visit the [Financial Aid](#) webpage, or via [email](#).

## Financial Responsibility

Students are expected to remain current on their financial obligations to the College. Students owing money to the College may be subjected to a hold on their transcripts and may not be permitted to register for classes until their account is paid in full or until a payment plan is approved by the College.

In addition, students must review, update, and accept the Financial Responsibility Agreement each semester of enrollment by logging into [MyLCC](#) and selecting Banner, then Student, and "Financial Responsibility Agreement." Doing so will automatically release the financial responsibility agreement hold allowing for registration in courses.

## Guest Speakers

In situations involving guest speakers, the College requires orderly conduct, noninterference with College functions or activities, and identification of the sponsoring groups or individuals.

## Health Concerns

Some courses may require students to undergo medical testing and vaccinations. Students with medical conditions or disabilities are encouraged to contact the Center of Student Access (CSA) to determine whether they qualify for accommodations or exemptions.. Discussions with CSA about medical conditions of students are confidential.

## Health & Human Services Division

The [Health and Human Services](#) (HHS) Division offers essential health and wellness services through our public dental hygiene and massage clinics and human services practicums while providing students with clinical and workforce experience. The state-of-the-art Health and Human Services Building is a 141,992 square foot facility that houses HHS programs which prepare highly skilled healthcare, human services, and fitness professionals. In response to the local and national shortage of healthcare, human service and fitness workers, LCC leads in education, innovation, and simulation by providing instruction with cutting-edge equipment, and credentialed faculty in programs that are nationally accredited or meet industry standards. LCC works with our community partners to provide healthcare apprenticeships and stackable certificates to heighten the credentials of our local workforce. For more information call the Health and Human Services Division office at 517-483-1410 or [email](mailto:lcc-hhs@star.lcc.edu) (lcc-hhs@star.lcc.edu).

## High School-Based Programs

LCC offers high school-based programs, which include High School Credit by Exam, High School Advantage, Career and Technical Education Direct Credit (ERESA and CCRESA), as well as HOPE and Promise Scholarships. For more information call us at 517-483-1413 or send an [email](#).

## High School Dual Enrollment

Dual Enrollment provides an opportunity for qualified high school students to earn college credit while working toward their high school diploma. High school credit may or may not be granted according to the discretion of the participating student's high school. Dual enrollment affords students educational advancement in specific areas where unusual abilities and interest are displayed, especially in courses and academic areas not available in the student's high school. For further information, visit the [Dual Enrollment](#) webpage, call the K-12 Operations Office at 517-483-1413 or send an [email](#).

## Honors Program

The Honors Program at Lansing Community College offers enriched courses, special advising services, community service options, and other enhanced learning opportunities for students.

Each year, the program offers up to 36 Honors Program Awards to new students who have demonstrated outstanding academic achievement and plan to complete a [two-year transfer curriculum](#) at LCC to pursue a bachelor's degree at a four-year institution. For more information, view the [LCC Honors Program](#) webpage or please contact us at 517-483-1061 or via [email](#).

## LCC Foundation

The Lansing Community College Foundation believes that a lack of financial resources should not be an obstacle to education for anyone. Over 400 scholarships are offered to students every year.

The application period for scholarships is:

- November 1 – January 31

For more information on scholarships offered through the LCC Foundation visit [Foundation Scholarships](#) webpage or contact us at 517-483-1985 or via [email](#).

## Learning Commons

The Learning Commons is an academic support and learning assistance service for all students at LCC.

Learning Commons Locations:

- MAIN CAMPUS - Technology Learning Center (TLC) building 1st & 2nd Floors
- WEST CAMPUS – Room U245
- East Campus and Livingston Campus services vary by semester

### **Tutoring**

Tutoring is free for LCC students. Students meet with professional tutors either by drop in, by appointment, or online.

### **Academic Workshops & Exam Prep-Parties**

Professional Tutors lead a variety of sessions throughout the semester to help students with specific topics, application of course content and skills, study tips, and learning strategies.

### **Student Learning Assistants**

An opportunity for students to build a network of support. Learning Assistants work with teaching faculty in class and facilitate group peer-tutoring sessions for assistance outside of class on course specific content and skills.

### **Academic Resources at the Learning Commons**

- **Study Spaces & Learning Studios** – Open, comfortable, spaces welcome students to work individually or in small groups – independent study and tutoring is available.
- **Textbooks** – course-specific textbooks, reference material, and research assistance.
- **Models, Tools, and Equipment** – for Biology, Chemistry, Math, and other subjects.
- **Technology** – Laptops, iPads, and calculators for use on-site, along with computers that have specialized software applications for LCC course work.
- **Quick-Print Station** – Students can print and assemble papers and course material.

**More info -- Go to [The Learning Commons Webpage](#)**

[Tutoring Appointment Request form](#)

**Phone:** 517-483-1206

**Email:** [learning-commons@lcc.edu](mailto:learning-commons@lcc.edu)

## Library

At the Library, students can get research help from a librarian, study, relax, and check out books, journals, magazines, laptops, and calculators. Many textbooks are available for short lending periods. Study rooms, quiet study space and group collaboration areas are available, too. The Library offers e-books, e-journals, and a broad range of electronic resources that students and employees can access from the library's website.

For more information, visit us, go the [Library's](#) website, call 517-483-1657, or [email](#).

## Media Services

Information Technology Services (ITS) offers a wide array of services to support student learning and promote academic goals.

Media Services, a part of ITS, offers the following services accessible to students: Art & Photo Center, AV Services, Classroom Video, DMAC Equipment, Checkout and Telelearning, Video Engineering and Media Engineering, Audio Services (instruction, advertising, and WLNZ-FM) and Video Production (instruction, advertising, and LCC-TV).

For more information on media services please visit the [Media Services](#) webpage or contact Information Technology Services at 517-483-1670.

## Office Directory

For the most up to date information, go to the [Office & Department Directory](#) webpage.

## Online Learning Courses

### Electronically-supported Education Options

**Online\***- For motivated, independent learners who have the ability to work without face-to-face contact with an instructor or classmates, taking a course online using LCC's Course Management System, D2L, will most likely work. Students enrolling in an online course should have existing computer skills or the ability to acquire such skills. Online instructors will follow a syllabus and set deadlines.

### Online Real Time\*

In an online real time (ORT) class instruction is delivered online during designated meeting day(s) and times.

**Online/Hybrid \***- An online/hybrid course is one in which a portion of regularly scheduled classroom time is replaced with online course work and activities. This is a good option for students new to online learning or students who prefer a more structured learning environment but enjoy the flexibility that an online course provides as this type of course limits the number of times a student needs to be on-campus for class. Students spend part of their time face-to-face in the traditional classroom, lab, or worksite with an instructor and the other part participating online using the Course Management System, D2L.

**\*Students are encouraged to complete the [Learning Online in D2L Training](#) prior to beginning an online course. Students are able to self- enroll in the training through D2L at any time.**

## Orientation

Orientation is required for students attending college for the first time. For transfer/guest students or students who are dual enrolling while in high school, completion of orientation is not required. Please find the next steps on the [Getting Started](#) webpage. For additional information, please contact us at 517-483-1999 or by [email](#).

## Payments

Student tuition payments can be made online, 24/7, by logging into myLCC and then selecting TouchNet. TouchNet is LCC's secure online payment vendor, where you can review account balances and payment history, make and schedule payments, or enroll in a payment plan. You may also authorize your parents or others to view account information and make payments on your behalf. LCC offers payment plans through TouchNet to help students budget their education expenses. Students are encouraged to enroll early for best payment plan selections. For more information, go to the [Student Finance](#) webpage, call 517-483-1200, option 3 or via [email](#).

## Parking Services

All students have access to free parking in designated areas on campus. For most up to date parking information, please go to the [Parking at LCC](#) webpage.

Parking permits are issued to LCC students for the semester in which they are enrolled. For more information please call us at 517-483-1798 or by [email](#).

## Public Safety

LCC Public Safety consists of Police, Dispatch, and Student Parking Services. LCC Public Safety is charged with providing a safe environment at all LCC campuses, and maintains physical offices at the Downtown and West campuses. LCC Police provide services in areas of crime prevention and control, criminal investigations, traffic and parking supervision, facilities security, and emergency first-aid treatment. LCC Police operates 24 hours, 7 days a week via police presence and Dispatch. They can be reached anytime at 517-483-1800 or via [email](#). In an emergency call 911 for Police, Fire, and Emergency Medical Services. Also visit the [Public Safety](#) webpage for more information.

## Services

Below is a list of services provided by Public Safety. Visit us by stopping the Public Safety office in the Gannon Building downtown or call 517-483-1800:

- Battery jump starts
- Directional assistance
- Lost & Found at Downtown and West campus.
- Disposal of unclaimed items takes place at the end of every semester.
- Open locked vehicles
- Safety escort
- After hours building access, if necessary
- Emergency CPR, First Aid, or AED use during a medical emergency
- Regular check and servicing of fire extinguishers, AED batteries, and first aid kits
- Emergency notifications and timely warnings when warranted
- The development and delivery of safety and law enforcement talks, when requested.

Please report suspicious behavior, unusual circumstances and any possible law enforcement crimes or offenses immediately by calling 517-483-1800. Anonymous reporting is acceptable.

## Request a Police Escort

Police escorts are for LCC students, faculty or staff and not the general public. Citizens may request a police escort by:

- Calling 517-483-1800
- Approaching an officer directly around campus grounds
- Coming to the Public Safety Office located in the Gannon Building at 411 N Grand Ave.

## Rave Guardian App

### SAFETY IN THE PALM OF YOUR HANDS

Safety is a top priority. That's why LCC is taking a proactive approach to safeguarding individuals on campus with the availability of Rave Guardian - a mobile app for LCC students, faculty, and staff. The app provides an opportunity to support users who are in need of immediate assistance by enhancing safety on LCC's Downtown and West campuses through real-time interactive features that create a virtual safety network of friends, family, and LCC Public Safety.

### RAVE GUARDIAN APP FEATURES

- Panic Button - Direct immediate connection to Campus Safety with GPS location and personal profile information.
- Tip Texting - Enables anonymous, 2-way, crime tip reporting through text and images.

- Personal Guardians & Safety Timer - Students can identify Campus Safety, friends, roommates, and family as "Guardians" when setting their Rave Guardian Safety Timer. During a timer session, Guardians and Campus Safety can check status of the student. If the Safety Timer is not deactivated before it expires, Campus Safety is automatically provided with the user's Rave Guardian profile to proactively identify and check in on the individual.
- Safety Profile - Student-created Safety Profiles contain information such as residence details and medical conditions. When a student requires assistance - on or off campus - student Safety Profiles are displayed to Campus Safety and Smart911 enabled 9-1-1 centers nationwide.

To learn more about the application, go to the [Rave Guardian](#) web page.

### Recruitment & Outreach

The Student Engagement Team participates in college fairs, classroom presentations, application and scholarship workshops, and more. They meet with future students and families to answer questions and assist with the admissions process. The team also regularly hosts groups on campus for tours, informational sessions and orientation.

To schedule an appointment, or to view available orientation sessions, please go to the [Student Engagement & Admissions Team](#) webpage, contact us via [email](#), or call 517-483-1999.

### The Registrar's Office

The Registrar's Office maintains students; academic records and transcripts. It also issues certificates, diplomas, degrees, degree certifications, enrollment registration and verification, grade collection and recording, fee classification, and transfer credit processing. For more information, visit the [Registrar's Office](#) webpage, contact us at 517-483-1200, Option 2 or via [email](#).

### StarCard Student IDs

The LCC StarCard is a student identification card that can also be used to gain access to campus building and services. A StarCard is required at most building doors on LCC's Downtown Campus. StarCards are not needed to gain access to campus building at the College's West, East, Livingston campuses.

The StarCard must be presented when requested by a College official. For more information, go to the [StarCard](#) webpage or contact the Help Desk at 517-483-5221.

### Student Affairs Division

The Student Affairs Division offers student and academic support services. Our services are designed to help students reach their potential as they progress toward their goals. For assistance, view the [Student Affairs Division](#) webpage or please call 517-483-1162.



## Student Finance

The functions of the [Student Finance](#) department include processing tuition payments, administering payment plans, working with third-party sponsorships, processing refunds for excess account balances, and issuing 1098T student tax statements. For more information please contact us at 517-483-1200, option 3 or via [email](#).

## Student Life

The Student Life Office exists to enhance the overall educational experiences and success of students through the development of, exposure to, and engagement in social, academic, intellectual, cultural, recreational, campus and community service, and leadership development. Please contact via [email](#).

## Technical Careers Division

The Technical Careers division provides innovative pathways to quality high school, post-secondary education, and apprenticeship training in partnership with industry and the communities we serve. The Technical Careers division is dedicated to providing the education that allows our graduates to transition into employment or further education in pathways that lead to economic mobility and financial stability. For more information please call 517-483-1319.

## Testing Services

Testing Services provides exam administration and related services to prospective and current students, faculty, and community members. For more information please contact us at 517-267-5500 or via [email](#), or visit the [Testing Services](#) webpage.

## Textbooks

Barnes & Noble College (formerly known as MBS) is LCC's official online bookstore. The bookstore presents all options available to students to purchase their textbooks including new with a guaranteed buyback price and, if available, used, e-book/digital, rental, and marketplace options.

Textbooks, both required and recommended, can be viewed on the [Barnes & Noble College online bookstore](#).

Other options available are:

- [Library](#)  
[Textbooks](#) for all general education courses and many other courses, are available for check-out in the Library. Please direct any questions via [email](#) or phone at 517-483-1626.

Some textbooks may be available as an [e-book](#) through the Library or as an [Open Educational Resource \(OER\)](#). [Ask a Librarian](#) if you need help.

- [Local Bookstore](#)  
[Student Book Store](#)  
421 E. Grand River Ave.  
East Lansing, MI 48823  
517-351-4210

For more information, view the [Textbooks and Bookstores](#) webpage, or contact the appropriate [department/program](#).

## TouchNet

TouchNet is LCC's secure online payment vendor. Students can review account balances and payment history, make payments with credit/debit cards, schedule payments, enroll in an installment payment plan, select refund preference, review refund history, access 1098T student tax statements, authorize parents and others to view account information and make payments on student's behalf.

## The University Center

The University Center is a partnership between Lansing Community College and several universities and is located on LCC's downtown campus. LCC's partner universities offer junior and senior-level courses leading to over 30 bachelor's degrees, and several post-baccalaureate certificates and master's degrees.

Community members as well as current and former LCC students may take advantage of the convenience of the center located at the corner of Capitol Avenue and Shiawassee Street on the LCC Main Campus. For more information please call 517-483-9700 or visit the [University Center](#) webpage.

## Registration

### Course Offering Formats

Course offerings fit into six types:

- **Hyflex:** Offers the flexibility for students to choose how they will participate for each class session: in-person, online during the meeting time, or online asynchronously.
- **Face-to-Face:** Traditional in-person courses with all instruction delivered in the classroom.
- **ON - Online:** Traditional asynchronous online courses.
- **ORT - Partial Scheduled Lecture:** Online real-time (ORT) courses with some regularly scheduled online meeting day(s) and times along with unscheduled online instruction and activities.
- **ORT - Full Scheduled Lecture:** Online real-time (ORT) courses where all instruction is delivered online during designated meeting day(s) and times.
- **OH - Online Hybrid:** Courses with some regularly scheduled in-person classroom instruction along with online coursework and activities.

As a reminder, anyone coming to campus needs to follow LCC's current work safety rules and public health orders. This information can be found on [Keeping LCC Safe](#) website.

### Estimate Tuition Cost

Planning for the cost of higher education is extremely important. Use the [Tuition Cost Estimator](#) tool to estimate the cost of tuition for this semester.

Course fees support costs unique to specific courses, beyond the standard cost of instruction and basic materials. Fees include a variety of consumable costs, specialized equipment, and technology dedicated to the associated course. Further, small group instruction is sometimes required by state or federal regulations, national accreditation mandates, or quality and safety standards, which all impact faculty-to-student ratios and overall program costs. These costs have not changed because of distance learning.

LCC's longstanding practice is that students are charged for the cost to deliver their education in their chosen program. As such, the courses and programs that have these additional costs are charged to the students enrolled in the courses rather than spreading those costs out evenly among all students by way of higher tuition. This practice promotes fairness for all.

## Register for Class(es)

To register, Log into [myLCC](#) and click on the [Banner](#) link to drop or add course(s). For assistance on how to register online, please check out LCC's "How to Register Online" instruction guide.

Note: Prerequisite overrides are managed within each [division/department](#).

Students can add classes based on the teaching periods. For important deadline details, see the charts:

[Fall 2022](#) – Registration begins Monday, April 25<sup>th</sup>, 2022

[Spring 2023](#) – Registration begins Monday, October 3<sup>rd</sup>, 2022

[Summer 2023](#) – Registration begins Monday, March 27<sup>th</sup>, 2023

Register early for best class selection! For additional information, call LCC at 517-483-1957 or toll-free at 1-800-644-4522. Refer to variable-date options list for classes beginning throughout the semester.

Many LCC courses are offered in a shorter timeframe than the traditional full-semester teaching period and provide the same amount of credit. See the list above for the various start and end dates of the teaching periods.

Students must be admitted to the College and complete the required steps prior to registering.

Students should determine that all the required course prerequisites have been met and seats are available.

## Late Registration and Scheduling Adjustments

Late registration at Lansing Community College is allowed within the first calendar week or three (3) days of registration, depending on the parts of term.

- Late registration for Fall and Spring, parts of term: 16 week, 15 week, and 14 week; will be allowed within the first week (7 calendar days) of registration.
- Late registration for Fall and Spring, parts of term: 12 week, 12B week, 8A week, and 8B week; will be allowed within the first three days (3 calendar days) of registration.
- Late registration for Summer, for all parts of term, will be allowed within the first three days (3 calendar days) of registration.

Late registration is defined as adding a course for the current semester after the semester has begun. A schedule adjustment is defined as adding a course by a student with registration activity for the current semester. Adding an additional course, switching sections, and being reinstated into a section in which the student was previously registered are all examples of

schedule adjustments. Once the late registration period has ended, special circumstance may be considered after consultation with the instructor and the Academic Dean.

#### WHAT IS REGISTRATION ACTIVITY?

Examples of registration activity include:

- A student is registered in a section for the current semester
- A student dropped a section during the current semester
- A student was on a waitlist for a section during the current semester

#### Maximum Enrollment per Semester

Individual students will enroll in no more than 28 credits per semester. Students who wish to enroll in more than 28 credits per semester may request permission from the Dean or designee overseeing the academic program the student is following. The Dean or designee will make a decision which is based on the student's academic and personal circumstances and which supports reasonable expectations for successful learning and course completion. In the case of any appeal, the final decision rests with the Academic Affairs Office.

#### Placement Levels

Most courses require basic skills proficiency levels which must be met prior to enrolling in courses that require specific placement levels. Students are strongly encouraged to establish their placement levels, complete orientation, and meet with an advisor prior to registration. Placement levels may be established through high school transcripts documenting required GPA or through ACT, SAT, CLEP, ASVAB, GED test scores, or through placement testing.

## Tuition and Fee Information

Below are policies related to the calculation of tuition based on residency and veteran status, the payment of those fees, and the refund policy.

### Eligibility for In-District, In-State, Out-of-State, or International Tuition

In order to abide by state law and ensure the fairness for taxpayers in the district, the College's Board of Trustees periodically approves tuition and fees for resident, non-resident, out-of-state, and international students.

#### 2022-2023 TUITION RATES (PER BILLING HOUR)

The cost for attending a course is determined by the course's billing hours, instead of credit hours. A billing hour represents an amount of time that a student spends in direct contact with an instructor or with laboratory equipment.

#### COLLEGE DISTRICT RESIDENT STUDENTS - \$114\*

Resident students have lived for four months or more within one of the 15 school districts listed below and pay property taxes to support LCC's budget. School districts include:

School Districts included in LCC District		
Bath	Haslett	Okemos
Dansville	Holt Public	Stockbridge+
Dewitt	Lansing	Waverly
East Lansing	Leslie+	Webberville
Grand Ledge	Mason	Williamston

+ Only the portions of the Leslie Public Schools and the Stockbridge Community Schools located in Ingham or Livingston County are part of the Lansing Community College district.

#### IN-STATE STUDENTS - \$228\*

If student resides in Michigan, but not in one of the above 15 school districts, the student is an in-state student.

#### OUT-OF-STATE STUDENTS - \$342\*

If student lives outside of Michigan, the student is an out-of-state student.

### INTERNATIONAL STUDENTS - \$399\*

If the student has been admitted to the United States on a temporary, non-resident status, the student is classified as an international student.

### SENIOR CITIZENS\*

If the student is age 62 or older on the first day of the semester and a resident of the LCC district six months prior to the beginning of the semester in which registering, the student qualifies for a reduced tuition rate of \$57.00 per billing hour on classes at LCC. (Note: Michigan residents living outside the LCC district qualify for a reduced rate of \$114 per billing hour.) These rates apply to LCC classes taken for audit or credit. Classes with zero billable hours are not covered by the tuition rate reduction. Senior citizens will continue to pay registration, course and facility fees. For details, stop by the [StarZone](#) or call 517-483-1957.

## Fees

- **Registration Fee - \$25\***  
The registration fee is applied to each semester the student is enrolled and pays for some of the cost of registration. This fee is charged to all students.
- **Student Support Fee - \$15\***  
Fee includes student support services such as tutoring, advising, counseling, library, computer lab and parking. (This fee is charged per billable hour and to all students).
- **Course Fee \***  
Course fees vary and apply to courses requiring specialized supplies, equipment, facilities, and other instructional resources unique to the individual course. See class offerings to determine if a course has an applicable course fee.

\*Tuition and Fees are subject to change by action of the LCC Board of Trustees.

## About Billing Hours

### What is a billing hour?

The cost for attending a course is determined by the course's billing hours, instead of credit hours. A billing hour represents an amount of time that a student spends in direct contact with an instructor or with laboratory equipment.

### How are billing hours for a course determined?

Several factors are considered in determining the billing hours of a course. The main factor is the number of hours the student is expected to either be in a class or in another "instructional" setting (such as a lab) in a typical week for a full-semester course. LCC courses range from one billing hour to more than 10 billing hours per course. The billing system caps the number of billing hours that can be added to a course. For the majority of courses at LCC, the credit hours and the billing hours are the same.

## Tuition Estimate Resources

### [Tuition Cost Estimator](#)

The Course Tuition Cost Estimator will give you a rough estimate of the tuition and fee charges for one or more courses you plan to enroll in. This is a tool to help you plan prior to registering for courses.

### [Net Price Calculator](#)

This tool can be used to receive an estimate of how much students similar to you paid to attend Lansing Community College during the current Academic Year.

## Military-Connected Student In-State Tuition

Any individual using VA Educational Benefits under Chapter 30, Chapter 31, Chapter 33, Chapter 35, or the Fry Scholarship and who lives in the State of Michigan while attending Lansing Community College, regardless of their former state of residence, and regardless of when they or the military member was discharged from military service, will pay in-state tuition rates for all VA approved programs.

To remain compliant and approved to receive VA GI Bill® funding, schools must charge in-state tuition and fee amounts to “covered individuals.” A “covered individual” is defined in Section 1005 of Public Law 116-315 as:

- A veteran who lives in the state in which the institution of higher learning is located, regardless of their former state of residence, and enrolls in the school, regardless of when they discharged from military service.
- A spouse or child using transferred benefits who lives in the state in which the institution of higher learning is located, regardless of their former state of residence, and enrolls in the school, regardless of when the military member discharged from military service.
- A spouse or child using benefits under the Survivors’ and Dependents Educational Assistance Program (DEA) who lives in the state in which the institution of higher learning is located, regardless of their former state of residence, and enrolls in the school, regardless of when the military member died in the line of duty or when the individual became eligible to receive the benefit.
- A spouse or child using benefits under the Marine Gunnery Sergeant John David Fry Scholarship who lives in the state in which the institution of higher learning is located, regardless of their former state of residence, and enrolls in the school, regardless of when the military member died in the line of duty.

GI Bill® is a registered trademark of the U.S. Department of Veterans Affairs (VA). More information about education benefits offered by VA is available at the official U.S. government Web site for [U.S. Department of Veterans Affairs](#).



### Payment of Tuition & Fees

According to the Michigan Community College Act, “the Board of Trustees may establish and collect tuition and fees for resident and nonresident students.” The Board of Trustees shall review student tuition and fees on an annual basis, based on the financial requirements of the College, to provide optimal services to students at an affordable price.

### Tuition and Fees Refund Policy

It shall be the College policy to refund tuition and fees accordingly, except where superseded by law, to a student who properly withdraws from a class.

## Financial Aid

### What is Financial Aid?

It is resources to assist students with paying for their post-secondary education.

### Ways to Cover the Cost of Post-Secondary Education

#### Scholarships

Scholarship eligibility varies based on financial need, academic merit, field of study, talent, athletic participation, etc. For the most part, these funds do not need to be repaid. Students can apply for scholarships at LCC, the State of Michigan, community organizations, and their employer. Selection criteria and requirements vary according to the individual scholarship and it is important to pay attention to application deadline dates. Please take a look at the following scholarship opportunities offered through a variety [online scholarship search engines](#).

#### Grants

Grants are funds to help cover educational costs and do not need to be repaid. These funds are offered by the federal government, state of Michigan, and LCC. Additional information can be found on the [Grants](#) webpage.

#### Student Employment & Work-Study

On- and off-campus employment opportunities allows the student to earn the funds to help cover the costs of educational expenses. As work is completed, the student can earn wages that may be used toward school-related costs. More information can be found on the [LCC Student Employment & Work-Study](#) webpage.

#### Loans

Loans are available through the government and students also have the option of taking out loans from a private lender. These funds must be repaid. See the [Loans](#) webpage for more information.

### Applying for Financial Aid

#### Free Application for Federal Student Aid (FAFSA) Process

To qualify for Financial Aid, students must complete and submit the Free Application for Student Aid ([FAFSA](#)) using LCC's school code: 002278.

If planning on attending Fall 2022, Spring 2023, and/or Summer 2023, the student must complete the 2022-2023 FAFSA, which requires 2020 income information.

## Types of Financial Aid

### Need-Based v. Non-Need-Based Financial Aid

**Need-based aid** is financial aid a student can receive if the student has financial need and meets other eligibility criteria. Financial need is determined by subtracting the Expected Family Contribution (EFC) derived from the FAFSA from the student's Cost of Attendance (COA). Students cannot receive more need-based aid than the amount of financial need.

Example: COA of \$11,000 and EFC of \$7000 = financial need of \$4,000. Student is eligible for \$4,000 in need-based aid.

The following are need-based financial aid programs:

- [Children of Fallen Heroes Scholarship](#)  
The Children of Fallen Heroes Scholarship is provided to students whose parent or guardian was a public safety officer who died in the line of duty. This scholarship is available to those who are Federal Pell Grant eligible and are under 24 years of age or enrolled at an institution of higher education at the time of parent's or guardian's death.
- [Federal Pell Grant](#)  
The Federal Pell Grant is a need-based federal grant to promote access to postsecondary education, and is awarded to low- and middle-income undergraduate students who have not yet earned a bachelor's or professional degree. Students must meet [basic eligibility requirements](#). Grant amounts are based on the student's EFC (see [Determining Financial Aid Eligibility](#)), and [enrollment level](#) at the [Federal Pell Grant Census Date](#). The maximum annual award is \$6895 for 2022-2023 award year. Students are limited to receiving the equivalent of 12 full-time semesters of Federal Pell Grant.
- [Federal Supplemental Educational Opportunity Grant \(FSEOG\)](#)  
The FSEOG is a federal grant awarded to students who demonstrate financial need, meet the [basic eligibility requirements](#), and qualify for a Federal Pell Grant. FSEOG funding is limited; therefore, priority is given to students who have the lowest EFC.
- [Federal Direct Subsidized Loan](#)  
Federal Direct Subsidized are loans made to eligible undergraduate students who need help with covering educational expenses. These funds must be repaid according to the terms of the Master Promissory Note and interest does not accrue while the student is in school.
- [Federal Work-Study](#)  
Federal Work-Study is a need-based federal program that provides students with employment opportunities, both on- and off-campus, to assist with educational expenses. Students must meet the [basic eligibility requirements](#) to receive these funds.

- [Fostering Futures Scholarship](#)  
The Fostering Futures Scholarship is awarded on a first-come, first-served basis to students who have been placed by the Department of Human Services in the Michigan foster care system on or after the 13th birthday. Eligible applicants are required to maintain half-time enrollment (minimum 6 credit hours) and meet Satisfactory Academic Progress. This award can only pay for tuition and fee charges and may be adjusted due to other awards.
- [Iraq & Afghanistan Service Grant](#)  
The Iraq and Afghanistan Service Grant is a need-based federal grant awarded to students whose parent or guardian was a member of the U.S. armed forces who died as a result of military service performed in Iraq or Afghanistan after the events of 9/11 when the student was under 24 years old or enrolled in college at least part-time at the time of the student's parent's or guardian's death. The student must be enrolled at least half-time (6 credit hours) and the award amount is prorated based on enrollment level: 100% for full-time (12 or more credits), 75% for three-quarter-time (9-11.99 credits), and 50% for half-time (6-8.99 credits).
- [LCC Grant](#)  
The Lansing Community College Grant is an institutional grant awarded to students who demonstrate financial need. Grant funds are limited; therefore, priority is given to students with the lowest EFC.
- [Michigan Competitive Scholarship](#)  
The Michigan Competitive Scholarship is awarded to students who are pursuing their first degree and demonstrate financial need along with having a qualifying ACT or SAT score. Eligible applicants are required to file a FAFSA each year, maintain half-time enrollment (minimum 6 credit hours), and meet Satisfactory Academic Progress. This award can only pay for tuition and fee charges and may be adjusted due to other awards. The award amount is pro-rated based on enrollment levels: 100% for full-time (12 or more credits), 75% for three-quarter-time (9-11.99 credits), and 50% for half-time (6-8.99 credits).

**Non-need-based aid** is financial aid that is not based on EFC. The student's eligibility is determined by COA and the amount of other financial aid awarded.

Example: COA of \$11,000 and need-based awards of \$4,000 = no more than \$7,000 in non-need-based aid.

The following are non-need-based student aid programs:

- [Children of Veterans Tuition Grant \(CVTG\)](#) The CVTG is awarded for up to four academic years to students older than 16 and less than 26 years of age who are the natural or adopted child of a Michigan veteran. The veteran must have died or become totally and permanently disabled as a result of military service. Students must enroll at least half-time (minimum 6 credit hours) and meet Satisfactory Academic Progress (SAP) standards, which includes maintaining a minimum GPA of at least a 2.25, to continue to receive the award. This award covers tuition and mandatory fees

(registration and student support fees), prorates based on enrollment level and may be adjusted due to other awards. CVTG will not cover any billing hours in excess of credit hours.

- [Federal Direct Unsubsidized Loan](#)

The Federal Direct Unsubsidized are loans made to eligible undergraduate, graduate, and professional students to help cover educational expenses. These funds must be repaid according to the terms of the Master Promissory Note and interest does accrue while the student is in school.

- [Federal Direct PLUS Loan](#)

The Federal Direct PLUS are loans made to parents of a dependent student to help cover educational expenses of the dependent student. Eligibility is not based on financial need, but a credit check is required. Parent borrowers who have an adverse credit history must meet additional requirements to qualify.

- [Futures for Frontliners](#)

The Futures for Frontliners provides tuition assistance to Michigan residents who have not obtained a college degree and worked as a frontline worker in an essential industry between April 1 and June 30, 2020. The program is intended to give thanks to those who put themselves at risk during the pandemic. Students must have applied by December 31, 2020. The scholarship covers any remaining in-district tuition and mandatory fees (Registration and Student Support Fee) that are not covered by the Federal Pell Grant or other tuition-restricted scholarships. Students must maintain enrollment as at least a half-time (6 credit hours) student in a financial aid eligible program.

- [Gaining Early Awareness and Readiness for Undergraduate Programs \(GEAR-UP\)](#)

The Michigan GEAR UP (MI GEAR UP) is a federally funded program designed to provide early intervention services and programs to students in middle school and high school. MI GEAR UP targets low-income students by providing them with support services to increase their opportunity to succeed in postsecondary education. Students must maintain Satisfactory Academic Progress and be enrolled at least half-time (6 credit hours). The award amount is prorated based on enrollment levels: 100% for full-time (12 or more credits), 75% for three-quarter-time (9-11.99 credits), and 50% for half-time (6-8.99 credits).

- [Michigan Indian Tuition Waiver \(MITW\)](#)

The MITW is awarded to students approved by the Michigan Department of Civil Rights. Students must be  $\frac{1}{4}$  or more Native American blood quantum as certified by their Tribal Enrollment Department, be an enrolled citizen of a U.S. Federally Recognized Tribe as certified by the Tribal Enrollment Department, and be a legal resident of the state of Michigan for no less than 12 consecutive months. The MITW award can only pay for tuition charges and may be adjusted due to other awards.

- [Michigan Reconnect](#)  
Michigan Reconnect provides tuition assistance to Michigan residents who are 25 years of age or older and have not obtained a college degree. The scholarship covers any remaining in-district tuition and mandatory fees (Registration and Student Support Fee) that are not covered by the Federal Pell Grant or any state tuition-restricted scholarships. In addition to completing the FAFSA, students must complete and submit the [Reconnect Application](#). Students must begin classes within 12 months from the date the application was approved by the State of Michigan and they must be enrolled at least half-time (6 credit hours).
- [Police Officer's and Firefighter's Survivor Tuition Act](#)  
The Police Officer's and Firefighter's Survivor Tuition Act provides a waiver of tuition for the surviving spouse and children of Michigan police officers and firefighters who died in the line of duty. The program is intended to provide an educational benefit to the spouse and children of police officers and firefighters who made the ultimate sacrifice for their communities and the citizens of Michigan. Tuition is waived for eligible survivors enrolled in classes leading to a certificate or undergraduate degree. Students must maintain Satisfactory Academic Progress.
- [Private \(Alternative\) Loans](#)  
Private (Alternative) Loans are credit-based student loans offered by private lenders. They are available to students who need funds in addition to their federal aid to meet educational expenses or for those students not eligible for federal aid.
- [Tuition Incentive Program \(TIP\)](#)  
The TIP is awarded for up to 30 credits per academic year to students enrolled in an Associate Degree or Certificate program that requires at least 30 credits. Students must enroll at least half-time (minimum 6 credit hours) in courses that are required for the declared program of study and meet Satisfactory Academic Progress standards. This award covers in-district tuition and mandatory fees (Registration and Student Support Fees) and may be adjusted due to other awards. TIP will not cover any billing hours in excess of credit hours.

## Financial Aid Policies

### Basic Eligibility Requirements

While each aid program has special requirements, the following are basic requirements that apply to federal financial aid. In order to be eligible to receive federal financial aid, the student must:

- Complete the Free Application for Federal Student Aid (FAFSA).
- Have earned a High School Diploma (High School Certificate of Completion is not the same as a High School Diploma) or GED/State Certification, or have completed Homeschool graduation requirements.
- Be enrolled or accepted for enrollment in an eligible degree or certificate program and only be taking courses that lead to that degree or certificate.
- Be a U.S. citizen or national, permanent resident, or other eligible noncitizen.
- Have a valid Social Security Number, except for residents of the Federated States of Micronesia, Republic of the Marshall Islands, or the Republic of Palau.
- Be registered with Selective Service, if required.
- Be making Satisfactory Academic Progress.
- Not owe an overpayment on a Title IV grant or be in default on a Title IV loan.
- Have returned fraudulently obtained Title IV funds, if convicted of or pled guilty or no contest to charges.
- Not have fraudulently received Title IV loans in excess of annual or aggregate limits.
- Have repaid Title IV loan amounts in excess of annual or aggregate limits, if obtained inadvertently.
- Not have a federal or state conviction for drug possession or sale, with certain time limitations.

### Determining Eligibility

After completing the [FAFSA](#), the student will receive a Student Aid Report. The Financial Aid Office will use the information from this report to determine the types and amounts of financial aid the student may qualify for by using the following formula:

$$\text{COST OF ATTENDANCE} - \text{EXPECTED FAMILY CONTRIBUTION} = \text{FINANCIAL NEED}$$

## Cost of Attendance

Cost of attendance (COA) is based on the average educational and living expenses for a student attending LCC. It does not represent an individual student's actual costs. The COA includes:

- Tuition and fees
- Books, supplies, and equipment
- Room and board
- Transportation
- Miscellaneous personal items
- Loan fees

Students may determine or estimate their COA using the following methods:

1. Current financial aid students, login to [myLCC](#), click Banner, select Financial Aid and Financial Aid Record to access the Award Overview tab
2. Prospective students, access the [Net Price Calculator](#) or view the below chart for fall and spring semester costs for a full-time student

<b>Full Time Cost of Attendance Chart</b>			
<b>Standard Academic Year (Fall &amp; Spring)</b>	<b>Resident</b>	<b>In State</b>	<b>Out of State</b>
<b>Books &amp; Supplies (BKSP)</b>	\$600	\$600	\$600
<b>Tuition &amp; Fees (TUIT)</b>	\$4000	\$7400	\$10800
<b>Loan Fee (LFEE)</b>	\$80	\$80	\$80
<b>Personal &amp; Misc (PERS)</b>	\$1600	\$1600	\$1600
<b>Room (ROOM)*</b>	\$4000	\$4000	\$4000
<b>Board (BRD)</b>	\$2400	\$2400	\$2400
<b>Transportation (TRAN)</b>	\$1600	\$1600	\$1600
<b>TOTAL</b>	<b>\$14280</b>	<b>\$17680</b>	<b>\$21080</b>

\*ROOM: For students enrolled in more than six credits in fall or spring or three credits in summer and who receive Veteran Benefits that include a Basic Allowance for Housing (BAH), Room cost will be 0.

## Expected Family Contribution

Expected Family Contribution (EFC) is calculated according to a formula established by law taking into consideration the family's taxed and untaxed income, assets, benefits (such as unemployment or Social Security), family size and number of family members who will attend college. The family includes parent information if the student is considered a dependent student as determined by the FAFSA.

The EFC is not the amount of money the family will have to pay for college, nor is it the amount of federal student aid a student will receive. It is a number used by schools to calculate how much financial aid students are eligible to receive.



## Consortium

In some cases, students choose to attend two colleges simultaneously. In most cases, a student cannot receive Federal or State financial aid at both institutions simultaneously and consequently, financial aid would be processed by only one of the colleges where the student is enrolled.

In the case where a pre-articulated Consortium Agreement exists between two institutions, the student's combined enrollment will be used to determine aid eligibility. Only the following [Consortium Agreements](#) have been established with LCC, to learn more please contact the Financial Aid Office at LCC for program specific information:

- Davenport University
- Ferris State University
- Michigan Colleges Online
- Michigan State University
- Northwood University

## Courses in Program of Study

The U.S. Department of Education requires students to be enrolled in an eligible program of study to receive financial aid and only courses that apply toward that program of study will be used to determine the amount of financial aid the student will receive. The purpose of this federal requirement is to ensure students are able to obtain their degree or certificate in a timely manner with minimal debt for student loan borrowers and to ensure that federal funds are used only to obtain a degree or certificate. Therefore, if a student registers for a course that does not count toward the declared degree or certificate, the course will not be used to determine the student's financial aid eligibility. To learn more, please refer to the [Courses in Program of Study Q&A](#).

## Enrollment Level

Financial aid is offered to students based on enrollment as a full-time student. If a student enrolls less than full-time, certain awards may be prorated. Enrollment level changes could impact the amount of financial aid a student will receive. Adding, dropping, withdrawing, or changing a course to audit status, after the semester begins, are types of enrollment level change that could impact the amount of aid a student receives. Before making an enrollment level change, students should contact their instructor, Success Coach, and the Financial Aid Office to understand all possible consequences of the change.

The chart below defines enrollment level based on the number of credits a student enrolls for:

<b>Enrollment Level</b>	<b>Credits Required for Fall, Spring, and Summer Semesters</b>
Full-Time	12 or more credits
Three-Quarter-Time	9 - 11.99 credits
Half-Time	6 - 8.99 credits
Less Than Half-Time	Less than 6 credits

- **Add** - adding a course to the student schedule.
- **Audited** courses are taken for no grade. Therefore, courses being audited cannot be considered part of a student's enrollment level for financial aid purposes.
- **Drop** - removing a course from the student schedule where instructor approval is not required. A drop also removes the course from the student's academic record. Generally, this means that the student will no longer be charged for all or part of the course. A course cancelled by LCC is also considered a dropped course.
- **Non-credit courses** are courses that are not given credit or grade for the hours earned. Therefore, non-credit courses cannot be considered part of a student enrollment level for financial aid purposes.
- **Withdrawal** - removing a course from the student schedule by issuing a grade of W (withdrawal) for the course. The course will be part of the student's academic record.

### Falsification of Information

Falsification of information submitted by the student or parents for the purpose of receiving financial assistance may result in cancellation of assistance, require the student to pay back assistance received, and referral to the appropriate federal authorities. If students purposely give false or misleading information, they may be fined \$10,000, sent to prison, or both by the federal government.

The Financial Aid Office may be required to verify information provided on the FAFSA by requesting documentation of income or other types of financial assistance. In addition, if the Financial Aid Office has conflicting information or has reason to believe that student information may not be valid, further investigation will occur prior to financial aid being awarded and/or refunded.

### Notice of Federal Student Financial Aid Penalties for Drug Law Violations

Note: The U.S. Department of Education has rescinded the Drug Conviction student eligibility requirement and students no longer face penalties or suspension of Title IV aid due to a drug conviction that occurred while the student was enrolled and receiving Title IV aid; however, LCC is still required to disclose the following information.

A federal or state drug conviction can disqualify a student from federal financial aid programs. Convictions apply if they were for an offense that occurred during a period of enrollment for

which the student was receiving Title IV federal financial aid; convictions do not count if the offense did not occur during such a period. A conviction that was reversed, set aside, or removed from the student’s record does not impact federal financial aid eligibility. In addition, a conviction received when the student was a juvenile does not apply, unless that student was tried as an adult.

The following chart illustrates the period of ineligibility for federal financial aid programs. Please note that eligibility is dependent upon the nature of the conviction and the number of prior offenses.

<b>Offense Number</b>	<b>Possession of Illegal Drugs</b>	<b>Sale of Illegal Drugs</b>
1 <sup>st</sup> Offense	1 year from date of conviction	2 years from date of conviction
2 <sup>nd</sup> Offense	2 years from date of conviction	Indefinite Period
3+ Offenses	Indefinite Period	Indefinite Period

Pursuant to federal law, a conviction for the sale of drugs includes convictions for conspiring to sell drugs. Moreover, those students convicted of both selling and possessing illegal drugs will be subject to ineligibility for the longer period as prescribed under the circumstances.

A student regains eligibility the day after the period of ineligibility ends or when the student successfully completes a qualified drug rehabilitation program. Further drug convictions will make the student ineligible again for federal financial aid programs.

Students denied eligibility for an indefinite period can regain it only after successfully completing a rehabilitation program as described below. Furthermore, eligibility can be regained if a conviction is reversed, set aside, or removed from the student’s record so that fewer than two convictions for the sale or three convictions for the possession of illegal drugs remain on the student’s record. In such cases, the nature and dates of the remaining convictions will determine when the student regains eligibility. It is the student’s responsibility to certify to the College that a qualified drug rehabilitation program has been completed.

For purposes of financial aid eligibility, a qualified drug rehabilitation program must include at least two unannounced drug tests and must satisfy at least one of the following requirements:

- Be qualified to receive funds directly or indirectly from a federal, state, or local government program.
- Be qualified to receive payment directly or indirectly from a federally or state-licensed insurance company.
- Be administered or recognized by a federal, state, or local government agency or court.
- Be administered or recognized by a federally or state-licensed hospital, health clinic, or medical doctor.

For more information regarding illegal drug convictions and financial aid eligibility, please visit the [FAFSA](#), or contact the [Financial Aid Office](#).

## Remedial / Developmental Courses

Remedial/Developmental Courses are defined as courses that are below college level but at least at the secondary (high school) education level. Once students attempt more than 30 remedial/developmental credits, the Financial Aid Office must begin limiting federal financial aid eligibility. Even if financial aid funds were not used for the prior coursework, the Financial Aid Office must limit federal financial aid eligibility. For example, if a student attempted 30 remedial/developmental credits and the following semester register for a total of 12 credits with 4 out of the 12 credits are considered remedial/developmental, the student's financial aid eligibility will be based on 8 credits (half-time).

Below are courses that LCC considers remedial/developmental:

Courses LCC Considers Remedial/Developmental			
AASD 104	AASD 105	AASD 110	ENGL 098
ENGL 099	ENGL 117	ENRI 105	ENRI 152
ENRI 162	MATH 097	MATH 098	MATH 105
MATH 106	MATH 107	MATH 109	MATH 112
MATH 114	READ 108	READ 111	READ 114
READ 116	READ 150	READ 160	READ 170
READ 175	SPEL 150	VCBL 150	WRIT 108
WRIT 110	WRIT 117		

To view current information, go to the [Financial Aid Policies](#) webpage.

## Repeated Courses

Federal regulations limit the number of times a student may repeat a course and receive financial aid for that course. This limit applies whether or not the student received financial aid for earlier enrollments in the course. If a student retakes a course that is not eligible for financial aid, the credits for that course will not be used to determine the student's federal financial aid eligibility. Note: Students must also adhere to the [College's Repeat Policy](#).

- A student may receive financial aid to repeat a previously passed course (1.0 or higher) one additional time.
- A student may receive financial aid when repeating a previously failed course (0.0F, 0.0U, ZF, or ZU) for as long as it takes the student to pass (1.0 or higher) the course.
- **A student, who is taking a course (see chart below) that requires enrollment in the course multiple times to meet degree requirements, may receive financial aid for these courses.**

<b>COURSE</b>	<b>TITLE</b>
ACCG 102	Special Topics in Accounting
ACCG 266	Independent Study Accounting
AEET 175	Special Topics/Altern Energy
AEET 280	Alternative Energy Practicum
APPR 220	Special Topics/Electricians
ARCH 175	Special Topics in Architecture
ARCH 176	Special Topic/Architecture P/Z
ARCH 295	Arch Independent Study
ARTS 132	Figure Drawing
BLDT 170	Special Topics in Construction
BLDT 171	Special Topic/Construction P/Z
BLDT 285	Residential Bldg Internship
CHDV 297	Child Dev Directed/Indep Study
CHSE 119	Community Health Career Topics
CHSE 139	Community Health Career Topics
CHSE 150	CHSE Directed/Indep Study
CITA 229	Special Topics in Applications
CITD 229	Special Topics in Database
CITF 229	Special Topics in Foundations
CITN 229	Special Topics in Networking
CITP 229	Special Topics in Programming
CITS 227	Comp Support Indepen Study
CITS 229	Special Topics/Support
CITS 285	IT Professional Internship
CITW 229	Special Topics/Web
CIVL 170	Special Topics/Civil Tech
CIVL 171	Special Topics/Civil Tech P/Z
CIVL 225	Civil Tech Independent Study
CJUS 281	Directed Independent Study
CJUS 295	Criminal Justice Special Topic
DANC 101	Beginning Ballet
DANC 102	Beginning Modern
DANC 103	Beginning Jazz
DANC 104	Beginning Tap
DANC 201	Intermediate Ballet
DANC 202	Intermediate Modern
DANC 203	Intermediate Jazz
DANC 204	Intermediate Tap
DENT 280	Dental Special Topics

<b>COURSE</b>	<b>TITLE</b>
DENT 290	Directed Study
DMAC 245	Workshop: Audio
DMAC 246	Workshop: Video
ELTE 170	Special Topics/Electrical Tech
ELTE 291	Electrical Project Lab
ENG L295	Independent Study in English
ENGL 278	Writing the Novel
FIRE 280	Fire Directed Indep Study
FIRE 285	Fire Science Special Topics
FIRE 295	Fire Science Special Topics
GERO 191	Special Topics in Gerontology
GSCI 175	Special Topics/GIS Technology
HIST 295	Independent Study in History
HONR 295	Honors Independent Study
HUMS 295	Ind Study in Humanities
HUSE 293	Human Services Special Topics
HUSE 294	Human Services Special Topics
HUSE 297	Human Services Indep Study
HVAC 170	Special Topics in HVAC/R
IDMS 150	Sonographic Directed Study
IDMS 295	DMS Special Topics
IRXT 123	Radiographic Independent Study
IRXT 295	Radiologic Tech Special Topics
LEGL 251	Legal Studies Independent Study
MATH 295	Ind Study in Mathematics
METD 170	Special Topics/Eng & Design
METD 295	Engineering/Design Project Lab
METM 170	Special Topics/Precision Mach
METM 171	Special Topics/Machining P/Z
METM 295	Precision Machine Project Lab
METS 170	Special Topics/Mechanical Sys
METS 290	Manufacturing Internship
METS 295	Mechanical Systems Project Lab
MGMT 235	Independent Study/Manage/Lead
MKTG 231	Independent Study in Marketing
MSGE 150	Masg Special Topic
MSGE 170	Massage Directed/Indep Study
MUSC 101	Vocal Jazz & Pop Ensemble
MUSC 106	Private Music Lesson
MUSC 108	Concert Choir

<b>COURSE</b>	<b>TITLE</b>
MUSC 109	Studio Class
MUSC 119	Lansing Concert Band
MUSC 121	Percussion Ensemble
MUSC 122	Guitar Ensemble
MUSC 123	Jazz Ensemble
MUSC 124	Experimental Music Ensemble
MUSC 143	Beginning Piano I - Summer
MUSC 144	Beginning Piano I
MUSC 145	Beginning Piano II
MUSC 155	Class Voice Commercial I
MUSC 156	Class Voice Commercial II
MUSC 188	Class Guitar
MUSC 270	Rock Guitar
MUSC 280	Private Composition
NURS 101	Nursing Directed Study
NURS 102	Nursing Directed Study
NURS 118	Special Topics in Nursing
NURS 119	Special Topics in Nursing
PARA 200	Paramedic Directed Study
PFFT 180	Seminar: Special Subjects
PFHW 100	Health and Wellness Seminar
PFKN 295	Ind Study in Physical Fitness
PHIL 295	Ind Study in Philosophy
PHOT 191	Photo Imaging Special Topics
POLS 295	Ind Study in Political Science
SIGN 295	Ind Study in Sign Language
SOCL 295	Independent Study in Sociology
SURG 106	Surgical Tech Directed Study
SURG 150	Surgical Tech Special Topics
THEA 224	Special Subjects in Theatre
WELD 170	Special Topics in Welding
WELD 191	Welding Project Lab
WELD 250	Welding Internship

## Return of Title IV Funds (R2T4)

LCC is a non-attendance taking institution with the exception of programs that have licensure/accreditation requirements for attendance. Federal regulations require schools to perform a Return of Title IV Funds (R2T4) calculation for Title IV grant and/or loan recipients if one of the events in the table below occurs within the student's payment period. Note: The R2T4 calculation is independent of the institution's Refund Policy.

<b>Event</b>	<b>Determination of Withdrawal</b>	<b>Type of Withdrawal</b>	<b>What is Used as Withdrawal Date</b>
Student completely withdraws/is withdrawn from all courses	Date student withdrew from final course	Official Withdrawal	Last Date of Participation in an Academic Engagement*
Student withdraws/is withdrawn or drops from a course and the student's remaining courses have not yet begun	Date student withdrew or dropped from last active course	Official Withdrawal	Last Date of Participation in an Academic Engagement*
Student does not earn credit in at least one course and all failed courses were graded as unfinished	Date grade(s) post showing student did not earn credit in at least one course and all failed courses were graded as unfinished. The instructor provides the last date of participation when the grade for the course is submitted.	Unofficial Withdrawal	Last Date of Participation in an Academic Engagement*
Student is withdrawn for non-participation from a course that is part of a program that has licensure/accreditation requirements for attendance	Date student is withdrawn from last active course	Official Withdrawal	Last Date of Participation in an Academic Engagement*

Within 30 days of the determination of withdrawal, the R2T4 calculation must be completed to determine the amount of earned and unearned aid based on the student's withdrawal date\*. The institution and/or the student owes the unearned aid to the federal government. LCC will return the institution's and the student's unearned aid to the federal government within 45 days of the date of determination of withdrawal, LCC will bill the student for the unearned aid,



and the student is responsible for repaying LCC. If the student was disbursed less than the revised award, the student may be due a post-withdrawal disbursement. LCC must notify the student in writing of eligibility for a post-withdrawal loan disbursement within thirty days of the determination of withdrawal. LCC must obtain the student's permission to disburse additional loan funds. The student may choose to decline some or all of the loan funds to avoid incurring additional debt. For grant funds, LCC will use post-withdrawal funds to pay any allowable institutional charges prior to refunding the remaining funds to the student.

Unearned aid will be returned within 45 days of the date of determination of withdrawal in the following order:

- Federal Direct Unsubsidized Loans
- Federal Direct Subsidized Loans
- Federal Direct PLUS Loans
- Federal Pell Grants
- Federal Iraq and Afghanistan Service Grant
- Federal SEOG

#### \*Withdrawal Date

- Official Withdrawal
  - When a student withdraws from all courses or withdraws/drops from a course and the student's remaining courses have not yet begun.
  - When an instructor in a program with licensure/accreditation requirements for taking attendance withdraws/drops a student from a course. This action must occur within 14 days of the student's last date of participation in an Academic Engagement\*. The official withdrawal date used in the R2T4 calculation is the student's last date of participation in an Academic Engagement\*.
- Unofficial Withdrawal
  - When a student does not earn credit in at least one course and all failed courses were graded as unfinished. The instructor reports the last date of participation in an Academic Engagement\* with the grade, which is the unofficial withdrawal date.
  - The unofficial withdrawal date used in the R2T4 calculation is the student's last date of participation in an Academic Engagement\*.

### Calculating Earned Title IV Aid

To determine the total aid earned, LCC must divide the number of days the student attended during the semester by the total number of days the student was scheduled to attend for courses that were used to determine the student's financial aid. This percentage is multiplied by the total Title IV financial aid the student is awarded for the semester (disbursed and to be disbursed).

For example:

- Student attended 64 days.
- Student's schedule is 118 days in length.
- Student was awarded (disbursed and to be disbursed) Title IV aid of \$5000 for the semester.
  
- The percentage of total aid earned = 54.2% (64 days attended / 118 days)
- The earned Title IV financial aid = \$2710 (54.2% of total aid earned x \$5000 awarded)

### \*Definition of Academic Engagement

Academic engagement is defined as active participation by a student in an instructional activity related to the student's course of study that includes, but is not limited to:

- Attending a synchronous class, lecture, recitation, or field or laboratory activity, physically or online, where there is an opportunity for interaction between the faculty and students;
- Submitting an academic assignment;
- Taking an assessment or an exam;
- Participating in an interactive tutorial, webinar, or other interactive computer-assisted instruction;
- Participating in a study group, group project, or an online discussion that is assigned by the school; or
- Interacting with faculty about academic matters.

Academic engagement does not include:

- Logging into an online class or tutorial without any further participation; or
- Participating in academic counseling or advisement.
- Comply with the provisions of any promissory note and all other agreements the student signs.
- Register for the number of credits required and maintain Satisfactory Academic Progress.
- Go to the [StarZone](#) on the second floor of the Gannon Building for personal assistance if the student has questions or does not understand the information provided.
- Budget and manage financial aid funds. Learn more at [Money Basics](#).

## Student Academic Progress (SAP)

Federal regulations require the Financial Aid Office at Lansing Community College (LCC) to monitor the progress (both qualitatively and quantitatively) of all students toward the completion of a degree through Satisfactory Academic Progress (SAP). SAP is separate from [LCC's Academic Standing](#). In order to receive federal funds, a student must meet SAP. If required, SAP also applies to state, institutional, and private funding.

To determine eligibility each semester, the Financial Aid Office will monitor and evaluate students' academic progress, regardless of whether aid was received. SAP is evaluated at the end of fall, spring, and summer semesters for all students who had academic history updates during the semester being evaluated. The evaluation will include all attempted credits, including earned credits (4.0-1.0 and Pass), failed credits (0.0F, 0.0U, ZF, and ZU), transfer credits, withdrawals, incompletes, audits, remedial, and repeated courses. Remedial coursework will be included in the determination of the GPA, completion ratio, and maximum timeframe. Repeated coursework will only include the highest grade earned in the GPA, but all attempts will be counted in the completion ratio with only one successful attempt counted as earned. All attempts will be used in the determination of maximum timeframe. Incomplete coursework will have no effect on the GPA; however, incompletes are counted as unearned in the determination of the completion ratio and maximum timeframe. Students who change majors or are pursuing a second degree will have SAP evaluated on all attempted credits, not just those applicable to their new major or second degree. Students will be notified of their SAP status via email and Banner Self Service after each evaluation period.

Note: SAP may be re-evaluated for students who have a Reinstated SAP status at any point of the semester if one of the following has occurred:

- Grade Change, except for Incompletes
- Change of Program occurs

## SAP Standards

Student must meet all the following SAP standards to remain eligible for financial aid:

- Maintain a minimum cumulative GPA of a 2.0 in all credits attempted at LCC.
- Maintain a minimum cumulative completion ratio of 70% of all credits attempted.
- The total number of credits a student attempts cannot exceed 150% of the maximum credits required for the student's program of study.

Note: The table below represents a student pursuing a general associate degree requiring 63 credits. In order for the student to successfully complete their program within 150% of the credit hours required and maintain a cumulative completion ratio of 70%, the student must earn the following minimum credits.

Semester	Credits Earned	Credits Attempted	Completion Ratio	Maximum Timeframe
1	11	15	73%	25%
2	21	30	70%	50%
3	32	45	71%	75%
4	42	60	70%	100%
5	53	75	70%	125%
6	63	90	70%	150%

## SAP Statuses

### Good:

- Students who meet SAP are in Good status.

### Warning:

- **New Students:** Students who have completed at least one course with a minimum 1.0 grade and do not meet SAP after the first semester of attendance.
- **Continuing Students:** Students in Good status who fail to meet SAP but completed at least one course with a minimum of 1.0 grade in the most recent semester of attendance and have not attempted more than 150% of the credit hours required for the program.

To receive financial aid, students in Financial Aid Warning status must electronically submit a Warning Contract. Warning status will only be effective for one semester. If the student does not meet SAP by the end of the warning semester, the student will be Suspended and ineligible for financial aid.

### Suspended:

- Students in Good status who fail to meet SAP and did not earn a minimum 1.0 grade in the most recent semester of attendance or have attempted more than 150% of the credit hours required for the program.
- Students who do not meet SAP by the end of the warning period.
- Students who did not meet the terms of an approved appeal.

Students in Financial Aid Suspended status are denied financial aid until SAP is met or the Financial Aid Office approves an appeal.

### Reinstated:

- Students who calculate to Suspended but have an approved appeal and taking courses that count towards their program of study.

Students in Financial Aid Reinstated status are approved for financial aid as long as the student completes each semester with a minimum semester GPA of 2.0, completes 100% of all credits attempted and is taking courses that count toward the program of study on record.

To view LCC's Academic Standing process, [click here](#).

### Regaining Eligibility

- Students may regain financial aid eligibility by taking courses at their own expense or by using other funding sources until they meet the minimum GPA and Completion Ratio requirements; however, students who exceed 150% of the credit hours required for the program may only regain eligibility through a SAP Appeal.
- Students who are suspended and have extenuating circumstances may submit a SAP Appeal. Submission of an appeal does not guarantee reinstatement of financial aid eligibility. Examples of extenuating circumstances are:
  - Death of an immediate family member
  - Documented hospitalization or illness
  - Major accident or illness of student or family member
  - Being victim of a crime or unexpected disaster
  - Change of major
  - Pursuit of second degree
- The SAP Appeal is available online at the [Financial Aid Forms & Other Requirements Forms](#) webpage. Students may submit an appeal throughout the semester using their secure sign-in. Students will be notified of the appeal decision within three weeks of submission. Students may request a paper version of this form by contacting the Financial Aid Office
- Students with a denied appeal may continue to attend but must pay all tuition and fees.

## Student Rules, Requirements, and Procedures

### Academic Standing

Only course work completed at Lansing Community College (LCC) is considered for determination of Academic Standing. The Academic Standing is determined at the end of each semester (Fall, Spring, Summer).

At LCC, students must maintain at least a 2.00 cumulative Grade Point Average (GPA) to remain in good academic standing.

Students with a cumulative GPA of a 3.5 or higher will be recognized by the College via the Dean's List and the President's List.

- Dean's List: GPA of 3.50 to 3.80 and completion of at least 6 credits for the calculated term.
  - Students with "I" (Incomplete) or "W" (Withdrawal) grades for the calculated term are not eligible for this list.
  - Calculations are based on LCC courses only (no transfer credits).
- President's List: GPA of 3.81 or above and completion of at least 6 credits for the calculated term.
  - Students with "I" (Incomplete) or "W" (Withdrawal) grades for the calculated term are not eligible for this list.
  - Calculations are based on LCC courses only (no transfer credits).

Students whose cumulative GPA falls below 2.0 will be placed on Probation 1, Probation 2, or Probation 3 standing, which indicate unsatisfactory academic progress. While on a Probationary standing, the student may have limits on registration for courses. In addition, students on a Probationary standing may be required to meet with an Academic Success Coach and sign a Success Contract prior to registering. Students can return to Good Standing by earning a cumulative GPA of 2.0 or higher.

- Probation 1: Generally, the first semester with a Cumulative GPA below 2.0
  - Registration is limited to enrolling in no more than 12 credits per semester.
  - If the student has already registered for more than 12 credits prior to the processing of Academic Standing, the Registrar's Office will drop the last registered course(s) that brought the students over the credit limit.
  - Students are encouraged to meet with an Academic Advisor and Academic Success Coach.
- Probation 2: Generally, the second continuous semester with a Cumulative GPA below 2.0
  - Registration is limited to enrolling in no more than 8 credits per semester.
  - If the student has already registered for more than 8 credits prior to the processing of Academic Standing, the Registrar's Office will drop the last registered course(s) that brought the student over the credit limit.

- Students are encouraged to meet with an Academic Success Coach, complete an Academic Success Self-Assessment, and share the Academic Success SelfAssessment with the Success Coach.
- Probation 3: Generally, the third continuous semester with a Cumulative GPA below a 2.0
  - Registration is limited to enrolling no more than 4 credits per semester.
  - If the student has already registered for more than 4 credits prior to the processing of Academic Standing, the Registrar’s Office will drop the last registered course(s) that brought the student over the credit limit.
  - Students are required to meet with an Academic Success Coach, complete an Academic Success Self-Assessment and share the Academic Success SelfAssessment with their Success Coach.
  - Students also are encouraged to meet with an Academic Advisor.

#### ACADEMIC STANDING RULES

##### Starting Status: 00 (Good Standing [start])

Cumulative GPA	Cumulative GPA Hours (Credits)	Next Status
0.0 – 4.0	0.0 – 5.999	Good Standing
2.0 – 4.0	6.0 – 999	Good Standing
0.0 – 1.99	6.0 – 999	Probation 1

##### Starting Status: GS (Good Standing [continue])

Cumulative GPA	Cumulative GPA Hours (Credits)	Next Status
0.0 – 4.0	0.0 – 5.999	Good Standing
2.0 – 4.0	6.0 – 999	Good Standing
0.0 – 1.99	6.0 – 999	Probation 1

##### Starting Status: Probation 1

Cumulative GPA	Cumulative GPA Hours (Credits)	Next Status
2.0 – 4.0	0.0 – 999	Good Standing
1.5 – 1.99	0.0 – 17.999	Probation 1
0.0 – 1.49	6 – 17.999	Probation 2
0.0 – 1.49	0.0 – 5.999	Probation 1
1.75 – 1.99	18 – 999	Probation 1
0.0 – 1.74	18 – 999	Probation 2

**Starting Status: Probation 2**

Cumulative GPA	Cumulative GPA Hours (Credits)	Next Status
2.0 – 4.0	6 – 29.999	Good Standing
1.75 – 1.99	6 – 29.999	Probation 1
0.0 – 1.24	6 – 29.999	Probation 3
1.25 – 1.74	6 – 29.999	Probation 2
2.0 – 4.0	30 – 999	Good Standing
1.75 – 1.99	30 – 59.999	Probation 1
1.0 – 1.74	30 – 59.999	Probation 2
0.0 – .99	30 – 59.999	Probation 3
1.75- 1.99	60 – 999	Probation 2
0.0 – 1.74	60 – 999	Probation 3

**Starting Status: Probation 3**

Cumulative GPA	Cumulative GPA Hours (Credits)	Next Status
2.0 – 4.0	0.0 – 29.999	Good Standing
0.0 – 1.49	0.0 – 29.999	Probation 3
1.50 – 1.99	0.0 – 29.999	Probation 2
2.0 – 4.0	30 – 59.999	Good Standing
1.50 – 1.99	30 – 59.999	Probation 2
0.0 – 1.49	30 – 59.999	Probation 3
2.0 – 4.0	60 – 999	Good Standing
1.75 – 1.99	60 – 999	Probation 2
0.0 – 1.74	60 – 999	Probation 3

Academic Standing is based on “Cumulative GPA Hours” which include all CR (Credit Level) grades except the following:

00A	S	WP	I*	X*
FA	TR	A*	N*	Z
I	TRL	B*	P*	Z*
N	TRP	C*	R*	
P	W	D*	S*	
R	WF	F*	X	

\*Only GPA Hours are used, so “P” credits do not count in Academic Standing.



This information is associated with the LCC Board Policy 3.040 (Academic Standing and the [Standard Operating Procedure RO.021 – Academic Standing](#) (last updated 02/17/2023).

### [Accommodations for Students with Documented Disabilities](#)

In accordance with Section 504 of the Vocational Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990, Lansing Community College does not discriminate against eligible students with disabilities. The Center for Student Access, in consultation with department leadership, the Registrar's Office, and other staff as required, may review requests for course substitutions which may represent programmatic accommodations.

The expectation for students with documented disabilities is that they will complete all requirements for an LCC associate degree. This includes the General Education requirements. In cases where a student feels that they cannot successfully complete a particular required course because of a disability, that student may engage in a dialogue with the Center for Student Access to determine:

- What reasonable accommodations (if any) may exist to minimize the effects of the disability.
- The extent to which a student's prescribed accommodations (if any) have been utilized.
- Possible next steps (if any) to facilitate success in the course in question.

For such dialogue, the student should contact the ADA/504 Coordinator at the Center for Student Access:

#### [Center for Student Access](#)

Gannon Building - StarZone

(517) 483-1924

[Email](mailto:lcc-accessibility@lcc.edu) (lcc-accessibility@lcc.edu)

### [Admission to the College](#)

Lansing Community College is an open-access community college. Certain programs, however, requires a separate selective admissions application. The selective admissions application is in addition to the regular admissions application for the college.

### [Selective Admissions](#)

Admission to selective admission programs is on a competitive basis, and these programs have program admission requirements beyond those required for admission to the College. To view current programs, go to the [Selective Admissions Programs](#) webpage.

**Note:** Admission to LCC does not guarantee admission to a selective admission program.

## International Admissions

### F, J, M Visa Holders

International students are students admitted to the United States on an F, J, or M visa to study at Lansing Community College (LCC) as well as international students interested in transferring to LCC from another US institution and international students applying to the [English for Speakers of Other Languages Program at LCC](#).

- **F Student Visa:** for study at an accredited U.S. college or university or to study English at an English language institute
- **J Exchange Visa:** for participation in an exchange program, including high school and university study
- **M Student Visa:** for non-academic or vocational study or training in the United States

United States as refugees, immigrants, DACA, or green card holders are not considered international students for the purpose of admissions.

Additional information can be found on the [M1 and F1 Admissions](#) webpage.

### Other Visa not F-1/M-1

For individuals who wish to study at LCC while holding a non-resident status other than M-1 or F-1, additional information can be found on the [Other Visa not F-1/M-1](#) webpage.

### International Guest Student

For individuals with an F-1 or M-1 visa who currently attend another US college/university and intend to take a small number of classes at LCC (less than full-time enrollment), additional information can be found on the [International Guest Students](#) webpage.

For questions regarding any International Admissions, please view the [International Admissions Forms and FAQ](#) webpage, contact the [StarZone](#) at 517-483-1200 option 2 (toll-free 800-644-4522).

## Computing Grade Point Average

A student's grade point average (GPA) is determined on the following basis:

Numerical Grade	GPA Points
4.0	4.0
3.5	3.5
3.0	3.0
2.5	2.5
2.0	2.0
1.5	1.5
1.0	1.0
0.0F	0.0
0.0U	0.0

“00A,” “0.0FA,” “0.0UA,” “FA,” “I,” “NR,” “NS,” “P,” “TR,” “TRL,” “TRP,” “W,” “X,” “ZF,” and “ZU” grades are not included in calculating grade point averages.

For example, a student who receives five credit hours of 4.0, five credit hours of 3.0 and five credit hours of 2.0 would have a total of 45 GPA points. To compute the grade point average (GPA), the number of GPA points is divided by GPA hours (credits) taken during the semester. The student in this example would have a 3.0 GPA (45 GPA points/15 credits).

*Revised: 03/13/2023*

## Enrollment Verification and Student Attendance

Lansing Community College (LCC) is not an attendance-taking institution with the exception of The Early College (TEC), High School Diploma Completion Initiative (HSDCI), Eaton Regional Educational Service Agency (ERESA), Clinton County Regional Education Service Agency (CCRESA), and programs that have licensure and/or accreditation requirements for attendance. LCC has an enrollment verification process, which confirms that students start each course in which they are registered during the semester.

During the first two weeks of each course, all course faculty are required to determine if the student has demonstrated academic engagement by actively participating in an instructional activity related to the student’s course. Faculty must notify the Registrar’s Office of any student who has not actively participated in an instructional activity by the end of the second week of each course.

Academic engagement is defined as active participation by a student in an instructional activity related to the student's course that includes, but is not limited to:

- Attending a synchronous class, lecture, recitation, or field or laboratory activity, physically or online, where there is an opportunity for interaction between the faculty and students;
- Submitting an academic assignment;
- Taking an assessment or an exam;
- Participating in an interactive tutorial, webinar, or other interactive computer-assisted instruction;
- Participating in a study group, group project, or an online discussion that is assigned by the school; or
- Interacting with faculty about academic matters.

Academic engagement does not include:

- Logging into an online class or tutorial without any further participation; or
- Participating in academic counseling or advising.

For licensure/accreditation requirements:

- For programs which require attendance due to 3rd-party accreditation, faculty responsible for those courses will take attendance in accordance with the accreditor's requirements.

If a student is dropped from a course through Enrollment Verification, they will receive a 100% refund of tuition and refundable fees. However, the Financial Aid Office will recalculate the student's financial aid eligibility and adjust awards as necessary for any change in enrollment status for the semester. For more information, students should contact the Financial Aid Office.

- Students who receive veteran benefits should contact the Veteran Services Office.

After the first two weeks of the course, if the faculty identifies a student as having not participated in the course, the faculty must complete Enrollment Verification in the student information system (Banner), indicating that the student never participated in an instructional activity.

Regardless of the instructor's method of reporting, the Registrar's Office will drop the student from the course in the Banner system. The Financial Aid Office will recalculate the student's financial aid eligibility and adjust awards as necessary for any change in enrollment status for the semester. The student may also be eligible for a refund of tuition and fees paid for non-started courses.

Initial attendance and participation records are retained in the instructor's grade book and/or in the D2L system and Banner system according to the [Academic Records Policy \(Board Policy\)](#)

[3.030](#)). Additional information can be obtained by viewing the Standard Operating Procedure, [Enrollment Verification and Student Attendance, RO.026](#).

### Extra Credit

Extra credit is defined as any opportunity for a student to raise a course grade that is not included in the percentages stated in the Methods of Evaluating Student Achievement/Progress in the section syllabus. Each department will determine for each of their courses and state in the course's syllabus whether or not extra credit may be offered.

In courses where extra credit may be offered:

- Individual instructors will determine whether or not there will be extra credit opportunities in their sections.
- Instructors' extra credit policies will be stated in their section syllabi.

In sections where there are extra credit opportunities:

- They must involve student work that is directly related to the Student Learning Outcomes of the course.
- They may be used to raise a student's final grade a maximum of 0.5 on Lansing Community College's (LCC) 4.0 scale.
- All students in a section must have the possibility of earning extra credit; however, instructors may set eligibility criteria such as completion of all homework assignments or tests. These eligibility criteria may not be connected to a student's cumulative course grade and must be provided to students far enough in advance for all students to have the opportunity to satisfy the criteria.
- Detailed information, including any eligibility criteria, must be distributed in advance of each opportunity.

Revised: 01/12/2023

### General Education Requirements

Lansing Community College (LCC) is committed to helping its graduates gain four valuable [Essential Learning Outcomes](#): knowledge of human cultures and the physical and natural world, intellectual and practical skills, personal and social responsibility, and integrated and applied learning. With these strengths, our graduates will be better able to develop the life skills necessary for them to enrich and support themselves, their families, and their communities as engaged global citizens.

All associate degrees, therefore, incorporate LCC General Education requirements fostering the capabilities and the flexibility that employers look for, and that citizens of the twenty-first century need. Depending on their chosen degrees, students will successfully complete the

options in the appropriate Transfer Degrees (MTA) tab or Applied Degrees tab of [LCC General Education](#).

Appropriate transfer credit from other colleges and universities, along with credit from Advanced Placement (AP), College-Level Examination Program (CLEP), International Baccalaureate (IB), and DANTES Subject Standardized Test (DSST), is applicable toward LCC General Education requirements for all degrees, including degrees that otherwise would require completion of the full MTA. However, due to statewide rules, areas of prior learning such as CLEP, IB, and DSST are not applicable to the MTA endorsement at this time.

*Revised: 11/23/21*

## General Rules and Guidelines

Lansing Community College (LCC) is an institution of educational excellence. Members of the LCC community strive to create an environment that contributes to academic success and personal growth. All members of LCC's community are responsible for creating and respecting conditions both in the classroom and on campus that encourage teaching and learning in a positive atmosphere.

## Granting Additional Associate Degrees

Any student who has earned an associate degree from Lansing Community College (LCC) or any other accredited community college may be awarded additional degrees providing that they meet the following institutional graduation requirements:

- Complete a program of study approved by the College and consisting of a minimum of 60 semester credits with no more than 10 percent of these credits acquired on the pass/fail (P/Z) grading system. (See [Degree and Certificate Program Pathways](#) webpage for more information.)
- Maintain a cumulative grade point average of 2.0 or above.
- Earn toward the curriculum at least 15 semester credits directly from Lansing Community College.
- Satisfy all general and specific requirements of Lansing Community College.
- LCC's General Education Core or Applied Degree General Education requirements are satisfied by virtue of the student earning the first associate degree.
- LCC's General Education requirements are waived by the acceptance of the completed Michigan Transfer Agreement from an accredited community college or university, regardless of whether an associate degree or higher has been completed.
- No additional degree will be granted in the same curriculum in which a previous degree was earned.
- The following CANNOT be used for degree requirements:
  - courses numbered below 100

- Courses in Mathematics or Statistics that are not listed on the [LCC General Education Requirements](#) webpage.
- courses in English or Writing numbered below 118
- courses in English as a Second Language
- courses in Reading ○ courses in non-technical Vocabulary
- courses in Academic Experience numbered other than 100 or 101
- courses in Student Development numbered other than 101
- Submit an application for graduation to the Registrar's Office the semester the program requirements are completed, on or before the deadline.

Note: Students seeking an associate degree may not follow curricular guides/pathways which predate their first semester of enrollment or are expired.

*Revised: 06/05/21*

## Grades

Grades are available on the web to students approximately five business days after the close of each semester. Students who have an overdue indebtedness to the College will not have access to their grades.

## Grade Changes

Students may petition an instructor for a grade change of a final grade in a course. A student's final grade in a course may be changed by the course instructor. Grade changes by instructors are initiated by submitting a signed Grade Change Form to the departmental office for review and approval by the departmental chair or lead faculty member. The completed Grade Change Form is then forwarded by the appropriate academic area to the Registrar's Office for updating the student's academic record.

See Student Rules, Regulations, and Procedure webpage for the [final grade appeal](#) process.

*Revised: 01/12/2023*

## Granting an Associate Degree When the Student has an Earned Bachelor's Degree or Higher Degree

A student who has earned a bachelor's degree or higher degree from an accredited college or university may be awarded an associate degree at Lansing Community College (LCC) subject to the following requirements:

1. All requirements for the associate degree must be met.
2. The LCC cumulative grade point average must be a 2.0 or above.

3. A minimum of 15 semester credits toward the curriculum must be completed directly from LCC (except for approved consortial programs taught primarily by partner schools).
4. The College's General Education requirements are satisfied by virtue of the student earning the bachelor's degree or higher degree.
5. The following CANNOT be used for degree requirements:
  - a) courses numbered below 100
  - b) courses in Mathematics or Statistics that are not listed on the Transfer Degrees (MTA) tab or Applied Degrees tab of [LCC General Education](#).
  - c) courses in English or Writing numbered below 118
  - d) courses in English as a Second Language
  - e) courses in Reading
  - f) courses in non-technical Vocabulary
  - g) courses in Academic Experience numbered other than 100 or 101
  - h) courses in Student Development numbered other than 101
6. Exceptions to the above should be appealed to the Academic Affairs Office.

Note: Students may not follow curricular guides/pathways which are expired or whose catalog year predates their first semester of enrollment as shown on their LCC web transcript.

Revised: 01/12/2023

## Granting Exceptions to the Institutional General Education Requirements for Associate Degrees

General Education exceptions may be granted when courses outside the approved list satisfy the specific General Education requirement(s), for example, appropriate Lansing Community College (LCC) term/quarter courses without an exact LCC course equivalent, etc. A student who wishes to formally appeal a determination that the General Education requirement for an Associate degree has not been met should appeal to Academic Affairs. Academic Affairs will apply the following parameters in making a determination on whether an exception to current policy is warranted:

- Even if a College error has been documented, if the student has the time and ability to take the course(s) necessary to satisfy the requirement, the course(s) should be completed.
- The College does not waive a General Education requirement, though a substitution might be appropriate.



The Academic Affairs Office will inform the student and the Registrar’s Office in writing of either the approval or denial of the exception.

The final decision for granting exceptions to the institutional General Education requirements rests with the Academic Affairs Office.

*Revised: 06/28/21*

## Graduation

### [Graduation Requirements, Certificates & Degrees](#)

Information for the requirements needed to be awarded a certificate or degree, including General Education requirements, and the application process can be found on the [Graduation Requirements, Certificates and Degrees](#) webpage. In addition, information is provided on the process to request an accommodation for students with disabilities.

For more information, go to the [Graduation](#) webpage.

### [Graduation Honors](#)

Graduation honors are granted to students who are awarded an associate degree and have completed 40 semester credit hours of work at Lansing Community College. Students who maintain a grade point average stated below will be awarded the following honors at graduation:

<b>Grade Point Average (GPA)</b>	<b>Honors Awarded at Graduation</b>
3.75 – 4.00	Summa Cum Laude (with highest honors)
3.50 – 3.74	Magna Cum Laude (with high honors)
3.25 – 3.49	Cum Laude (with honors)

## Guest Students

A guest student studies primarily at another college or university (referred to as the home institution) and wishes to take a limited number of courses at Lansing Community College (LCC) to complete their program from their home institution.

Applicants who have taken courses or earned degrees from other colleges or universities should apply online, submit transcripts to LCC and meet with an advisor to discuss credit equivalencies.

## High School Dual Enrollment & Home School Program Criteria

Dual Enrollment provides an opportunity for qualified high school students to earn college credit while working toward their high school diploma. High school credit may or may not be granted according to the discretion of the participating student's high school. Dual enrollment affords students educational advancement in specific areas where unusual ability and interest

are displayed, especially in courses and academic areas not available in the student's high school.

**Note:** Some colleges/universities will not accept college credit for college courses used to meet high school graduation requirements.

### High School Programming

LCC offers high school-based programs, which include [The Early College](#), [High School Credit by Exam](#), [High School Advantage](#), Career and Technical Education (ERESA and CCRESA), as well as [HOPE and Promise Scholarships](#). For more information call 517-483-9707.

### How Students Can Satisfy LCC General Education Requirements

For more information, see the Transfer Degrees (MTA) tab or Applied Degrees tab of [LCC General Education](#).

All students must fulfill LCC General Education requirements in order to be awarded an associate degree. The ways in which students can satisfy these requirements are presented below. Because these requirements may be revised each academic year, students should consult an academic advisor to stay informed of current options for satisfying General Education requirements. Students should also be aware that not all courses that satisfy General Education – Applied Degrees requirements transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

**For degrees requiring General Education – Applied Degrees**, students can satisfy the requirements in any of the following ways:

1. Achieve grades of 2.0 or higher in approved General Education – Applied Degrees courses. ([See the General Education webpage for the full list of options.](#))
2. Achieve a grade of 2.0 or higher on a Comprehensive Examination, where appropriate and available, for an approved course in a General Education area. Upon successfully completing the exam, the student receives transfer credit for the course. (A comprehensive exam is an exam for which the student completes an application, pays the \$150 processing fee, and may receive transfer credit on their LCC transcript. See [Credit by Examination](#) procedure under the Incoming Transfer Credits header.)
3. Achieve a grade of 2.0 level or higher on a Core Area Proficiency Examination, where appropriate and available. Each exam is specific to a single General Education area or, for Mathematics, to a particular course, and is administered for a \$50 fee in the [Course Testing Center](#) (GB 2228). Core Area Proficiency Examinations may only be taken once to satisfy a specific General Education area. ([See General Education Requirements webpage for more information.](#))
4. Present evidence of completed Michigan Transfer Agreement from an accredited college or university.
5. Present evidence of an earned associate degree or higher degree from an accredited college or university.

6. If no degree has been earned, transfer in comparable course credit for an approved course from an accredited institution. General credit does not apply unless the learning outcomes are aligned to the appropriate General Education outcomes and use of the general credit is approved by the Provost or designee.
7. Establish appropriate course credit through the Advanced Placement Examination (AP), College Level Examination Program (CLEP), DANTES Subject Standardized Tests (DSST), and/or others as recognized by LCC.
8. Establish credit for an approved course through the Experiential Learning Process. (See [Credit for Experiential Learning](#) procedure under the Incoming Transfer Credits header.)

**For degrees requiring the Michigan Transfer Agreement (MTA),** students can satisfy the requirements in any of the following ways:

1. Achieve grades of 2.0 or higher in approved MTA courses. ([See the General Education webpage, specifically the MTA tab, for a full list of courses.](#))
2. Achieve a grade of 2.0 or higher on a Comprehensive Examination, where appropriate and available, for an approved course in an MTA area. Upon successfully completing the exam, the student receives transfer credit for the course. (A comprehensive exam is an exam for which the student completes an application, pays the \$150 processing fee, and may receive transfer credit on their LCC transcript. ([See Credit by Examination procedure under the Incoming Transfer Credits header.](#))
3. Present evidence of completed MTA from an accredited college or university.
4. Present evidence of an earned bachelor's degree or higher degree from an accredited college or university.
5. If no degree has been earned, transfer in comparable course credit for an approved course from an accredited institution. General credit does not apply unless approved by the Provost.
6. Establish appropriate course credit through the Advanced Placement Examination (AP), College Level Examination Program (CLEP), International Baccalaureate (IB), or DANTES Subject Standardized Tests (DSST). Non-AP areas of prior learning - for example, College Level Examination Program (CLEP), International Baccalaureate (IB), and DANTES Subject Standardized Tests (DSST) – may satisfy LCC General Education requirements but are not applicable to the MTA at this time.

The following do NOT satisfy General Education requirements:

- LCC placement test scores
- A waiver of any course that is also a General Education course
- Completion of higher-level courses that are not approved General Education courses.

*Revised: 06/30/21*

## How to Apply for an Associate Degree, Certificate of Achievement, or Certificate of Completion

Prior to submitting an application for an Associate Degree, Certificate of Achievement, or Certificate of Completion, students should consult with an advisor to review progress toward completing requirements. Any substitutions or waivers for program requirements must be approved on an authorized form signed by the department offering the program. Substitutions and waivers are not allowed for institutional degree and certificate requirements. ([See Institutional Requirements for Associate Degrees procedure and Institutional Requirements for Certificates of Achievement and Certificates of Completion procedure](#) under the Graduation Requirements, Certificates & Degrees header.) Students apply by the deadline the semester they complete the program requirements. Information and the applications are located online at the [Graduation webpage](#).

Procedures are as follows:

1. Complete and submit an Application for Associate Degree, Certificate of Achievement, or Certificate of Completion to the Registrar's Office. These applications are available on the [Graduation webpage](#). If substitutions and/or waivers have been approved and are not indicated in Degree Works, a Course Substitution and Waiver Authorization form must be attached to the application when submitted or the application will be denied.
  - a. Note: Students may not follow curricular guides/pathways which are expired or whose catalog year predates their first semester of enrollment as shown on their LCC web transcript. The requirements must be met by the semester the curricular guide expires.
2. Once the audit for the associate degree or certificate has been completed, the Registrar's Office will send a notification via LCC email indicating whether the associate degree or certificate has been approved or denied.
3. Once awarded, the LCC transcript will show the degree or certificate earned.
4. Diplomas and certificates are mailed to students during the semester after degrees and certificates have been awarded.

*Revised: 06/30/21*

## Institutional Requirements for Associate Degrees

To receive an associate degree from Lansing Community College, a student must meet the following institutional graduation requirements:

1. Complete a program of study approved by the College and consisting of a minimum of 60 credits with no more than 10 percent of these credits acquired on the pass/fail (P/Z) grading system. (See [Degree and Certificate Program Pathways](#)

- [webpage](#)).
2. Maintain a cumulative grade point average of 2.0 or above.
  3. Earn toward the curriculum at least 15 semester credits directly from Lansing Community College (except for approved consortial programs taught primarily by partner schools).
  4. Satisfy the LCC General Education Requirements for the specific program of study.
  5. Satisfy all general and specific requirements of Lansing Community College.
  6. No additional associate degree will be granted in the same curriculum in which a previous associate degree was earned.
  7. The following CANNOT be used for degree requirements:
    - a) courses numbered below 100
    - b) courses in Mathematics or Statistics that are not listed on the Transfer Degrees (MTA) tab or Applied Degrees tab of LCC [General Education](#)
    - c) courses in English or Writing numbered below 118
    - d) courses in English as a Second Language
    - e) courses in Reading
    - f) courses in non-technical Vocabulary
    - g) courses in Academic Experience numbered other than 100 or 101
    - h) courses in Student Development numbered other than 101
  8. Submit an application for graduation to the Registrar's Office the semester the program requirements are completed, on or before the deadline.

Note: Students may not follow curricular guides/pathways which are expired or whose catalog year predates their first semester of enrollment as shown on their LCC web transcript.

*Revised 08/18/2022*

## Institutional Requirements for Certificates of Achievement and Certificates of Completion

Certificates of Achievement and Certificates of Completion are a designated course or groups of designated courses. To receive a Certificate of Achievement or Certificate of Completion from Lansing Community College, a student must meet the following institutional graduation requirements:

1. Complete a program of study approved by the College and consisting of a minimum of 30 semester credits for a Certificate of Achievement and fewer than 30 semester credits for a Certificate of Completion with no more than 10 percent of these credits acquired on the pass/fail (P/Z) grading system. (See [Degree and Certificate Program Pathways webpage](#)).
2. Maintain a grade point average of 2.0 or above in all courses required for the certificate.
3. Satisfy any specific requirements on the pathway. These may include, but are not limited to, maintaining a cumulative grade point average in all courses taken at Lansing Community College, higher grade point minimums in specific courses, selective admissions, or other departmental requirements.

4. Earn toward the curriculum at least one-fourth of the semester credits for the certificate directly from Lansing Community College (except for approved consortial programs taught primarily by partner schools). Credits earned through comprehensive exams will not be counted toward this requirement.
5. Satisfy all general and specific requirements of Lansing Community College.
6. No additional certificate will be granted in the same curriculum in which a previous certificate was earned.
7. The following CANNOT be used for certificate requirements:
  - a) courses numbered below 100
  - b) courses in Mathematics or Statistics that are not listed on the Transfer Degrees (MTA) tab or Applied Degrees tab of LCC [General Education](#)
  - c) courses in English or Writing numbered below 118
  - d) courses in English as a Second Language
  - e) courses in Reading
  - f) courses in non-technical Vocabulary
  - g) courses in Academic Experience numbered other than 100 or 101
  - h) courses in Student Development numbered other than 101
8. Submit an application for graduation to the Registrar's Office the semester the program requirements are completed, on or before the deadline.

Note: Students may not follow curricular guides/pathways which are expired or whose catalog year predates their first semester of enrollment as shown on their LCC web transcript.

*Revised: 08/18/2022*

## Incoming Transfer Student Information

### [Acceptance and Evaluation of Transfer Credits from Other Institutions](#)

Lansing Community College welcomes students who have already successfully completed college-level course work. Accordingly, the college will allow for the transfer and acceptance of credit from other accredited institutions of higher education.

## Incoming Transfer Credits

The information below describes alternative, or accelerated degree completion options to obtain credit toward a degree or certificate, including transfer credit, credit for licensure/certification, credit for prior learning, and credits earned during military service. For general rules, view the Evaluation and Acceptance of Transfer Credits, RO.004, Standard Operating Procedure under the Lansing Community College Board Policies 3..

### [Credit by Examination](#)

To inquire about credits for certain courses by taking a comprehensive or other applicable exam, current students will need to visit with the respective academic department about availability.

#### [Credit Earned at Foreign Educational Institution](#)

Current students requesting credit for credits earned at foreign institutions will need to submit their international transcripts to a [National Association of Credential Evaluation Services \(NACES\) member](#) for evaluation before having it sent to Lansing Community College.

#### [Credit for Experiential Learning](#)

Lansing Community College is in agreement that learning outside the classroom is valid. Therefore, it is the College's function to assess extra-institutional learning and experience as part of its credentialing responsibility.

Current students requesting credit for previously acquired knowledge and learning experience will need to complete an Experiential Learning Application. For more information, go to the [Credit for Prior Learning](#) webpage.

#### [Credit for Licensure and Certifications](#)

Lansing Community College recognizes that current licensure or certification represents learning for which credit may be granted. Therefore, the College assesses national and state licenses as part of its credentialing function. Any student who has applied to Lansing Community College may apply for license or certification credit evaluation. Please visit the [Licensure and Certification](#) webpage for the list of accepted equivalencies.

#### [Credits Earned from National Normed Exams](#)

Lansing Community College recognizes students may have previous knowledge or experience as measured by Nationally Normed Exams. Students may receive credit for Lansing Community College coursework completed if minimum score requirements are met. Credits can be granted from the following National Normed Exams: Advanced Placement Examination (AP), College Level Examination Program (CLEP), DANTES and International Baccalaureate Program (IB).

#### [Credits Earned in the Armed Services](#)

LCC will evaluate the student's military training and coursework for possible award of transfer credit after the official Joint Services Transcript has been received and the student has been admitted to the College.

#### [General Credits](#)

Due to curricular, financial aid, and Veterans implications, LCC will not automatically award General Credits (non-equivalent 000) during the initial evaluation of incoming transcripts. All General Credit 000 equivalencies will be removed from the College webpage.

Requests for awarding general credits are allowable only for the following purposes:

1. General credits that can count only toward the General Associate degree (Requested by general advisors).

2. General Credits that will be substituted for specific program requirements (Requested by program advisors).
3. General Credits that will be substituted for general education requirement (Requested by Academic Affairs).

In addition, please note the following provisos:

- General Credits must be from a regionally accredited institution and must be college level (non-developmental).
- Generally, a maximum of 12 general credits may be awarded per incoming transcript.
- Programs allowing or requiring general credits (GA General Associate, AAS Agricultural Technology, AAS Veterinary Technology, Nursing – RN Option, etc.) are not subject to the 12-credit limitation.
- Requests for more than 12 general credits per incoming transcript will require approval from Academic Affairs during transcript evaluation.
- Requests for awarding general credits must be made electronically via LCC email and must specify the following:
  - The student's program, including curricular year.
  - The specific course(s) to be used from the student's incoming official transcript.
  - The requirement(s) the general credits are intended to satisfy.
    - For programs other than the General Associate degree, a substitution form also will be needed per SOP "Program-Level Course Substitutions and Waivers-RO.007".

### Outgoing Transfer Students

Students planning to transfer to another institution should be aware that universities and colleges differ widely in the courses they accept for transfer. A student intending to transfer should follow the transfer guide of the institution to which they intend to enroll. Transfer guides are not LCC degree guides. In order to achieve maximum transferability of courses, students should consult with an academic advisor. Visit the [Transfer Opportunities](#) webpage for more information about transfer programs. For additional transfer opportunities, view the [University Center](#) webpage.

### Student Bereavement Resources

Lansing Community College (LCC) recognizes that students may experience the loss of a loved one while taking classes. If you have lost someone while actively enrolled in courses, you should consider the following:



- Reach out to your instructor(s) using their preferred method of contact to notify them if you need to miss class or coursework for bereavement purposes, such as attending a funeral, wake, memorial service, bereavement counseling, or other bereavement-related event(s). Contact information for your instructor(s) can be found on your course syllabus.
- If requested by your instructor(s), please be prepared to provide documentation of your loss (e.g., an obituary or funeral program).
- Work with your instructor(s) to determine if you are able to make up any missed coursework. Faculty are encouraged to be sensitive to a student's grief. However, it is at the discretion of your instructor(s) to allow you to make up any missed coursework.
- Contact your [Success Coach](#) if you need assistance with reaching out to your instructors, making a plan to catch up in your course(s), withdrawing from courses, or connecting to on- or off-campus resources to assist you during this time.
- LCC offers free and confidential emotional support counseling by appointment. [LCC Counselors](#) are state-licensed, professional counselors who can help you with managing your loss.

For questions, please contact the Registrar's Office at 517-483-1200, option 2.

Revised: 01/12/2023

### Student Records Guidelines & Procedures

Lansing Community College (LCC) shall not distribute student lists to non-college agencies except as required by law.

In compliance with the Family Educational Rights and Privacy Act of 1974, as amended, LCC provides the following information:

- 1) Students and/or a parent or legal guardian of a student, if the student is a dependent, have the right to access, inspect, and review all educational records directly related to the student. Upon presentation of pictured identification and a written request from the student to the Registrar's Office, access to all educational records shall be provided within a reasonable period of time (not to exceed 45 days from the date the request is submitted).
- 2) Educational records include all information maintained by the College that is directly related to the student with the exception of:
  - a) Financial records of the student's parents.
  - b) Confidential letters of recommendation prior to January 1, 1975.

- c) Confidential letters and recommendations associated with admissions, application for employment, or receipt of an honor or honorary recognition to which students have waived rights of inspection and review.
  - d) Educational records containing information about more than one student. Note that the College must permit access to that part of the record which pertains only to the inquiring student.
  - e) Reports made by physicians, psychiatrists, or psychologists in connection with their treatment.
  - f) Records of instructional, supervisory, administrative, and certain educational personnel which are in the sole possession of the originator.
  - g) Records of the law enforcement unit of the College if compiled for law enforcement purposes.
  - h) Records which relate exclusively to individuals in their capacity as College employees.
- 3) Directory information may be released at the discretion of College officials for any student who has not submitted a completed Request to Prevent Disclosure of Directory Information form to the StarZone. The disclosure prevention form remains in effect until the student provides a written release to the Registrar's Office. Directory information includes but is not limited to the following:
- a) Name of student
  - b) Date of birth
  - c) Dates of attendance
  - d) Enrollment status
  - e) Awards, degrees, or certificates received
  - f) Participation in officially recognized activities
  - g) Sport, weight, and height of members of athletic teams
  - h) Previous educational agency or institution attended
  - i) LCC email address

Copies of the Request to Prevent Disclosure of Directory Information form and the Family Educational Rights and Privacy Act are available upon request in the StarZone and the Office of the Dean of Student Affairs.

- 4) LCC prohibits the release of personally identifiable information other than directory information from educational records without the student's written consent. Exceptions to this statement are listed below:
- a) Academic and administrative officials, staff, and persons who have entered into a partnership or contract with LCC and whom the College has determined to have legitimate educational interest. Officials are defined as faculty, administration, support and professional employees, sworn officers of the police and public safety department as part of an investigation and other persons who manage student record information. An official has a legitimate educational

interest if the official needs to review an educational record in order to fulfill their professional responsibility.

- b) Other educational institutions in which the student is enrolled or intends to enroll.
- c) Individuals and organizations who provide financial aid or scholarships to the student.
- d) Authorized representatives of the Comptroller General of the United States, the Secretary of the Department of Health and Human Services, the Department of Veterans Administration, the Department of Education, and administrative heads of state and federal educational agencies authorized bylaw.
- e) Accrediting organizations to carry out their accrediting functions.
- f) Appropriate authorities in compliance with judicial orders and pursuant to lawfully issued subpoenas. The College shall notify the student of any such orders or subpoenas unless the subpoena or order prohibits notification. The College shall comply with the subpoena ten (10) days after an attempt to notify the student of the request.
- g) Appropriate parties in an emergency if knowledge of the information is necessary to protect the health or safety of the student or other individuals.
- h) The disclosure is to parents, as defined in §99.3 of a dependent student, as defined in section 152 of the Internal Revenue Code of 1986.
- i) An alleged victim of any crime of violence of the results of any disciplinary proceeding conducted by the College against the alleged perpetrator of the crime.
- j) Military recruiters for the purpose of federal military recruiting as stated in Public Law 104-206, Section 509(2).

LCC will maintain a record of each disclosure of identifiable information from the external individuals or agencies listed above. The record will be maintained in the Registrar's Office and will include the date, the name and address of the requesting party, the information requested, and the reason for requesting the information. The College reserves the right to correct any error made on an academic record or evaluation and will notify the student in writing of any record or evaluation correction. Staff of the College are subject to the requirements of the Family Educational Rights and Privacy Act of 1974, as amended.

Students have the right to request correction or amendment of information on educational records that are inaccurate, misleading or which violate privacy rights. Due process procedures for requesting correction or amendment to educational records are stated in the College Catalog under Student Appeals.

Students who feel their rights under the Family Educational Rights and Privacy Act have been infringed may file complaints with the Family Policy and Regulations Office, U.S. Department of Education, Washington, D.C. 20202.

*Revised: 03/15/2023*

## Student General Rules, Guidelines and Code of Conduct

Students must abide by the Student General Rules, Guidelines, and Code of Conduct. The Office of Student Compliance is charged with addressing allegations of violations of the Student General Rules, Guidelines, and Code of Conduct.

View [Student General Rules and Guidelines, and Code of Conduct](#) in its entire form.

## Student Due Process

Students have constitutional rights of due process. As such, in cases of allegations of violations of the Student Code of Conduct levied against them, they are entitled to receive proper notice of the charges against them and the opportunity to present their side at a hearing.

## Student Transcripts

The Registrar's Office maintains the official transcript of every student who attends Lansing Community College (LCC). The transcript is a copy of the student's academic record and contains the signature of the Registrar. The transcript includes items such as:

- courses attempted and completed
- courses and credits transferred
- credit hours
- Grade Point Average (GPA)
- Associate Degrees awarded by the College
- Certificates of Achievement awarded by the College
- Certificates of Completion awarded by the College

Students may request the official transcript through the National Student Clearinghouse, see the [Requesting Official Transcripts](#) webpage. Transcript requests require 3-5 working days to process, and a fee is charged for each transcript.

A hold may prevent the release of the transcript to a student with an indebtedness to the College.

To view an unofficial transcript:

- Log into [Self Service Banner](#)
- Click on Student
- Click on Student Records
- Click on Unofficial Academic Transcript

Revised: 10/27/2022

### Using a Course More Than Once for Credit toward a Degree or Certificate

Students are not allowed to use the same course more than once for credit toward a degree or certificate unless specifically required or permitted to do so by the curriculum they are following.

## Student Appeals and Complaints

Lansing Community College is committed to student success. Whenever contested issues cannot be resolved through an interactive process with faculty or administration, students are encouraged to submit complaints and concerns they may have to [LCC Student Appeals & Complaints](#).

- The College will promptly review and evaluate complaints and take appropriate actions.
- A complaint is any concern that LCC has violated a law or policy or has incorrectly applied an established process.
- An appeal is a request to review a decision and/or the process used in reaching a decision. Students are required to state their appeal in writing.
- Complaints or appeals may be academic or non-academic.

Prior to submitting a complaint or appeal, students are encouraged to do the following if applicable:

1. Approach their faculty member, StarZone, any service area located on any campus, or the [LCC Ombudsman](#).
2. If the complaint cannot be resolved, please contact the Director or Associate Dean of the respective department or area of concern.
3. If the Director or Associate Dean is unable to resolve the issue, please contact the Academic Dean.

If the resolution of a complaint is not satisfactory to a student, the matter may be appealed to the Provost for review. The decision of the Provost is final.

**Complaints involving matters of a criminal nature should contact [LCC Police Department](#) at 517-483-1800, by [email](#), or in person at the locations listed below:**

**Downtown Campus:** 411 N. Grand Ave., Lansing, MI 48933

**West Campus:** 5708 Cornerstone Drive, Lansing, MI 48917

For additional information regarding complaints and appeals go to the [LCC Student Appeals & Complaints](#) webpage.

## Academic Amnesty

Lansing Community College (LCC) has an Academic Amnesty policy to authorize the elimination of a grade or grades of 0.0, 0.0F, or 0.0U in calculating a student's grade point average (GPA). Academic Amnesty recognizes that factors or reasons may result in a student not achieving satisfactory academic performance and that such performance may be a barrier to the student's eligibility to enter some occupational fields or achieve academic progress. This process applies to qualified students who receive one or more 0.0, 0.0F, or 0.0U grades,

resulting in a low GPA possibly blocking their entrance into programs or fields of study. For additional information, please see [Academic Amnesty process](#).

### Administrative Appeals

Due to mitigating circumstances outside of the student's control that result in negative outcomes on their academic or financial record, Lansing Community College students may submit an administrative appeal to request an exception to college policy regarding refund deadlines. For more information, view the [LCC Student Appeals and Complaints](#) webpage.

### Cancelling Course Sections

In the event a class is canceled as a result of College administrative action, students enrolled in that class will receive 100% tuition and fee refund.

To view the Cancelling Course Sections Board Policy 3.008, please visit the [Board of Trustees Board Policies](#) webpage.

### Course Participation Verification Policy

See [Enrollment Verification and Student Attendance](#).

### Course Withdrawal Procedure

Students may elect to voluntarily withdraw from courses for a variety of reasons. To view the course withdrawal procedure, [click here](#).

### Final Grade Appeals

Students who disagree with their final grade in a course may file a Final Grade Appeal. To review the final grad appeal process, [click here](#).

### General Student Complaints

To find assistance in resolving matters that are non-academic in nature, [click here](#).

## 2022-2023 Degree and Certificate Program Pathways

(Please refer to the [2022-2023 Program Pathways webpage](#) for possible updates)

LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.

Curriculum Title	Code	Degree
<a href="#">Accounting</a>	0162	AB
<a href="#">Accounting Pathway of the Business Enhanced Degree</a>	1822	AB
<a href="#">Accounting</a>	0714	CA
<a href="#">Accounting CPA Exam Preparation</a>	0255	AB
<a href="#">Advanced Management</a>	0280	CA
<a href="#">African-American History</a>	0137	AA
<a href="#">Agricultural Technology</a>	1451	AAS
<a href="#">Airframe Maintenance Technology</a>	0757	AAS
<a href="#">Airframe Maintenance Technology</a>	1036	CA
<a href="#">Allied Health</a>	1814	AAS
<a href="#">American Studies</a>	0142	AA
<a href="#">Anthropology</a>	1621	AA
<a href="#">Architecture Technologist</a>	1809	AAS
<a href="#">Architecture Technology</a>	1455	AAS
<a href="#">Art Foundation</a>	1716	AA
<a href="#">Art History</a>	0746	AA
<a href="#">Automotive Technologies</a>	1791	AAS
<a href="#">Automotive Technologies</a>	1790	CA
<a href="#">Automotive Technology: Advanced Electric Drive/Alternative Fuels</a>	1792	CA



## 2022-2023 Degree and Certificate Program Pathways

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LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.

Curriculum Title	Code	Degree
<a href="#">Automotive Technology: Brakes and Suspension Systems Specialist</a>	1793	CC
<a href="#">Automotive Technology: Electrical and HVAC Diagnostic Specialist</a>	1794	CC
<a href="#">Automotive Technology: Engine and Transmission Overhaul Specialist</a>	1795	CC
<a href="#">Automotive Technology: Engine Performance and Drivability Specialist</a>	1796	CC
<a href="#">Basic Aviation Technology</a>	1037	CC
<a href="#">Basic Emergency Medical Technician</a>	1817	CC
<a href="#">Biological Laboratory Techniques</a>	1608	CC
<a href="#">Biology</a>	0221	AS
<a href="#">Biotechnology</a>	0212	AAS
<a href="#">Bookkeeping</a>	1292	CC
<a href="#">Building Construction</a>	1766	AAS
<a href="#">Building Construction</a>	0135	CA
<a href="#">Building Construction</a>	1714	CC
<a href="#">Building Maintenance</a>	1481	CA
<a href="#">Business</a>	1821	GA
<a href="#">Business Administration</a>	0243	AB
<a href="#">Business Administration Pathway of the Business Enhanced Degree</a>	1822	AB
<a href="#">Business, Enhanced</a>	1822	AB
<a href="#">Business Transfer Studies</a>	1622	AA

## 2022-2023 Degree and Certificate Program Pathways

(Please refer to the [2022-2023 Program Pathways webpage](#) for possible updates)

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*

Curriculum Title	Code	Degree
<a href="#">Business Transfer Studies Pathway of the Business Enhanced Degree</a>	1822	AB
<a href="#">Chemical Technology</a>	0163	AAS
<a href="#">Chemistry</a>	0117	AS
<a href="#">Child Development and Early Education</a>	1637	AAA
<a href="#">Child Development and Early Education</a>	0133	CA
<a href="#">Child Development and Early Education</a>	1815	CC
<a href="#">Cisco Certified Network Associate Certification Preparation (CCNA)</a>	1469	CC
<a href="#">Civil Technology</a>	0178	AAS
<a href="#">CNC Machine Technology</a>	1798	CA
<a href="#">CNC Machine Technology</a>	1797	CC
<a href="#">Communication</a>	0136	AA
<a href="#">Communications and Language</a>	1823	GA
<a href="#">Communications and Language, Enhanced</a>	1834	AAA
<a href="#">Community Paramedicine</a>	1819	CC
<a href="#">Computed Tomography</a>	1816	CC
<a href="#">Computer Automated Design</a>	1801	AAS
<a href="#">Computer Automated Design</a>	1800	CA
<a href="#">Computer Automated Design</a>	1799	CC
<a href="#">Computer Graphics Animation</a>	0284	AAA

## 2022-2023 Degree and Certificate Program Pathways

(Please refer to the [2022-2023 Program Pathways webpage](#) for possible updates)

LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.

Curriculum Title	Code	Degree
<a href="#">Computer Networking Technology</a>	1453	AB
<a href="#">Computer Programmer/Analyst</a>	0113	AB
<a href="#">Computer Programmer/Analyst</a>	0969	CC
<a href="#">Computer Science</a>	0169	AS
<a href="#">Computer Security and Controls</a>	1818	CC
<a href="#">Computer Software Tester</a>	1633	CA
<a href="#">Computer Support Specialist</a>	0713	AB
<a href="#">Computer Support Technician</a>	0743	AAS
<a href="#">Computer Technician</a>	0168	CA
<a href="#">Computer Technology Basics</a>	0844	CC
<a href="#">Construction Management</a>	1634	AAS
<a href="#">Construction Management</a>	1635	CA
<a href="#">Control Panel Wiring</a>	1471	CC
<a href="#">Correctional Officer</a>	0840	CC
<a href="#">Creative Writing</a>	1623	AA
<a href="#">Criminal Justice</a>	0146	AA
<a href="#">Criminal Justice - Corrections</a>	1209	AAS
<a href="#">Criminal Justice - Digital Evidence Specialist</a>	1803	AAS
<a href="#">Criminal Justice - Digital Evidence Specialist</a>	1802	CC

## 2022-2023 Degree and Certificate Program Pathways

(Please refer to the [2022-2023 Program Pathways webpage](#) for possible updates)

LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.

Curriculum Title	Code	Degree
<a href="#">Criminal Justice - Juvenile Specialization</a>	1475	AAS
<a href="#">Criminal Justice - Law Enforcement</a>	1210	AAS
<a href="#">Customer Energy Specialist</a>	1022	AAS
<a href="#">Customer Energy Specialist</a>	0893	CA
<a href="#">Cybersecurity</a>	1832	AAS
<a href="#">Cybersecurity Foundations</a>	1833	CC
<a href="#">Dental Hygiene</a>	0279	AAS
<a href="#">Digital Media: Audio</a>	1457	CC
<a href="#">Digital Media: Audio Recording/Production</a>	1448	CA
<a href="#">Digital Media: Cinematography</a>	1450	CC
<a href="#">Digital Media Specialist</a>	1458	AAS
<a href="#">Digital Media: Transfer</a>	1452	AAS
<a href="#">Digital Media: Video/Cinema</a>	1454	CA
<a href="#">E-Business</a>	0839	AB
<a href="#">E-Business</a>	0845	CA
<a href="#">Economics</a>	0230	AA
<a href="#">Education</a>	1624	AA
<a href="#">EKG Technician</a>	1442	CC
<a href="#">Electrical Apprenticeship</a>	1570	CA

## 2022-2023 Degree and Certificate Program Pathways

(Please refer to the [2022-2023 Program Pathways webpage](#) for possible updates)

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Curriculum Title	Code	Degree
<a href="#">Electrical Machine Controls</a>	0966	CC
<a href="#">Electrical Technology</a>	0134	AAS
<a href="#">Electrical Technology - Construction</a>	0759	CA
<a href="#">Electrical Technology - Control Maintenance</a>	0760	CA
<a href="#">Electrical Utility/Lineworker</a>	1783	AAS
<a href="#">Electrical Utility/Lineworker</a>	1468	CA
<a href="#">Electrical Wiring</a>	0964	CC
<a href="#">Emergency Medical Services</a>	0276	AAS
<a href="#">EMS Instructor-Coordinator</a>	1638	CC
<a href="#">Energy Auditor</a>	1813	CC
<a href="#">Energy Industry Fundamentals</a>	1777	CC
<a href="#">Energy Management Specialist</a>	1606	AAS
<a href="#">Engineering-Physics</a>	1619	AS
<a href="#">Environmental Technology</a>	0793	AAS
<a href="#">Field Sales and Marketing</a>	0190	AB
<a href="#">Field Sales and Marketing Pathway of the Business Enhanced Degree</a>	1822	AB
<a href="#">Financial Institutions</a>	0103	AB
<a href="#">Financial Institutions</a>	0151	CC
<a href="#">Financial Institutions Pathway of the Business Enhanced Degree</a>	1822	AB

## 2022-2023 Degree and Certificate Program Pathways

(Please refer to the [2022-2023 Program Pathways webpage](#) for possible updates)

LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.

Curriculum Title	Code	Degree
<a href="#">Fire Science Academy</a>	0709	CC
<a href="#">Fire Science Technology</a>	0123	AAS
<a href="#">Fire Science/Basic EMT</a>	1057	AAS
<a href="#">General Associate Degree</a>	0863	GA
<a href="#">Geography</a>	1824	AS
<a href="#">Geospatial Science</a>	0834	CA
<a href="#">Geospatial Science</a>	1820	CC
<a href="#">Geospatial Science Technician</a>	0224	AAS
<a href="#">Graphic Communication</a>	1533	AAA
<a href="#">Graphic Design</a>	1020	CA
<a href="#">Group Fitness Instructor</a>	1704	CC
<a href="#">Heating and Air Conditioning</a>	0836	AAS
<a href="#">Heating and Air Conditioning</a>	0832	CA
<a href="#">Heavy Equipment Repair Technician</a>	1055	AAS
<a href="#">Heavy Equipment Repair Technician</a>	1041	CA
<a href="#">History</a>	0197	AA
<a href="#">Human Resource Management</a>	0712	AB
<a href="#">Human Resource Management Pathway of the Business Enhanced Degree</a>	1822	AB
<a href="#">Human Services</a>	0915	AAS

## 2022-2023 Degree and Certificate Program Pathways

(Please refer to the [2022-2023 Program Pathways webpage](#) for possible updates)

LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.

Curriculum Title	Code	Degree
<a href="#">Human Services</a>	1201	CA
<a href="#">Human Services</a>	1199	CC
<a href="#">Human Services - Aging Studies</a>	1806	CC
<a href="#">HVAC/R-Energy Management Engineering Technology</a>	1257	AAS
<a href="#">Industrial Maintenance Technician</a>	1484	CA
<a href="#">Industrial Manufacturing Engineering Technology</a>	0110	AAS
<a href="#">Information Technology Foundations</a>	0766	CC
<a href="#">Inside Wireman Apprenticeship</a>	1445	AAS
<a href="#">Insurance and Risk Management</a>	1804	AB
<a href="#">Insurance and Risk Management Pathway of the Business Enhanced Degree</a>	1822	AB
<a href="#">Interdisciplinary Humanities</a>	0119	AA
<a href="#">International Business</a>	0240	AB
<a href="#">International Business Pathway of the Business Enhanced Degree</a>	1822	AB
<a href="#">International Studies</a>	0252	AA
<a href="#">IoT Specialist</a>	1713	CA
<a href="#">Japanese Studies</a>	1787	CC
<a href="#">Journalism</a>	1628	AA
<a href="#">Juvenile Justice</a>	0916	CA
<a href="#">Kinesiology/Exercise Science</a>	1639	AAS

## 2022-2023 Degree and Certificate Program Pathways

(Please refer to the [2022-2023 Program Pathways webpage](#) for possible updates)

LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.

Curriculum Title	Code	Degree
<a href="#">Legal Studies</a>	0101	AB
<a href="#">Legal Studies Post-Bachelor</a>	0744	CA
<a href="#">Literature</a>	0124	AA
<a href="#">Local Corrections Officer</a>	1810	CC
<a href="#">Long-Term Care Nurse Aide</a>	1025	CC
<a href="#">Machine Tool Technology</a>	1470	CA
<a href="#">Magnetic Resonance Imaging Technology</a>	1632	AAS
<a href="#">Magnetic Resonance Imaging Technology</a>	1602	CA
<a href="#">Management</a>	0249	CA
<a href="#">Management and Leadership</a>	0245	AB
<a href="#">Management and Leadership Pathway of the Business Enhanced Degree</a>	1822	AB
<a href="#">Manufacturing Engineering Technology</a>	1359	AAS
<a href="#">Marketing</a>	0204	AB
<a href="#">Marketing</a>	0225	CA
<a href="#">Marketing Pathway of the Business Enhanced Degree</a>	1822	AB
<a href="#">Massage Therapy</a>	1826	CC
<a href="#">Mathematics</a>	1620	AS
<a href="#">Mechanical Systems</a>	0173	AAS
<a href="#">Mechanical Systems</a>	0147	CA



## 2022-2023 Degree and Certificate Program Pathways

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Curriculum Title	Code	Degree
<a href="#">Mechatronics - Multi-Skilled Maintenance Technology</a>	1780	AAS
<a href="#">Medical Assistant</a>	1811	CA
<a href="#">Medical Insurance Billing and Coding</a>	1488	CC
<a href="#">Microsoft Office Specialist</a>	0841	CC
<a href="#">Mid Michigan Police Academy</a>	1707	CC
<a href="#">Mobile Application Developer</a>	1712	CA
<a href="#">Music</a>	1827	AM
<a href="#">Music</a>	1828	GA
<a href="#">Music Education/Pre-Music Therapy</a>	1829	AM
<a href="#">Music, Enhanced (still in the review process)</a>	1835	AM
<a href="#">Music Industry</a>	1830	AM
<a href="#">Music Technology</a>	1358	CC
<a href="#">Musicianship Studies</a>	1352	CC
<a href="#">Neurodiagnostic Technology</a>	1812	AAS
<a href="#">Neurodiagnostic Technology</a>	1808	CA
<a href="#">Nursing - PN Option</a>	0235	CA
<a href="#">Nursing - RN Option</a>	0222	AAS
<a href="#">Paramedic</a>	0272	CA
<a href="#">Patient Care Technician</a>	1784	CC

## 2022-2023 Degree and Certificate Program Pathways

(Please refer to the [2022-2023 Program Pathways webpage](#) for possible updates)

LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.

Curriculum Title	Code	Degree
<a href="#">Personal Trainer</a>	1705	CA
<a href="#">Pharmacy Technician</a>	1024	CC
<a href="#">Philosophy</a>	0159	AA
<a href="#">Phlebotomy Technician</a>	1010	CC
<a href="#">Photography</a>	0963	CC
<a href="#">Political Science</a>	0750	AA
<a href="#">Powerplant Maintenance Technology</a>	0745	AAS
<a href="#">Powerplant Maintenance Technology</a>	1035	CA
<a href="#">Pre-Professional Health Studies</a>	0754	AS
<a href="#">Psychology</a>	0215	AA
<a href="#">Radiologic Technology</a>	0196	AAS
<a href="#">Religious Studies</a>	0751	AA
<a href="#">Robotics and Automated Technology</a>	1605	CA
<a href="#">Robotics and Automated Technology</a>	1789	CC
<a href="#">Sales Specialist</a>	0242	CA
<a href="#">Science and Mathematics</a>	1831	GA
<a href="#">Sign Language Interpreter</a>	0282	AAA
<a href="#">Sign Language Interpreter</a>	0187	CA
<a href="#">Social Science</a>	0121	AA

## 2022-2023 Degree and Certificate Program Pathways

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LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.

Curriculum Title	Code	Degree
<a href="#">Sociology</a>	0753	AA
<a href="#">Spanish Studies</a>	1788	CC
<a href="#">Sterile Processing Technician</a>	1017	CC
<a href="#">Studio Art</a>	1781	AFA
<a href="#">Surgical Technology</a>	1021	AAS
<a href="#">Surveying and Materials Technology</a>	1011	CC
<a href="#">Sustainability</a>	1487	CA
<a href="#">Teacher Paraprofessional</a>	1039	AAS
<a href="#">Teacher Paraprofessional</a>	0829	CC
<a href="#">Theatre</a>	0278	AAA
<a href="#">Transfer Studies</a>	1779	AA
<a href="#">Transfer Studies</a>	1782	AS
<a href="#">Transfer Studies</a>	1482	CA
<a href="#">UAS Remote Pilot and Maintenance</a>	1825	CC
<a href="#">Ultrasound: Diagnostic Medical Sonography</a>	0790	AAS
<a href="#">Vascular Technology</a>	1604	CC
<a href="#">Veterinary Nursing</a>	0287	AAS
<a href="#">Web Site Developer</a>	0843	CC
<a href="#">Welding Technology</a>	0186	AAS

## 2022-2023 Degree and Certificate Program Pathways

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Curriculum Title	Code	Degree
<a href="#">Welding Technology</a>	0156	CA
<a href="#">Welding Technology</a>	1356	CC
<a href="#">World Languages</a>	0132	AA



## **Accounting A.B.**

Career Community: Business

Curriculum Code: 0162

Effective: Fall 2022 – Summer 2027

### **Purpose of Major**

This major is designed for students wishing to work in the field of Accounting on completion of the Associate of Business degree. Graduates of this degree/major are qualified to work as a paraprofessional in most areas of accounting, such as financial reporting, cost accounting, governmental accounting, tax preparation, and auditing. Typically, paraprofessionals work under the supervision of a professional accountant, but may be doing essentially the same type of work. Job titles include bookkeeper, accounting clerk, and tax preparer, among others.

Not all courses in this program transfer to all institutions. Students who also wish to transfer to a four-year institution should select the coursework indicated for that institution, and may also complete the coursework for a Business, Enhanced AB degree. This allows completion of credits required for employment and of additional requirements for the Bachelor's. Institutions accepting coursework for the Business, Enhanced AB, Accounting Pathway include Davenport University, Eastern Michigan University, Ferris State University (Business Administration – Professional Track), Northwood University, Oakland University, and Siena Heights University.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of ACCG 210 and ACCG 211 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Contact Information**

Contact the Business and Economics Department, Gannon Building, Room 1222, telephone number 517-483-1546 or the Academic Advising Department, Gannon Building – Star Zone, telephone number 517-483-1904.

### **General Education – Applied Degrees, Recommended Courses**

Select courses as indicated for specific transfer institutions. These courses are preferred General Education courses listed on Transfer Articulation agreements. The recommended courses in each General Education category also meet Michigan Transfer Agreement (MTA) requirements. If no course is indicated, choose from the list of options under [General Education](#). A minimum grade of 2.0 is required for each General Education course.

- English Composition or Applied English  
Business Career Community courses meet this requirement.
- English Composition (Second Course) or Communications or Applied Communications  
Business Career Community Courses meet this requirement.

- Humanities and Fine Arts or Social Science or Applied Social Science  
Business Career Community Courses meet this requirement.
- Mathematics or Applied Mathematics  
Business Career Community Courses meet this requirement.
- Natural Sciences Lab or Applied Science and Technology Lab  
Business Career Community Courses meet this requirement.

**Business Career Community Required Courses** – *These courses are required for all Business programs. They should be taken before other Program of Study Required or Limited Choice Courses. Some courses meet General Education requirements for Michigan Transfer Agreement (MTA). A minimum of 2.0 is required to transfer to other colleges (some colleges, and some programs within colleges, require a higher grade in a course.)*

Course Code	Course Title	Credit / Billing Hours
ACAD 100	First Year College Experience	1 / 1
ACCG 210	Principles of Financial Accg	4 / 4
BIOL 120 or BIOL 125	Environmental Science Introductory Biology	4 / 6 4 / 5
BUSN 118	Introduction to Business	3 / 3
COMM 110 or COMM 130	Communication in the Workplace Fundamentals Public Speaking	3 / 3 3 / 3
ECON 201	Principles of Economics-Micro	4 / 4
ENGL 121 or ENGL 131	Composition I Honors Composition I	4 / 4 4 / 4
LEGL 215	Business Law-Basic Principles	3 / 3
MATH 119 or MATH 120 or STAT 170	Math – Applications for Living College Algebra Introduction to Statistics	4 / 4 4 / 4 4 / 4
MGMT 225	Principles of Mgmt/Leadership	3 / 3
MKTG 200	Principles of Marketing	3 / 3

Notes:

ACAD 100 may be waived based on the recommendation of a Program Advisor.

For students not considering transfer as an option, MGMT 234 - Diversity in the Workplace, may be substituted for ECON 201 using the Course Substitution process. MGMT 234 meets LCC General Education requirements for Applied Degrees – Humanities or Social Science or Applied Social Science. MGMT 234 does not meet Michigan Transfer Agreement (MTA) Social Science requirements for transfer as a General Education course.

For future transfer to:

- Davenport University choose COMM 110 and STAT 170.
- Eastern Michigan University choose STAT 170.
- Northwood University and Oakland University choose MATH 120.
- Ferris State University choose COMM 130 and STAT 170.
- Sienna Heights University choose BIOL 125 and STAT 170.

**Program of Study Required Courses** - *A minimum of 2.0 is required to transfer to other colleges (some colleges, and some programs within colleges, require a higher grade in a course.)*

Course Code	Course Title	Credit / Billing Hours
ACCG 160	Payroll Systems and Taxes	2 / 2
ACCG 161	Accounting with Quickbooks	2 / 2
ACCG 211	Principles of Managerial Accg	4 / 4
ACCG 220	Intermediate Accounting I	4 / 4
ACCG 221	Intermediate Accounting II	4 / 4
ACCG 230	Cost/Managerial I	4 / 4
ACCG 240	Federal Income Tax I	4 / 4
ACCG 245 or ACCG 271	Accounting Internship Principles of Finance	2 / 2 3 / 3
ACCG 260	Accounting Systems	4 / 4

Note:

For future transfer choose ACCG 271.

### Minimum Total Credit Hours

66 credits / 67 billing hours

### Recommended Course Sequence

Semester I
ACAD 100
ACCG 210 – Milestone course
BIOL 120 or BIOL 125
BUSN 118
ENGL 121 or ENGL 131

Semester II
ACCG 160
ACCG 161
ACCG 211 – Milestone course
ACCG 240
MATH 119 or MATH 120 or STAT 170

Semester III
ACCG 220
ACCG 230
ECON 201
LEGL 215
MGMT 225

Semester IV
ACCG 221
ACCG 245 or ACCG 271
ACCG 260
COMM 110 or COMM 130
MKTG 200

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## **Business, Enhanced A.B. Accounting Track**

Career Community: Business

Curriculum Code: 1822

Effective: Fall 2022 – Summer 2027

Revised: 7/6/22

### **Purpose of Program**

This degree is designed for students wishing to transfer after having completed the Associate in Business, Major in Accounting degree. This Enhanced AB option allows completion of credits required for employment through the AB and completion of additional courses required for the Bachelor's degree, as designated by transfer articulation agreements. Required coursework follows for the Accounting subtracks of the Business, Enhanced AB for students transferring to Davenport University, Eastern Michigan University, Ferris State University, Northwood University, Oakland University, and Siena Heights University.

### **Contact Information**

Before beginning this program of study, students must contact the Business and Economics Department, Gannon Building, Room 1222, telephone number 517-483-1546, or the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

### **Program of Study Required Courses**

Completion of an LCC associate in Business is required for the Business, Enhanced degree. Completion of the [Accounting AB](#) (0162) as required for the specified transfer institution is the most efficient path to completing the Enhanced degree Accounting track. Students who have completed a different degree will need to work with a Program Advisor to create a personalized MAP (My Academic Pathway) in Degree Works to ensure that all requirements are met.

### **Recommended Courses by College/University**

Completing courses as directed meets transfer articulation agreement requirements for each institution.

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*

## **Davenport University (Accounting or Finance)**

### **General Education – Transfer (MTA) Courses**

(For the list of options, see [General Education](#))

- Any MTA Humanities course, 3 credits / 3 billing hours
- Any MTA Social Science course, 3 credits / 3 billing hours

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
ACCG 271	Principles of Finance	3 / 3
ACCG 290	Auditing	4 / 4
MATH 120	College Algebra	4 / 4
MGMT 234	Diversity in the Workplace	3 / 3
MGMT 332	Ethics: Assumpt for the Future	3 / 3

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
ENGL 122	Composition II	4 / 4
ENGL 132	Honors Composition II	4 / 4

### **Minimum Total Credit Hours**

93 credits / 94 billing hours

## **Eastern Michigan University**

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
ENGL 127	Business Writing	3 / 3
MUSC 199	Music Appreciation	3 / 3
STAT 215	Intro to Probability and Statistics	4 / 4

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
ANTH 270	Cultural Anthropology	3 / 3
COMM 280	Intercultural Communication	3 / 3
GEOG 200	World Regional Geography	4 / 4

### **Program of Study Required Courses, Limited Choice - *Select one***

Course Code	Course Title	Credit / Billing Hours
ASTR 201	Introductory Astronomy	4 / 5
CHEM 135	Chemistry in Society	4 / 5
GEOG 221	Physical Geography	4 / 4
ISCI 131	Integrated Physical Science	4 / 6

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
ENGL 122	Composition II	4 / 4
ENGL 132	Honors Composition II	4 / 4

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
PHIL 151	Intro to Logic & Critical Think	4 / 4
PHIL 152	Introduction to Ethics	4 / 4

### **Minimum Total Credit Hours**

91 credits / 92 billing hours

## **Ferris State University**

### **General Education – Transfer (MTA) Courses**

(For the list of options, see [General Education](#))

- Any non-BIOL MTA Science course, 3 credits / 3 billing hours
- Any non-ECON MTA Social Science course, 3 credits / 3 billing hours
- Two MTA Humanities courses from 2 different disciplines, 6 credits / 6 billing hours

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
BUSN 201	International Business	3 / 3
LEGL 216	Commercial Transactions	3 / 3
MGMT 224	Human Resource Management	3 / 3
MGMT 228	Organization Behavior	3 / 3

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
ENGL 122	Composition II	4 / 4
ENGL 127	Business Writing	3 / 3
ENGL 132	Honors Composition II	4 / 4

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
MATH 119	Math-Applications for Living	4 / 4
MATH 120	College Algebra	4 / 4

### **Minimum Total Credit Hours**

97 credits / 98 billing hours

## **Northwood University (Accounting)**

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
ACCG 271	Principles of Finance	3 / 3
ACCG 290	Auditing	4 / 4
CITA 110	Intro to Microsoft Office	3 / 3
LEGL 219	Adv Busn Law for Acct Majors	4 / 4
MGMT 200	Creative Thinking for Business	3 / 3
MGMT 234	Diversity in the Workplace	3 / 3
MGMT 332	Ethics: Assumpt for the Future	3 / 3
MGMT 329	Advanced Management Communication	3 / 3
MGMT 335	Managerial Statistics	3 / 3

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
ENGL 122	Composition II	4 / 4
ENGL 132	Honors Composition II	4 / 4

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
HIST 211	U.S. History to 1877	4 / 4
HIST 212	U.S. History: 1877 to Present	4 / 4
HUMS 213	World Civilizations to 1600	4 / 4
HUMS 214	World Civilizations from 1600	4 / 4

### **Minimum Total Credit Hours**

103 credits / 104 billing hours

## Oakland University

### **General Education – Transfer (MTA) Courses**

(For the list of options, see [General Education](#))

- Any non-BIOL MTA Science course, 3 credits / 3 billing hours
- Any non-ECON MTA Social Science course, 3 credits / 3 billing hours
- Two MTA Humanities courses from 2 disciplines, 6 credits / 6 billing hours

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
ENGL 127	Business Writing	3 / 3
MATH 141	Calculus with Applications	4 / 4
STAT 215	Intro to Probability and Stats	4 / 4

### **Program of Study Required Courses, Limited Choice– *Select one***

Course Code	Course Title	Credit / Billing Hours
ENGL 122	Composition II	4 / 4
ENGL 132	Honors Composition II	4 / 4

### **Minimum Total Credit Hours**

93 credits / 94 billing hours

## **Siena Heights University (Accounting)**

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
MGMT 234	Diversity in the Workplace	3 / 3

### **Program of Study Required Courses, Limited Choice– *Select one***

Course Code	Course Title	Credit / Billing Hours
ENGL 122	Composition II	4 / 4
ENGL 132	Honors Composition II	4 / 4

### **Program of Study Required Courses, Limited Choice – *Select 10 credits***

Course Code	Course Title	Credit / Billing Hours
ACCG 241	Federal Income Tax II	4 / 4
ACCG 245	Accounting Internship	2 / 2
ACCG 271	Principles of Finance	3 / 3
ACCG 280	Governmental Accounting	2 / 2
ACCG 290	Auditing	4 / 4
ACCG 292	Fraud Detection and Protection	3 / 3
LEGL 219	Adv Busn Law for Acct Majors	4 / 4

### **Minimum Total Credit Hours**

83 credits / 84 billing hours



## Accounting C.A.

Career Community: Business

Curriculum Code: 0714

Effective: Fall 2022 – Summer 2027

### Purpose of Major

Certificate holders qualify for clerical-level accounting positions that frequently include the need for general office skills in addition to accounting. Job titles include billing clerk, bookkeeper, payroll clerk, accounts payable clerk, and accounts receivable clerk. In smaller companies, a certificate holder may do all accounting tasks other than those handled by the company's CPA firm or other outside accountants. Accounting majors may complete this certificate as part of the Accounting Associate of Business degree.

### Milestone

Completion of ACCG 210 and ACCG 211 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Contact Information

Contact the Business and Economics Department, Gannon Building, Room 1222, telephone number 517-483-1546 or the Academic Advising Department, Gannon Building – Star Zone, telephone number 517-483-1904.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
ACCG 160	Payroll Systems and Taxes	2 / 2
ACCG 161	Accounting with Quickbooks	2 / 2
ACCG 210	Principles of Financial Accg	4 / 4
ACCG 211	Principles of Managerial Accg	4 / 4
ACCG 240	Federal Income Tax I	4 / 4
ACCG 260	Accounting Systems	4 / 4
CITA 126	Microsoft Excel	3 / 3

### Program of Study Required Courses, Limited Choice - Communication – *Select one*

Course Code	Course Title	Credit / Billing Hours
COMM 110	Communication in the Workplace	3 / 3
COMM 130	Fundamentals Public Speaking	3 / 3



Note:

Students considering completion of the Accounting Associate of Business degree with future transfer options should select the course as indicated below:

- Davenport University or Oakland University choose COMM 110
- Eastern Michigan University or Ferris State University choose COMM 130
- Northwood University or Sienna Heights University choose either course

**Program of Study Required Courses, Limited Choice - Composition – Select one**

Course Code	Course Title	Credit / Billing Hours
ENGL 121	Composition I	4 / 4
ENGL 127	Business Writing	3 / 3
ENGL 131	Honors Composition I	4 / 4

Note:

Students considering completion of the Accounting Associate of Business degree should choose ENGL 121 or ENGL 131.

**Program of Study Required Courses, Limited Choice – Select one**

Course Code	Course Title	Credit / Billing Hours
ACCG 220	Intermediate Accounting I	4 / 4
CITA 226	Microsoft Excel-Advanced	3 / 3
MGMT 234	Diversity in the Workplace	3 / 3

Note:

Students considering completion of the Accounting Associate of Business degree should choose ACCG 220.

**Minimum Total Credit Hours**

32 credits / 32 billing hours

**Recommended Course Sequence**

Semester I
ACCG 210 – Milestone course
CITA 126
Limited Choice - Composition

Semester II
ACCG 160
ACCG 161
ACCG 211 – Milestone course
Limited Choice - Communication

Semester III (Fall)
ACCG 240
ACCG 260
Limited Choice

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## Accounting - CPA Exam Preparation A.B.

Career Community: Business

Curriculum Code: 0255

Effective: Fall 2022 – Summer 2027

### Description

This degree focuses on helping students with a Bachelor Degree, outside the field of accounting, learn the material to pass the Uniform Certified Public Accountant (CPA) Examination, and provides them with the classes needed to start a career as a professional accountant. The program prepares students for success in all realms of accounting, including careers as an auditor, tax professional, cost accountant, governmental accountant, financial analyst, and many more.

In addition to the 150 credit hours educational requirement, candidates must meet the accounting credit hours requirement, business credit hours requirement, and professional experience requirement. Though this program meets all of the accounting credit hours requirement to become certified and start a career in accounting, this program does not meet all of the business credit hours requirement or professional experience requirement. Students should research all of the requirements to become certified. The current "Guide to Becoming a Michigan CPA", along with other information regarding careers as a C.P.A. can be found on the [Michigan Association of CPA's \(MICPA\) Student Resources page](#).

Before starting this program, students should meet with an Accounting Faculty Advisor.

### Milestone

In addition to the required General Education courses in Math and English, completion of ACCG 210 and ACCG 211 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Contact Information

Contact the Business and Economics Department, Gannon Building, Room 1222, telephone number 517-483-1546 or the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

### General Education – Applied Degrees, Recommended Courses

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours  
ENGL 127, Business Writing, 3 credits / 3 billing hours  
ENGL 131, Honors Composition I, 4 credits / 4 billing hours
- English (second course)/Communications or Applied Communications – *Select one*  
COMM 110, Communication in the Workplace, 3 credits / 3 billing hours  
COMM 130, Fundamentals Public Speaking, 3 credits / 3 billing hours

- Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one*  
 ECON 260, Comparative Economic Systems, 3 credits / 3 billing hours  
 MGMT 234, Diversity in the Workplace, 3 credits / 3 billing hours  
 POLS 260, Comparative Political Systems, 3 credits / 3 billing hours
- Mathematics or Applied Mathematics – *Select one*  
 MATH 119, Math Applications for Living, 4 credits / 4 billing hours  
 MATH 120, College Algebra, 4 credits / 4 billing hours
- Natural Sciences Lab or Applied Science and Technology Lab – *Select one*  
 ASTR 201, Introductory Astronomy, 4 credits / 5 billing hours  
 BIOL 125, Introductory Biology, 4 credits / 5 billing hours  
 PHYS 120, The Art of Physics, 4 credits / 5 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
ACCG 210	Principles of Financial Accg	4 / 4
ACCG 211	Principles of Managerial Accg	4 / 4
ACCG 220	Intermediate Accounting I	4 / 4
ACCG 221	Intermediate Accounting II	4 / 4
ACCG 230	Cost/Managerial I	4 / 4
ACCG 240	Federal Income Tax I	4 / 4
ACCG 241	Federal Income Tax II	4 / 4
ACCG 260	Accounting Systems	4 / 4
ACCG 271	Principles of Finance	3 / 3
ACCG 290	Auditing	4 / 4
LEGL 215	Business Law – Basic Principles	3 / 3
LEGL 219	Adv Busn Law for Acct Majors	4 / 4

### Program of Study Required Courses, Limited Choice – *Select one*

Course Code	Course Title	Credit / Billing Hours
ACCG 250	Advanced Accounting	2 / 2
ACCG 280	Governmental Accounting	2 / 2

### Minimum Total Credit Hours

65 credits / 66 billing hours

### Recommended Course Sequence

Semester I
Gen Ed - English Composition or Applied English
Gen Ed - English (second course)/ Communications or Applied Communications
Gen Ed - Mathematics or Applied Mathematics
ACCG 210 – Milestone course
LEGL 215

Semester II
Gen Ed - Natural Sciences Labor or Applied Science and Technology Lab
ACCG 211 – Milestone course
ACCG 240
LEGL 219

Semester III
Gen Ed - Humanities and Fine Arts or Social Sciences or Applied Social Sciences
ACCG 220
ACCG 241
ACCG 260

Semester IV
ACCG 221
ACCG 230
ACCG 271
ACCG 290
Limited Choice

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## Advanced Management C.A.

Career Community: Business

Curriculum Code: 0280

Effective: Fall 2022 – Summer 2027

### Purpose of Major

This is an advanced certificate designed to be taken after completing an associate or bachelor degree in order to enhance an individual's employment or advancement opportunities. Courses completed as part of the associate's or bachelor's degree will be applied to this certificate.

Not all courses transfer to all colleges. Students planning to transfer should work with an academic advisor or program advisor before enrolling in any course.

### Milestone

Completion of MGMT 225 or MGMT 300, with a 2.0 or higher, is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Contact Information

Contact the Business and Economics Department, Gannon Building, Room 1222, telephone number 517-483-1546 or the Academic Advising Department, Gannon Building – Star Zone, telephone number 517-483-1904.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
MGMT 224	Human Resource Management	3 / 3
MGMT 304	Organization Development	3 / 3
MGMT 329	Advanced Mgmt Communication	3 / 3
MGMT 332	Ethics: Assumptions for the Future	3 / 3
MGMT 335	Managerial Statistics	3 / 3
MGMT 337	Advanced Human Resource Mgmt	3 / 3

### Program of Study Required Courses, Limited Choice – Communication – *Select one*

Course Code	Course Title	Credit / Billing Hours
COMM 110	Communication in the Workplace	3 / 3
COMM 120	Dynamics of Communication	3 / 3
COMM 130	Fundamentals Public Speaking	3 / 3

**Program of Study Required Courses, Limited Choice – Management/ Leadership -  
Select one**

Course Code	Course Title	Credit / Billing Hours
MGMT 225	Principles of Mgmt/Leadership	3 / 3
MGMT 300	Leading for Possibility	3 / 3

**Program of Study Required Courses, Limited Choice – Organizational Issues - Select one**

Course Code	Course Title	Credit / Billing Hours
MGMT 338	Current Topics in Management	3 / 3
MGMT 345	Context and Transformation	3 / 3

**Program of Study Required Courses, Limited Choice – Quantitative - Select one**

Course Code	Course Title	Credit / Billing Hours
ACCG 210	Principles of Financial Accg	4 / 4
MGMT 237	Managing/Continual Improvement	3 / 3
MGMT 346	Managerial Finance	3 / 3

**Program of Study Required Courses, Limited Choice – Business - Select one**

Course Code	Course Title	Credit / Billing Hours
ACCG 211	Principles of Managerial Accg	4 / 4
BUSN 201	International Business	3 / 3
ECON 201	Principles of Economics - Micro	4 / 4
ECON 202	Principles of Economics - Macro	4 / 4
LEGL 215	Business Law – Basic Principles	3 / 3
MGMT 200	Creative Thinking for Business	3 / 3
MKTG 200	Principles of Marketing	3 / 3

**Minimum Total Credit Hours**

33 credits / 33 billing hours

**Recommended Course Sequence**

Semester I
MGMT 224
MGMT 225 or MGMT 300 – Milestone course
MGMT 304
MGMT 332
Limited Choice – Communication
Limited Choice - Quantitative

Semester II
MGMT 329
MGMT 335
MGMT 337
Limited Choice – Organizational Issues
Limited Choice - Business

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## **African-American History A.A.**

Career Community: History, Humanities, and English

Curriculum Code: 0137

Effective: Fall 2022 – Summer 2027

### **Description**

This degree is designed for students who intend to transfer to a four-year college or university to pursue a baccalaureate degree in this subject area. Students completing this curriculum will also satisfy the Michigan Transfer Agreement (MTA) between two-year and four-year institutions in Michigan and qualify for an LCC Transfer Studies Certificate of Achievement (1482).

### **Milestone**

In addition to the required General Education courses in Math and English, completion of HIST 150 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

A student must earn a minimum grade of 2.0 in all courses.

### **Contact Information**

Contact the Social Science and Humanities Department, Arts and Sciences Building, Room 2203, telephone number 517-483-1061, or the Academic Advising Department, Gannon Building – StarZone, telephone number 517-483-1904.

### **General Education - Transfer Degrees (MTA), Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours  
ENGL 131, Honors Composition I, 4 credits / 4 billing hours
- English Composition (second course) or Communications – *Select one*  
ENGL 122, Composition II, 4 credits / 4 billing hours  
ENGL 132, Honors Composition II, 4 credits / 4 billing hours
- Humanities and Fine Arts  
Program of Study Required Courses will meet this requirement

- Mathematics – *Select one*  
MATH 119, Math Applications for Living, 4 credits / 4 billing hours  
MATH 120, College Algebra, 4 credits / 4 billing hours  
STAT 215, Intro to Probability and Stats, 4 credits / 4 billing hours
- Natural Sciences – *Select two, each from a different discipline, one must be a lab course*  
ASTR 201, Introductory Astronomy, 4 credits / 5 billing hours  
BIOL 120, Environmental Science, 4 credits / 6 billing hours  
BIOL 125, Introductory Biology, 4 credits / 5 billing hours  
CHEM 135, Chemistry in Society, 4 credits / 5 billing hours  
GEOG 221, Physical Geography, 4 credits / 4 billing hours  
GEOL 221, Physical Geology, 4 credits / 6 billing hours  
GEOL 230, Environmental Geology, 4 credits / 6 billing hours  
ISCI 131, Integrated Physical Science, 4 credits / 6 billing hours
- Social Sciences – *Select two, each from a different discipline*  
ANTH 270, Cultural Anthropology, 3 credits / 3 billing hours  
ECON 120, Power, Authority and Exchange, 4 credits / 4 billing hours  
POLS 120, American Political Systems, 4 credits / 4 billing hours  
SOCL 120, Introduction to Sociology, 4 credits / 4 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
ENGL 260	African-American Literature	4 / 4
HIST 150	African-American History	4 / 4
HIST 211	U.S. History to 1877	4 / 4
HIST 212	U.S. History: 1877 to Present	4 / 4
HIST 214	African History	4 / 4

**Elective Courses, Recommended Choices** – *Select courses to reach the minimum 60 total credits required for this degree. (For the full list of options, see [AA and AS Degree Electives](#))*

Course Code	Course Title	Credit / Billing Hours
ENGL 211	World Literature I	4 / 4
ENGL 212	World Literature II	4 / 4
ENGL 256	American Literature 1865 to Present	4 / 4
HIST 215	World History to 1500	4 / 4
HIST 216	World History since 1500	4 / 4
HUMS 215	American Cultural Experience	4 / 4
RELG 150	Intro to World Religions	4 / 4
SOCL 254	Marriage and Family	3 / 3
SOCL 255	Contemporary Social Problems	3 / 3
SOCL 260	Race and Ethnicity	3 / 3

## Minimum Total Credit Hours

60 credits / 61 billing hours

## Recommended Course Sequence

Semester I
MTA English Composition
MTA Mathematics
MTA Natural Science
HIST 211

Semester II
MTA English Comp (2nd course) or Communications
MTA Natural Science
ENGL 260
HIST 150 – Milestone course

Semester III
MTA Social Sciences
HIST 212
HIST 214
Electives as needed for total credits

Semester IV
MTA Social Sciences
Electives as needed for total credits

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## **Agricultural Technology A.A.S.**

Career Community: Applied Science

Curriculum Code: 1451

Effective: Fall 2022 – Summer 2027

### **Description**

The Agricultural Technology degree is designed to train individuals to work in agri-business or in various other aspects of the agricultural industry, depending upon the specific Certificate program completed at Michigan State University (MSU). MSU certificates include Agricultural Industries, Dairy Management, Electrical Technology, Fruit, Vegetable and Organic Horticulture Management, Horse Management, Landscape and Nursery Management, Livestock Industries, Sports and Commercial Turf Management, and Turfgrass Management Golf Course. This program is offered through a joint agreement between Lansing Community College (LCC) and the Michigan State University Institute of Agricultural Technology (IAT), with Major courses taught by MSU and General Education courses taught by LCC.

### **Milestone**

Completion of the required General Education Math, English and Science courses with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

Students may enter this curriculum in one of two ways. A student may begin at LCC, taking general education classes, and apply to the IAT for admittance to one of the specific concentration listed above. Alternatively, students may be admitted first to a specific Certificate program in the IAT and then decide to enter the joint program to receive the AAS degree.

### **Contact Information**

Contact the Science Department, Arts and Sciences Building, Room 3203, telephone number 517-483-1092; the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904; or the MSU Institute of Agricultural Technology, Room 120 Agriculture Hall on the MSU campus, telephone number 517-355-0190.

### **General Education – Applied Degrees, Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*  
Program of Study Required Courses meets this requirement
- English Composition (second course) or Communications or Applied Communications – *Select one*  
Program of Study Required Courses meets this requirement

- Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one* Program of Study Required Courses meets this requirement
- Mathematics or Applied Mathematics – *Select one* Program of Study Required Courses meets this requirement
- Natural Sciences Lab or Applied Sciences or Technology Lab – *Select one\** Program of Study Required Courses meets this requirement

*\*Students who have completed MSU ANS 110 and 110L, ANS 242, CSS 101 and CSS 101L, or HRT 203, and HRT 213 and 213L with grades of 2.0 or higher will satisfy the Applied Science requirement. Students should contact their advisor for information.*

**Program of Study Required Course, English Composition or Applied English – *Select one***

Course Code	Course Title	Credit / Billing Hours
ENGL 121 or	Composition I	4 / 4
ENGL 122 or	Composition II	4 / 4
ENGL 131 or	Honors Composition I	4 / 4
ENGL 132	Honors Composition II	4 / 4

**Program of Study Required Course, English Comp (second course) or Communications or Applied Communications – *Select one***

Course Code	Course Title	Credit / Billing Hours
COMM 120 or	Dynamics of Communication	3 / 3
COMM 130	Fundamentals Public Speaking	3 / 3

**Program of Study Required Course, Humanities and Fine Arts or Social Science or Applied Social Science – *Select one***

Course Code	Course Title	Credit / Billing Hours
ECON 201 or	Principles of Economics-Micro	4 / 4
HUMS 213 or	World Civilizations to 1600	4 / 4
HUMS 214 or	World Civilizations from 1600	4 / 4
SOCL 120	Introduction to Sociology	4 / 4
PSYC 200	Introduction to Psychology	4 / 4

**Program of Study Required Course, Mathematics or Applied Mathematics – *Select one***

Course Code	Course Title	Credit / Billing Hours
MATH 119 or	Math – Applications for Living	4 / 4
MATH 120* or	College Algebra	4 / 4
STAT 215	Intro to Probability and Stats	4 / 4

\*Math 120 highly recommended

**Program of Study Required Course, Natural Sciences Lab or Applied Sciences or Technology Lab – Select one**

Course Code	Course Title	Credit / Billing Hours
BIOL 127 or	Cell Biology	4 / 6
CHEM 151 and CHEM 161	General Chemistry Lecture I and General Chemistry Lab I	4 / 4 1 / 3

**MSU Agricultural Technology Courses**

Minimum 47 Credits - Required Agricultural Technology certificate from Michigan State University

**Institutional Requirements**

Choose an appropriate Lansing Community College course or courses so that the total number of credits taken at LCC is 15 or more per college policy, and so that at least 60 credits are earned toward the degree. Part of this requirement may automatically be fulfilled if a student completes 15 or more credits of the General Education – Applied Degree courses.

**Minimum Total Credit Hours**

66 credits / 21 billing hours

**Recommended Course Sequence**

Semester I
Agricultural Technology courses from MSU

Semester II
Agricultural Technology courses from MSU

Semester III
Agricultural Technology courses from MSU

Semester IV
Gen Ed - English Composition or Applied English
Gen Ed - English Composition (second course) or Communications or Applied Communications
Gen Ed - Humanities and Fine Arts or Social Sciences or Applied Social Sciences
Gen Ed - Mathematics or Applied Mathematics
Gen Ed - Natural Sciences Lab or Applied Sciences or Technology Lab

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## **Airframe Maintenance Technology A.A.S.**

Career Community: Transportation

Curriculum Code: 0757

Effective: Fall 2022 – Summer 2027

### **Description**

Airframe maintenance technicians maintain aircraft in accordance with Federal Aviation Regulations. Airframe technicians perform a wide variety of repairs and alterations to sheet metal and composite aircraft structures. In addition, they inspect and repair or replace complex aircraft components associated with hydraulic/pneumatic, communication/navigation, fuel and flight control systems. Aviation maintenance technicians are employed throughout the world maintaining aircraft for major air carriers, commuter airlines, air freight operators, corporate flight departments, fixed base operators and a variety of other specialized aviation businesses. Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

### **Milestone**

Completion of AVGM 111, AVGM 112, AVGM 113, and AVGM 114, with a 2.0 or higher is a key component for success in this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Contact Information**

Contact the Aviation Technology Program at the Mason-Jewett Field, 661 Aviation Drive, Mason, telephone number 517-483-1406.

### **General Education - Applied Degree, Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours  
ENGL 124, Technical Writing, 3 credits / 3 billing hours  
ENGL 127, Business Writing, 3 credits / 3 billing hours
- English Composition (Second Course)/Communications or Applied Communications – *Select one*  
COMM 110, Communication in the Workplace, 3 credits / 3 billing hours  
COMM 120, Dynamics of Communication, 3 credits / 3 billing hours  
COMM 130, Fundamentals Public Speaking, 3 credits / 3 billing hours

- Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one*  
 HUMS 213, World Civilizations to 1600, 4 credits / 4 billing hours  
 HUMS 214, World Civilizations from 1600, 4 credits / 4 billing hours  
 MGMT 234, Diversity in the Workplace, 3 credits / 3 billing hours  
 SOCL 120, Introduction to Sociology, 4 credits / 4 billing hours
- Mathematics or Applied Mathematics – *Select one*  
 MATH 117, Math for Business, 4 credits / 4 billing hours  
 MATH 119, Math - Applications for Living, 4 credits / 4 billing hours
- Natural Sciences Lab or Applied Sciences and Technology Lab – *Select one*  
 ASTR 201, Introductory Astronomy, 4 credits / 5 billing hours  
 BIOL 120, Environmental Science, 4 credits / 6 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
AVAF 125	Aircraft Systems I	2 / 2.75
AVAF 126	Aircraft Systems II	6 / 8.25
AVAF 127	Aircraft Systems III	3 / 4
AVAF 134	Aircraft Instruments	2 / 2.75
AVAF 140	Aircraft Welding	2 / 3
AVAF 208	Aircraft Structures I	4 / 5.5
AVAF 209	Aircraft Structures II	4 / 5.75
AVAF 210	Aircraft Structures III	4 / 6
AVAF 211	Aircraft Electrical I	4 / 5.75
AVAF 212	Aircraft Electrical II	4 / 5.75
AVAF 246	Airframe Certification	1 / 1.5
AVEL 202	Flight Line Testing	3 / 4
AVGM 111	Aviation General I	4 / 5
AVGM 112	Aviation General II	6 / 8
AVGM 113	Aviation General III	4 / 5
AVGM 114	Materials and Processes	5 / 7

### Minimum Total Credit Hours

75 credits / 98 billing hours

### Recommended Course Sequence

Semester I (Fall)
AVGM 111 – Milestone course
AVGM 112 – Milestone course
AVGM 113 – Milestone course
AVGM 114 – Milestone course



Semester II (Spring)
AVAF 125
AVAF 126
AVAF 140
AVAF 208
AVAF 211

Semester III (Summer)
AVAF 127
AVAF 134
AVAF 212

Semester IV (Fall)
AVAF 209
AVAF 210
AVAF 246
AVEL 202

Semester V (Spring)
Gen Ed – English Composition or Applied English
Gen Ed – English Composition (Second Course)/Communications or Applied Communications
Gen Ed - Humanities and Fine Arts or Social Sciences or Applied Social Sciences
Gen Ed – Mathematics or Applied Mathematics
Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## Airframe Maintenance Technology C.A.

Career Community: Transportation

Curriculum Code: 1036

Effective: Fall 2022 – Summer 2027

### Description

This certificate of achievement enables a non-licensed individual to expand their knowledge of airframe maintenance practices used to maintain aircraft in accordance with the Title 14 Code of Federal Aviation Regulations. While enrolled in this program, students will learn the basic science and technical knowledge necessary to repair and maintain modern aerospace vehicle airframes. Graduates will have demonstrated technical abilities in flight control rigging and adjustment, airframe structural repair, hydraulic and pneumatic systems inspection and repair, flight control operation, fuel system maintenance and repair, airframe electrical system diagnosis and repair, and airframe inspections. Completion of this certificate may be applied to the Airframe and Powerplant License provided the student meets the requirements of the Federal Aviation Regulation Part 147.

### Contact Information

Contact the Aviation Technology Program at the Mason-Jewett Field, 661 Aviation Drive, Mason, telephone number 517-483-1406.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
AVAF 125	Aircraft Systems I	2 / 2.75
AVAF 126	Aircraft Systems II	6 / 8.25
AVAF 127	Aircraft Systems III	3 / 4
AVAF 134	Aircraft Instruments	2 / 2.75
AVAF 140	Aircraft Welding	2 / 3
AVAF 208	Aircraft Structures I	4 / 5.5
AVAF 209	Aircraft Structures II	4 / 5.75
AVAF 210	Aircraft Structures III	4 / 6
AVAF 211	Aircraft Electrical I	4 / 5.75
AVAF 212	Aircraft Electrical II	4 / 5.75
AVAF 246	Airframe Certification	1 / 1.5
AVEL 202	Flight Line Testing	3 / 4

### Minimum Total Credit Hours

39 credits / 55 billing hours

## Recommended Course Sequence

Semester I (Spring)
AVAF 125
AVAF 126
AVAF 140
AVAF 208
AVAF 211

Semester II (Summer)
AVAF 127
AVAF 134
AVAF 212

Semester III (Fall)
AVAF 209
AVAF 210
AVAF 246
AVEL 202

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## **Allied Health A.A.S.**

Career Community: Health and Human Service Careers

Curriculum Code: 1814

Effective: Fall 2022 – Summer 2027

### **Description**

Allied Health is a broad field of study that encompasses a variety of professions involved in the diagnosis, evaluation, and treatment of acute and chronic diseases, disease prevention and wellness, and rehab and health systems management that support health care systems in an array of settings. Therefore, this degree is designed to be customized to a student's goals for a health profession. A minimum of 60 credits is required and includes LCC General Education requirements and several options which may be combined. Option A serves as the pathway for students working on admission to a Health Careers selective admission program. Option B includes courses in a number of certificate pathways for new students or students who may already have a certain certification or license and are seeking an associate degree for further education or employment opportunities. The Medical Education and Training Campus (METC) option provides an opportunity for military transfer credit. Additional course choices enhance a student's degree track and may include those that will satisfy the Michigan Transfer Agreement (MTA) between two-year and four-year institutions in Michigan and transfer to a baccalaureate degree program in a health-related field. Courses appearing in more than one section on the pathway can be counted only once toward the credit total.

### **Milestone**

Completion of the required General Education courses in Math and English with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

It is crucial that students meet with a Health Careers academic advisor or program director prior to selecting courses based on academic goals. Students must earn a minimum grade of 2.0 or higher in all courses to earn this degree. Higher grades will be required in some classes and if you are applying to a selective admission program. Please visit [Advising Guides - Health and Human Services Division](#) to review specific admission requirements for each selective admission program in Option A. Visit [2022-2023 Degree and Certificate Program Pathways](#) to review the pathway for each certificate in Option B.

## **Credit for Approved State or National Licensure or Certification and Previously Acquired Knowledge and Learning Experience**

Students who have applied to LCC and hold certain current licenses and/or certifications listed at the following link are encouraged to apply for [Licensure or Certification Credit](#) toward this degree. Students who have personal and professional experience gained through actual job-related activities and special training experiences are encouraged to apply for Credit for Prior Learning Experience toward this degree. These learning experiences must directly relate to a specific course or courses required within a student's LCC program. Credits granted through either of these two options that are relevant to this degree may be used toward degree completion. Contact a Health Careers advisor in the Academic Advising Department for more information.

## **Contact Information**

Prior to beginning this program, students should meet with a Health Careers advisor in the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904. Students should also visit the [Health and Human Services Division](#) website for more information.

## **General Education – Applied Degrees, Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*
- English Composition (second course)/Communications or Applied Communications – *Select one*
- Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one*
- Mathematics of Applied Mathematics – *Select one*
- Natural Sciences Lab or Applied Sciences and Technology Lab – *Select one*

Students following Option A – Selective Admission Pre-Programs should see [Advising Guides - Health and Human Services Division](#) for the specific General Education courses required for their program.

Military (METC) Radiologic Technology Option: Students with Medical Education and Training Campus (METC) Radiologic Technology Transfer Credit should see the Medical Education and Training Campus (METC) Radiologic Technology section at the end of this pathway for specific General Education options required for their program.

**Program of Study Required Courses** – *Select Option A, Option B, or a combination of courses from each option for a minimum of 30 credits.*

**Option A – Selective Admission** – *Students choosing this option select courses in one or more pre-programs as indicated in the advising guide(s). Students choosing only option A must have a minimum of 30 credits.*

Selective Admission Pre-Programs Advising Guides	Credit / Billing Hours
P001 – <a href="#">Pre-Dental Hygiene</a>	30 – 39 / 32 – 44
P002 – <a href="#">Pre-Diagnostic Medical Sonography</a>	22 – 27 / 25 – 31
P006 – <a href="#">Pre-Nursing, PN/RN, 2Yr Program</a>	30 – 32 / 34 – 38
P006 – <a href="#">Pre-Nursing, PN/RN, 2<sup>nd</sup> Degree Program</a>	30 – 32 / 34 – 38
P006 – <a href="#">Pre-Nursing, PN/RN, Advanced Standing Program</a>	30 – 32 / 34 – 38
P008 – <a href="#">Pre-Radiologic Technology</a>	20-25 / 22-28
P009 – <a href="#">Pre-Surgical Technology</a>	30 – 32 / 33 – 36

**Option B – Health Certificates and Health Related Courses** – *Students choosing only option B select a minimum of 30 credits. One or more certificate pathways may be completed. There is a 3 credit maximum for MGMT courses, a 2 credit maximum for PFFT/PFWT courses, and a 12 credit maximum for Science (BIOL/CHEM/PHYS) courses.*

Course Code	Course Title	Credit / Billing Hours	Certificate Pathway
BIOL or CHEM or PHYS XXX	Various Science courses	1-5 / 3-7 (12 credit max)	
CHSE 100	Intro to Health Professions	3 / 3	
CHSE 108	Long-Term Care Nurse Aide	4 / 6.5	1025 – Long-Term Care Nurse Aide C.C. 1784 – Patient Care Technician C.C.
CHSE 114	Pathophysiology-Allied Health	3 / 3	
CHSE 117	Health Law and Ethics	2 / 2	
CHSE 120	Medical Terminology	4 / 4	1017 – Sterile Processing Techn. C.C. 1442 – EKG Technician C.C. 1488 – Medical Insurance Billing and Coding C.C.
CHSE 123	Medical Ins Billing/Coding I	4 / 4	1488 – Medical Insurance Billing and Coding C.C.
CHSE 124	Medical Ins Billing/Coding II	4 / 4	1488 – Medical Insurance Billing and Coding C.C.
CHSE 125	Comp-Med Ins Billing/Coding	2 / 2	1488 – Medical Insurance Billing and Coding C.C.
CHSE 127	Medical Ins Billing/Coding III	3 / 3	1488 – Medical Insurance Billing and Coding C.C.
CHSE 130	Medical Ins Bill/Code Extern	3 / 3	1488 – Medical Insurance Billing and Coding C.C.

Course Code	Course Title	Credit / Billing Hours	Certificate Pathway
CHSE 131	Electronic Hlth Records Intro	2 / 2	1488 – Medical Insurance Billing and Coding C.C.
CHSE 136	EKG Technician	3.5 / 4	1442 – EKG Technician C.C
CHSE 143	Phlebotomy Technician	2 / 3	1010 – Phlebotomy Technician C.C.
CHSE 144	Phlebotomy Externship	4 / 4	1010 – Phlebotomy Technician C.C.
CHSE 151	Patient Care Technician	6 / 9.25	1784 – Patient Care Technician C.C.
CHSE 235	Pharmacy Technician	4 / 4	1024 – Pharmacy Technician C.C.
CHSE 236	Pharmacy Technician Externship	3 / 3	1024 – Pharmacy Technician C.C.
EMTA 100	Emergency Medical Responder	4 / 6	
EMTA 101	Basic EMT I	4 / 4	1817 – Basic Emergency Medical Technician C.C.
EMTA 102	Basic EMT II	2 / 4	1817 – Basic Emergency Medical Technician C.C.
EMTA 103	Basic EMT III	4 / 4	1817 – Basic Emergency Medical Technician C.C.
EMTA 104	Basic EMT IV	2 / 4	1817 – Basic Emergency Medical Technician C.C.
EMTA 112	Basic EMT Clinical	4 / 4	1817 – Basic Emergency Medical Technician C.C.
IDMS 250	Vascular Technology I	6 / 6	1604 – Vascular Technology C.C.
IDMS 251	Vascular Technology II	6 / 6	1604 – Vascular Technology C.C.
IDMS 255	Vascular Scan Lab I	2.5 / 4	1604 – Vascular Technology C.C.
IDMS 256	Vascular Scan Lab II	2.5 / 4	1604 – Vascular Technology C.C.
MSGE 131	Massage I	2.13 / 4	1826 – Massage Therapy C.C.
MSGE 132A	Anatomy/Physiology Massage I	2.13 / 4	1826 – Massage Therapy C.C.
MSGE 132B	Anatomy/Physiology Massage II	1.06 / 2	1826 – Massage Therapy C.C.
MSGE 137	Medical Terminology in Massage	1.06 / 2	1826 – Massage Therapy C.C.
MSGE 139A	Pathology for Massage I	.53 / 1	1826 – Massage Therapy C.C.
MSGE 139B	Pathology for Massage II	.53 / 1	1826 – Massage Therapy C.C.
MSGE 141	Massage Clinic I	1.33 / 2.5	1826 – Massage Therapy C.C.
MSGE 151A	Research Literacy	.80 / 1.5	1826 – Massage Therapy C.C.
MSGE 151B	Event Massage	.80 / 1.5	1826 – Massage Therapy C.C.
MSGE 151C	Maternal/Infant Massage	.53 / 1	1826 – Massage Therapy C.C.
MSGE 151D	Special Populations	.80 / 1.5	1826 – Massage Therapy C.C.
MSGE 231	Massage II	2.13 / 4	1826 – Massage Therapy C.C.
MSGE 232	Massage III	2.13 / 4	1826 – Massage Therapy C.C.
MSGE 235	Licensing Exam Prep	.53 / 1	1826 – Massage Therapy C.C.
MSGE 241	Massage Clinic II	1.33 / 2.5	1826 – Massage Therapy C.C.
MSGE 242	Massage Clinic III	1.60 / 3	1826 – Massage Therapy C.C.
MSGE 252	Energy-Based Modalities	1.06 / 2	1826 – Massage Therapy C.C.

Course Code	Course Title	Credit / Billing Hours	Certificate Pathway
MSGE 253	Spa & Clinic Modalities	1.06 / 2	1826 – Massage Therapy C.C.
MSGE 254	Busn App for Massage	1.06 / 2	1826– Massage Therapy C.C.
MSGE 256	Clinical Assess for Massage	1.06 / 2	1826 – Massage Therapy C.C.
MSGE 258	Career Longevity	1.06 / 2	1826– Massage Therapy C.C.
MEDA 110	Intro MA Med Terms & Pathology	5 / 5	1811 – Medical Assistant C.A.
MEDA 126	MA Administrative Skills	5 / 6	1811 - Medical Assistant C.A.
MEDA 135	MA Pharmacology & Med Math	2 / 2	1811 - Medical Assistant C.A.
MEDA 145	Legal & Ethical Concepts	2 / 2	1811 - Medical Assistant C.A.
MEDA 156	MA Clinical Procedures I	7 / 11	1811 - Medical Assistant C.A.
MEDA 166	MA Clinical Procedures II	5 / 7	1811 - Medical Assistant C.A.
MEDA 175	MA Certification Review	3 / 3	1811 - Medical Assistant C.A.
MEDA 177	MA Practicum Immersion	3 / 3	1811 - Medical Assistant C.A.
MGMT 223	Supervisory Skills	3 / 3	
MGMT 225	Principles of Mgmt/Leadership	3 / 3	
MGMT 227	Training/Development for Busn	3 / 3	
MGMT 228	Organization Behavior	3 / 3	
NCHE 102	AHA BLS Provider CPR	0 / 0*	
NURS 201	Patient-Centered Care	3 / 3	
PFFT 100	Total Fitness A-Fitness	2 / 3	
PFFT 101	Total Fitness B-Nutrition	2 / 3	
PFFT 102	Total Fitness C-Weight Control	2 / 3	
PFFT 103	Total Fitness D-Life Fitness	2 / 3	
PFFT 109	Introduction to Fitness	1 / 2	1704 – Group Fitness Instructor C.C.
PFHW 123	Human Nutrition	3 / 3	1704 – Group Fitness Instructor C.C.
PFHW 163	Healthy Lifestyles	2 / 3	
PFHW 181	Stress Management	1 / 1	1704 – Group Fitness Instructor C.C.
PFKN 106	Group Fitness Instructor Prep	3 / 4	1704 – Group Fitness Instructor C.C.
PFKN 170	Foundations of Kinesiology	3 / 3	1704 – Group Fitness Instructor C.C.
PFKN 200	Exercise Physiology	3 / 3	1704 – Group Fitness Instructor C.C.
PFKN 201	Exercise Physiology Lab	1 / 2	1704 – Group Fitness Instructor C.C.
PFKN 250	Measurements in Kinesiology	3 / 4	1704 – Group Fitness Instructor C.C.
PFKN 260	Growth and Motor Behavior	3 / 3	1704 – Group Fitness Instructor C.C.
PFWT 112	Intro to Weight Training	1 / 2	1704 – Group Fitness Instructor C.C.
PFWT 123	Weight Training I	2 / 3	
STPR 145	Foundations Sterile Processing	5 / 6.5	1017 – Sterile Processing Techn. C.C.
STPR 148	Sterile Processing Externship	2 / 2	1017 – Sterile Processing Techn. C.C.
SURG 103	Surgical Asepsis	2 / 2	

\*Flat-rated, not covered by financial aid



## **Elective Courses, General Education – Transfer Degrees (MTA) Recommended**

**Courses** – Any MTA courses may be selected in consultation with a Health Careers advisor based on academic goals for transfer. Select courses to reach the minimum 60 total credits for this degree (maximum of 30 credits). (For the full list of options, see [General Education](#)).

## **Minimum Total Credit Hours**

60 credits / 60 billing hours

## **Course Sequence**

Students will work with an advisor to determine the course sequence specific to their educational goals.

## **Medical Education and Training Campus (METC) - Radiologic Technology Option**

METC Radiologic Technologist Program Graduates may receive up to 51 college transfer credits (31 credits didactic courses and 20 credits clinical courses) upon submission and review of METC Transcript and Joint Service Transcript to Lansing Community College. The 51 college transfer credits awarded include the satisfaction of the General Education Natural Sciences requirement. An additional 15-17 semester credits to be earned toward the curriculum and completed at LCC are required to award an associate degree. Transfer credit does not satisfy those additional 15-17 credits required to award the degree.

## **Joint Service Transcript Program Number**

Air Force:	L5AQJ4R031 01AA	Diagnostic Imaging Apprentice (Phase 1)
Army:	313-68P10	Radiologist Specialist (Phase 1)
Navy:	B-313-0126	Advanced Radiographer (Phase 1)

## **METC Course Dates: Start date: January 2017 - End Date: February 1, 2023**

METC courses completed prior to the above date must be submitted to Lansing Community College's Radiologic Technology Program Director for review of course transfer credit.

## **General Education - Applied Degrees, Recommended Courses – Minimum 14 credits**

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours  
ENGL 122, Composition II, 4 credits / 4 billing hours  
ENGL 131, Honors Composition I, 4 credits / 4 billing hours  
ENGL 132, Honors Composition II, 4 credits / 4 billing hours
- English Composition (second course)/Communications or Applied Communications – *Select one*  
COMM 110, Oral Communication in the Workplace, 3 credits / 3 billing hours  
COMM 120, Dynamics of Communication, 3 credits / 3 billing hours  
COMM 130, Fundamentals Public Speaking, 3 credits / 3 billing hours

- Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one*  
 ANTH 271, Medical Anthropology, 3 credits / 3 billing hours  
 SOCL 120, Introduction to Sociology, 4 credits / 4 billing hours
- Mathematics or Applied Mathematics – *Select one from the Transfer Degrees (MTA) category*  
 MATH 119, Math – Applications for Living, 4 credits / 4 billing hours
- Natural Sciences Lab or Applied Science and Technology Lab  
 Satisfied by the 51 credit transfer agreement

**Program of Study Recommended Courses** - *Select one or more if needed to reach 15 LCC credits.*

Course Code	Course Title	Credit / Billing Hours
PFFT 109	Introduction to Fitness	1 / 2
PFHW 163	Healthy Lifestyles	2 / 3
PFHW 181	Stress Management	1 / 1

**METC Total**

66-68 credits / 15-18 billing hours

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## **American Studies A.A.**

Career Community: History, Humanities, and English

Curriculum Code: 0142

Effective: Fall 2022 – Summer 2027

### **Description**

This degree is designed for students who intend to transfer to a four-year college or university to pursue a baccalaureate degree in this subject area. Students completing this curriculum will also satisfy the Michigan Transfer Agreement (MTA) between two-year and four-year institutions in Michigan and qualify for an LCC Transfer Studies Certificate of Achievement (1482).

### **Milestone**

In addition to the required General Education courses in Math and English, completion of HIST 211, HIST 212, and HUMS 215 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

A student must earn a minimum grade of 2.0 in all courses.

### **Contact Information**

Contact the Social Science and Humanities Department, Arts and Sciences Building, Room 2203, telephone number 517-483-1061, or the Academic Advising Department, Gannon Building – StarZone, telephone number 517-483-1904.

### **General Education – Transfer Degrees (MTA), Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours  
ENGL 131, Honors Composition I, 4 credits / 4 billing hours
- English Composition (second course) or Communications – *Select one*  
ENGL 122, Composition II, 4 credits / 4 billing hours  
ENGL 132, Honors Composition II, 4 credits / 4 billing hours
- Humanities and Fine Arts  
Program of Study Required Courses will meet this requirement
- Mathematics – *Select one*  
MATH 119, Math Applications for Living, 4 credits / 4 billing hours  
MATH 120, College Algebra, 4 credits / 4 billing hours  
STAT 215, Intro to Probability and Stats, 4 credits / 4 billing hours

- Natural Sciences – *Select two, each from a different discipline, one must be a lab course*  
 ASTR 201, Introductory Astronomy, 4 credits / 5 billing hours  
 BIOL 120, Environmental Science, 4 credits / 6 billing hours  
 BIOL 125, Introductory Biology, 4 credits / 5 billing hours  
 CHEM 135, Chemistry in Society, 4 credits / 5 billing hours  
 GEOG 221, Physical Geography, 4 credits / 4 billing hours  
 GEOL 221, Physical Geology, 4 credits / 6 billing hours  
 GEOL 230, Environmental Geology, 4 credits / 6 billing hours  
 ISCI 131, Integrated Physical Science, 4 credits / 6 billing hours
- Social Sciences – *Select two, each from a different discipline*  
 ANTH 270, Cultural Anthropology, 3 credits / 3 billing hours  
 ECON 120, Power, Authority and Exchange, 4 credits / 4 billing hours  
 POLS 120, American Political System, 4 credits / 4 billing hours  
 SOCL 120, Introduction to Sociology, 4 credits / 4 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
HIST 211	U.S. History to 1877	4 / 4
HIST 212	U.S. History: 1877 to Present	4 / 4
HUMS 215	American Cultural Experience	4 / 4

### Program of Study Required Courses – *Select one*

Course Code	Course Title	Credit / Billing Hours
ENGL 255	American Lit to 1865	4 / 4
ENGL 256	American Lit 1865 to Present	4 / 4

### Elective Courses, Recommended Choices – *Select courses to reach the minimum 60 total credits required for this degree. (For the full list of options, see [AA and AS Degree Electives](#))*

Course Code	Course Title	Credit / Billing Hours
ECON 213	U.S. Economic/Business History	3 / 3
GEOG 200	World Regional Geography	4 / 4
HIST 150	African-American History	4 / 4
HIST 215	World History to 1500	4 / 4
HIST 216	World History since 1500	4 / 4
HUMS 120	Masterpieces of Art & Music	4 / 4
HUMS 211	Art History to the Renaissance	4 / 4
HUMS 212	Art Hist from the Renaissance	4 / 4
RELG 150	Intro to World Religions	4 / 4
SOCL 260	Race and Ethnicity	3 / 3

### Minimum Total Credit Hours

60 credits / 61 billing hours

## Recommended Course Sequence

Semester I
MTA English Composition
MTA Mathematics
MTA Natural Science
HIST 211 – Milestone course

Semester II
MTA English Comp (2nd course) or Communications
MTA Natural Science
ENGL 255 or 256
HUMS 215 – Milestone course

Semester III
MTA Social Sciences
HIST 212 – Milestone course
Electives as needed for total credits

Semester IV
MTA Social Sciences
Electives as needed for total credits

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## **Anthropology A.A.**

Career Community: Social Sciences

Curriculum Code: 1621

Effective: Fall 2022 – Summer 2027

### **Description**

This degree is designed for students who intend to transfer to a four-year college or university to pursue a baccalaureate degree in this subject area. Students completing this curriculum will also satisfy the Michigan Transfer Agreement (MTA) between two-year and four-year institutions in Michigan and qualify for an LCC Transfer Studies Certificate of Achievement (1482).

### **Milestone**

In addition to the required General Education courses in Math and English, completion of ANTH 120 and SOCL 120 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses may be the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in the courses.

### **Additional Information**

A student must earn a minimum grade of 2.0 in all courses.

### **Contact Information**

Contact the Sociology/Anthropology Program in the Arts & Sciences Building, Room 2203, telephone number 517-483-1061, or the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

### **General Education – Transfer Degrees (MTA), Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours  
ENGL 131, Honors Composition I, 4 credits / 4 billing hours
- English Composition (second course) or Communications – *Select one*  
COMM 110, Communication in the Workplace, 3 credits / 3 billing hours  
COMM 130, Fundamentals Public Speaking, 3 credits / 3 billing hours  
ENGL 122, Composition II, 4 credits / 4 billing hours  
ENGL 132, Honors Composition II, 4 credits / 4 billing hours
- Humanities and Fine Arts – *Select two, each from a different discipline*  
HIST 211, U.S. History to 1877, 4 credits / 4 billing hours  
HIST 212, U.S. History: 1877 to Present, 4 credits / 4 billing hours  
HUMS 160, Mythology, 4 credits / 4 billing hours  
PHIL 151, Intro to Logic & Critical Think, 4 credits / 4 billing hours  
PHIL 152, Introduction to Ethics, 4 credits / 4 billing hours

- Mathematics – *Select one*  
MATH 120, College Algebra, 4 credits / 4 billing hours  
STAT 170, Introduction to Statistics, 4 credits / 4 billing hours
- Natural Sciences – *Select one from a discipline other than ANTH*  
BIOL 120, Environmental Science, 4 credits / 6 billing hours  
BIOL 125, Introductory Biology, 4 credits / 5 billing hours  
BIOL 270, Human Genetics, 3 credits / 3 billing hours  
CHEM 135, Chemistry in Society, 4 credits / 5 billing hours  
GEOL 230, Environmental Geology, 4 credits / 6 billing hours
- Social Sciences  
Program of Study Required Courses will meet this requirement

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
ANTH 120	Introduction to Anthropology	3 / 3
ANTH 270	Cultural Anthropology	3 / 3
ANTH 275	Physical Anthropology and Archaeology	4 / 4
SOCL 120	Introduction to Sociology	4 / 4

### Program of Study Required Courses, Limited Choice – *Select one*

Course Code	Course Title	Credit / Billing Hours
ANTH 271	Medical Anthropology	3 / 3
ANTH 272	Food and Sustainability	3 / 3
ANTH 280	Forensic Anthropology	3 / 3
SOCL 260	Race and Ethnicity	3 / 3

**Elective Courses, Recommended Choices** – *Select courses to reach the minimum 60 total credits required for this degree. Courses selected for General Education requirements can not be used for Elective credits. (For the full list of options, see [AA and AS Degree Electives](#))*

Course Code	Course Title	Credit / Billing Hours
BIOL 270	Human Genetics	3 / 3
COMM 280	Intercultural Communication	3 / 3
HONR 152	Honors Colloquy II	1 / 1
HONR 156	Community Service Practicum II	1 / 1
HUMS 140	Art of Being Human	4 / 4
HUMS 213	World Civilizations to 1600	4 / 4
HUMS 214	World Civilizations from 1600	4 / 4
POLS 260	Comparative Political Systems	3 / 3
POLS 270	International Relations	3 / 3
RELG 150	Intro to World Religions	4 / 4
RELG 212	Judaism, Christianity & Islam	4 / 4

Course Code	Course Title	Credit / Billing Hours
STAT 170	Introduction to Statistics	4 / 4

### Minimum Total Credit Hours

60 credits / 61 billing hours

### Recommended Course Sequence

Semester I
MTA English Composition
MTA Mathematics
ANTH 120 – Milestone course
SOCL 120 – Milestone course

Semester II
MTA English Comp (2nd course) or Communications
ANTH 270
Electives as needed for total credits

Semester III
MTA Humanities and Fine Arts
ANTH 275
Limited Choice
Electives as needed for total credits

Semester IV
MTA Humanities and Fine Arts
MTA Natural Sciences
Electives as needed for total credits

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*





## **Architecture Technologist A.A.S.**

Career Community: Building and Construction Trades

Curriculum Code: 1809

Effective: Fall 2022 – Summer 2027

Revised: 01/29/2023

### **Description**

The Architectural Technologist degree is designed to provide students with the skills to work in an entry-level position in the office of architects, engineers, and related professions. This program focuses on the varied day-to-day job responsibilities of an architectural staff member, including training in industry-standard software, construction methods, materials and practices, codes, graphic communication methods, and exposure to both residential and commercial building planning and design. In addition to gaining valuable employability skills in the classroom, the curriculum includes real-world experience via a workplace internship, giving the student a valuable “first job” in the profession of architecture.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of ARCH 114 and ARCH 118 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

Students who have already completed ELTE 102, HVAC 102, METS 102, TECH 102, or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for DCTM 102. Any of these courses may also be used to fulfill the prerequisite for ARCH 113.

### **Contact Information**

Contact the Architecture Technology Program at the West Campus Building, Room M103, telephone number (517) 483-5338 or Student Services West Campus, West Campus Building, Room M106, telephone number (517) 267-5452.

### **General Education - Applied Degrees, Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*  
ENGL 124, Technical Writing, 3 credits / 3 billing hours  
ENGL 127, Business Writing, 3 credits / 3 billing hours
- English Composition (Second Course)/Communications or Applied Communications – *Select one*  
COMM 110, Communication in the Workplace, 3 credits / 3 billing hours  
COMM 120, Dynamics of Communication, 3 credits / 3 billing hours

- Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one*  
 ARTS 102, Design & Communication, 3 credits / 3 billing hours  
 COMM 280, Intercultural Communication, 3 credits / 3 billing hours  
 HUMS 214, World Civ. From 1600, 4 credits / 4 billing hours  
 MGMT 234, Diversity in the Workplace, 3 credits / 3 billing hours  
 SOCL 120, Introduction to Sociology, 3 credits / 3 billing hours
- Mathematics or Applied Mathematics – *Select one*  
 MATH 115, Technical Mathematics, 4 credits / 4 billing hours
- Natural Sciences Lab or Applied Science and Technology Lab – *Select one*  
 PHYS 120, The Art of Physics, 4 credits / 5 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
ARCH 105	Architecture Appreciation	2 / 2
ARCH 110	Visual Communications I	3 / 4
ARCH 113	Materials and Methods of Construction	4 / 6
ARCH 114	Architectural Drawing/Basic CAD	4 / 6
ARCH 118	Architecture Design and Planning	4 / 6
ARCH 124	Architectural Drawing/CAD II	4 / 6
ARCH 146	Preservation Adaptive Use	3 / 4
ARCH 218	Commercial Arch Planning	4 / 6
ARCH 220	Commercial Arch Drawing	4 / 6
ARCH 233	Revit Architecture BIM	4 / 6
ARCH 243	Revit Architecture BIM II	4 / 6
ARCH 290	Architectural Internship	3 / 3
DCTM 101	Drafting/Intro to CAD	3 / 4
DCTM 102	Construction Safety	2 / 3
DCTM 103	Codes and Specifications	3 / 3

### Minimum Total Credit Hours

68 credits / 89 billing hours

## Recommended Course Sequence

Semester I (Fall)
Gen Ed – English or Applied English
ARCH 105
ARCH 110
ARCH 114 – Milestone course
DCTM 101

Semester II (Spring)
Gen Ed – English Composition (Second Course)/ Communications or Applied Communications
Gen Ed – Mathematics or Applied Mathematics
ARCH 118 – Milestone course
ARCH 146
DCTM 102

Semester III (Summer)
Gen Ed – Humanities and Fine Arts or Social Sciences or Applied Social Sciences
ARCH 290

Semester IV (Fall)
Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab
ARCH 113
ARCH 218
ARCH 233

Semester V (Spring)
ARCH 124
ARCH 220
ARCH 243
DCTM 103

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## **Architecture Technology A.A.S.**

Career Community: Building and Construction Trades

Curriculum Code: 1455

Effective: Fall 2022 – Summer 2027

Revised: 01/29/2023

### **Description**

The Architecture Technology degree is designed to prepare students to work in entry-level positions assisting in architecture or allied disciplines such as engineering, interior design, real estate development, and construction. The curriculum provides graduates with a broad foundation of technical abilities with an emphasis on job entry skill development, computer aided design, design creativity and awareness, and problem solving. Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of ARCH 107 and ARCH 114 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Contact Information**

Contact the Architecture Technology Program at the West Campus Building, Room M103, telephone number 517-483-5338 or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

### **General Education - Applied Degrees, Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*  
Program of Study Required Courses will meet this requirement.
- English Composition (Second Course)/Communications or Applied Communications – *Select one*  
COMM 110, Communication in the Workplace, 3 credits / 3 billing hours  
COMM 120, Dynamics of Communication, 3 credits / 3 billing hours
- Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one*  
ARTS 102, Design & Communication, 3 credits / 4 billing hours  
HUMS 160, Mythology, 4 credits / 4 billing hours  
HUMS 211, Art History to the Renaissance, 4 credits / 4 billing hours  
HUMS 212, Art Hist from the Renaissance, 4 credits / 4 billing hours

- Mathematics or Applied Mathematics – *Select one*  
MATH 122, Trigonometry, 4 credits / 4 billing hours  
MATH 126, Precalculus, 5 credits / 5 billing hours
- Natural Sciences Lab or Applied Science and Technology Lab – *Select one*  
PHYS 221, Introductory Physics I, 4 credits / 6 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
ARCH 105	Architecture Appreciation	2 / 2
ARCH 107	Sustainable Site Design	3 / 4
ARCH 110	Visual Communications I	3 / 4
ARCH 113	Materials & Methods of Constr.	4 / 6
ARCH 114	Architectural Drawing/CAD I	4 / 6
ARCH 126	Architecture Model Building	3 / 4
ARCH 141	History of Architecture I	3 / 3
ARCH 142	History of Architecture II	3 / 3
ARCH 233	Revit Architecture BIM I	4 / 6
CIVL 241	Statics/Strength of Materials	4 / 5
DCTM 102	Construction Safety	2 / 3
DCTM 103	Codes and Specifications	3 / 3
ENGL 127	Business Writing	3 / 3
MATH 151	Calculus I	4 / 4

### Program of Study Required Courses, Limited Choice – *Select one*

Course Code	Course Title	Credit / Billing Hours
ARCH 111	Arch Design Fundamentals	3 / 4
ARCH 125	Environmental Systems	4 / 4
ARCH 275	Sustainable Building Design	4 / 6
BLDT 120	Structural Framing	4 / 6
DCTM 101	Drafting/Intro to CAD	3 / 4

### Minimum Total Credit Hours

63 credits / 78 billing hours

### Recommended Course Sequence

Semester I (Fall)
Gen Ed – English Composition (Second Course)/Communications or Applied Communications
ARCH 105
ARCH 110
ARCH 114 – Milestone course
Limited Choice

Semester II (Spring)
Gen Ed – Mathematics or Applied Mathematics
ARCH 107 – Milestone course
ARCH 126
DCTM 102
Semester III (Summer)
Gen Ed – Humanities and Fine Arts or Social Sciences or Applied Social Sciences
ENGL 127
Semester IV (Fall)
Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab
ARCH 113
ARCH 141
ARCH 233
Semester V (Spring)
ARCH 142
CIVL 241
DCTM 103
MATH 151

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## **Art Foundation A.A.**

Career Community: Art, Design, and Media

Curriculum Code: 1716

Effective: Fall 2022 – Summer 2027

### **Description**

This degree is designed for students who intend to transfer to a four-year college or university to pursue a baccalaureate degree in this subject area. Students completing this curriculum will also satisfy the Michigan Transfer Agreement (MTA) between two-year and four-year institutions in Michigan and qualify for an LCC Transfer Studies Certificate of Achievement (1482).

### **Milestone**

In addition to the required General Education courses in Math and English, completion of ARTS 102, ARTS 103, and ARTS 131 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

A student must earn a minimum grade of 2.0 in all courses.

### **Contact Information**

Contact the Communication, Media and the Arts Department, Gannon Building, Room 1222, telephone number 517-483-1546 or the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

### **General Education – Transfer Degrees (MTA), Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours  
ENGL 131, Honors Composition I, 4 credits / 4 billing hours
- English Composition (second course) or Communication – *Select one*  
COMM 110, Communication in the Workplace, 3 credits / 3 billing hours  
COMM 120, Dynamics of Communication, 3 credits / 3 billing hours  
COMM 130, Fundamentals Public Speaking, 3 credits / 3 billing hours  
ENGL 122, Composition II, 4 credits / 4 billing hours
- Humanities and Fine Arts – *Select one from a discipline other than ARTS*  
HUMS 120, Masterpieces of Art & Music, 4 credits / 4 billing hours  
HUMS 211, Art History to the Renaissance, 4 credits / 4 billing hours  
HUMS 212, Art Hist from the Renaissance, 4 credits / 4 billing hours

- Mathematics – *Select one*  
MATH 119, Math - Applications for Living, 4 credits / 4 billing hours  
MATH 120, College Algebra, 4 credits / 4 billing hours
- Natural Sciences – *Select two, each from a different discipline, one must be a lab course*  
ASTR 201, Introductory Astronomy, 4 credits / 5 billing hours  
BIOL 120, Environmental Science, 4 credits / 6 billing hours  
BIOL 125, Introductory Biology, 4 credits / 5 billing hours  
CHEM 135, Chemistry in Society, 4 credits / 5 billing hours  
GEOG 221, Physical Geography, 4 credits / 4 billing hours  
GEOL 230, Environmental Geology, 4 credits / 6 billing hours  
ISCI 131, Integrated Physical Science, 4 credits / 6 billing hours  
PHYS 120, The Art of Physics, 4 credits / 5 billing hours
- Social Sciences – *Select two, each from a different discipline*  
ANTH 270, Cultural Anthropology, 3 credits / 3 billing hours  
COMM 280, Intercultural Communication, 3 credits / 3 billing hours  
PSYC 200, Introduction to Psychology, 4 credits / 4 billing hours  
SOCL 120, Introduction to Sociology, 4 credits / 4 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
ARTS 102	Design & Communication	3 / 4
ARTS 103	Spatial Dynamics I	3 / 4
ARTS 131	Drawing I	3 / 4
ARTS 132	Figure Drawing	3 / 4
ARTS 151	Color and Design	3 / 4
ARTS 200	Painting I	3 / 4

**Elective Courses, Recommended Choices** – *Select courses to reach the minimum 60 total credits required for this degree.* (For the full list of options, see [AA and AS Degree Electives](#))

Course Code	Course Title	Credit / Billing Hours
ARTS 153	Drawing II	3 / 4
ARTS 162	Type Communications	3 / 4
ARTS 171	Adobe Photoshop	3 / 4
HUMS 120	Masterpieces of Art & Music	4 / 4
HUMS 211	Art History to the Renaissance	4 / 4
HUMS 212	Art Hist from the Renaissance	4 / 4
HUMS 216	Contemporary Art	4 / 4

### Minimum Total Credit Hours

60 credits / 67 billing hours



## Recommended Course Sequence

Semester I
MTA English Composition
MTA Mathematics
ARTS 102 – Milestone course
ARTS 131 – Milestone course
Elective

Semester II
MTA English Comp (2nd course) or Communications
MTA Humanities and Fine Arts
MTA Social Science
ARTS 103 – Milestone course
ARTS 132

Semester III
MTA Natural Sciences
MTA Social Sciences
ARTS 151
ARTS 200

Semester IV
MTA Natural Sciences
Electives as needed for total credits

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## **Art History A.A.**

Career Community: History, Humanities, and English

Curriculum Code: 0746

Effective: Fall 2022 – Summer 2027

### **Description**

This degree is designed for students who intend to transfer to a four-year college or university to pursue a baccalaureate degree in this subject area. Students completing this curriculum will also satisfy the Michigan Transfer Agreement (MTA) between two-year and four-year institutions in Michigan and qualify for an LCC Transfer Studies Certificate of Achievement (1482).

### **Milestone**

In addition to the required General Education courses in Math and English, completion of HUMS 211 and HUMS 212 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses may be the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

A student must earn a minimum grade of 2.0 in all courses.

### **Contact Information**

Contact the Social Science and Humanities Department, Arts and Sciences Building, Room 2203, telephone number 517-483-1061 or the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

### **General Education – Transfer Degrees (MTA), Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours  
ENGL 131, Honors Composition I, 4 credits / 4 billing hours
- English Composition (second course) or Communications – *Select one*  
COMM 120, Dynamics of Communication, 3 credits / 3 billing hours  
COMM 130, Fundamentals Public Speaking, 3 credits / 3 billing hours  
ENGL 122, Composition II, 4 credits / 4 billing hours  
ENGL 132, Honors Composition II, 4 credits / 4 billing hours
- Humanities and Fine Arts  
Program of Study Required Courses will meet this requirement
- Mathematics – *Select one*  
MATH 120, College Algebra, 4 credits / 4 billing hours  
STAT 170, Introduction to Statistics, 4 credits / 4 billing hours

- Natural Sciences – *Select two, each from a different discipline, one must be a lab course*  
 ASTR 201, Introductory Astronomy, 4 credits / 5 billing hours  
 BIOL 120, Environmental Science, 4 credits / 6 billing hours  
 BIOL 125, Introductory Biology, 4 credits / 5 billing hours  
 CHEM 135, Chemistry in Society, 4 credits / 5 billing hours  
 GEOG 221, Physical Geography, 4 credits / 4 billing hours  
 GEOL 230, Environmental Geology, 4 credits / 6 billing hours  
 ISCI 131, Integrated Physical Science, 4 credits / 6 billing hours  
 PHYS 120, The Art of Physics, 4 credits / 5 billing hours
- Social Sciences – *Select two, each from a different discipline*  
 ANTH 270, Cultural Anthropology, 3 credits / 3 billing hours  
 COMM 280, Intercultural Communication, 3 credits / 3 billing hours  
 GEOG 200, World Regional Geography, 4 credits / 4 billing hours  
 PSYC 200, Introduction to Psychology, 4 credits / 4 billing hours  
 SOCL 120, Introduction to Sociology, 4 credits / 4 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
HUMS 120	Masterpieces of Art & Music	4 / 4
HUMS 160	Mythology	4 / 4
HUMS 211	Art History to the Renaissance	4 / 4
HUMS 212	Art Hist from the Renaissance	4 / 4

**Program of Study Required Courses, Limited Choice** – *Select two. ENGL 240, PHIL 101, or RELG 150 will meet the General Education Humanities and Fine Arts requirements.*

Course Code	Course Title	Credit / Billing Hours
ENGL 240	The Film as Art	4 / 4
HUMS 216	Contemporary Art	4 / 4
PHIL 101	Introduction to Philosophy	3 / 3
RELG 150	Intro to World Religions	4 / 4

**Elective Courses, Recommended Choices** – *Select courses to reach the minimum 60 total credits required for this degree. (For the full list of options, see [AA and AS Degree Electives](#))*

Course Code	Course Title	Credit / Billing Hours
ARTS 102	Design & Communication	3 / 4
ENGL 211	World Literature I	4 / 4
ENGL 212	World Literature II	4 / 4
FREN 121	Elementary French I	4 / 4
FREN 122	Elementary French II	4 / 4
GRMN 121	Elementary German I	4 / 4
GRMN 122	Elementary German II	4 / 4
HIST 235	Modern European History	4 / 4
HUMS 215	American Cultural Experience	4 / 4

Course Code	Course Title	Credit / Billing Hours
HUMS 213	World Civilizations to 1600	4 / 4
HUMS 214	World Civilizations from 1600	4 / 4
RELG 211	Asian Religions and Traditions	4 / 4

### Minimum Total Credit Hours

60 credits / 61 billing hours

### Recommended Course Sequence

Semester I
MTA English Composition
MTA Natural Sciences
HUMS 120
Limited Choice

Semester II
MTA English Comp (2 <sup>nd</sup> course) or Communications
MTA Mathematics
HUMS 160
HUMS 211 – Milestone course
Electives as needed for total credits

Semester III
MTA Social Sciences
HUMS 212 – Milestone course
Limited Choice
Electives as needed for total credits

Semester IV
MTA Natural Sciences
MTA Social Sciences
Electives as needed for total credits

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## **Automotive Technologies A.A.S.**

Career Community: Transportation

Curriculum Code: 1791

Effective: Fall 2022 – Summer 2027

### **Description**

There is a need for highly skilled automotive technicians because automobiles are more complex than ever, and are being kept for a record-breaking length of time. This Associate Degree will give students the training needed to diagnose, repair, and maintain the automobiles of today, as well as the automobiles of tomorrow. Students explore various aspects of modern automobile theory and operation, diagnosis, repair, and maintenance for all major systems of the vehicle. Students will be trained with the newest and latest tools and equipment in a realistic hands-on laboratory environment.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of AUTM 111 and AUTM 131 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

Approximately 70% of the instruction is hands-on laboratory time, and all lab and lectures feature class sizes of less than 16 students to provide generous personal interaction with your instructors. All instructors are ASE certified, and bring their extensive years of experience working within the automotive repair industry to the classroom. All students have the opportunity to take State of Michigan as well as the nationally recognized ASE tests throughout this program to become a certified automotive technician. To assist students with their career goals, LCC Automotive covers the cost of State and ASE tests as well as the cost of most of their automotive textbooks. Select general education courses compliment this degree.

The Automotive Technology Program is a National Automotive Technicians Education Foundation (NATEF) Certified Training Program, evaluated by the National Institute for Automotive Service Excellence (ASE). The Automotive Program is a Snap-On Diagnostics Training Center and a member of the National Alternative Fuels Training Consortium (NAFTC).

Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

Students completing this curriculum may also be eligible to apply for multiple certificates in Automotive Technologies.

## Contact Information

Contact the Automotive Technology Program, West Campus Building, Room M103, telephone number 517-267-6406, or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

## General Education - Applied Degrees, Recommended Courses

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*  
ENGL 124, Technical Writing, 3 credits / 3 billing hours
- English Composition (Second Course)/Communications or Applied Communications – *Select one*  
COMM 110, Communication in the Workplace, 3 credits / 3 billing hours
- Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one*  
MGMT 234, Diversity in the Workplace, 3 credits / 3 billing hours
- Mathematics or Applied Mathematics – *Select one*  
MATH 115, Technical Math II, 4 credits / 4 billing hours
- Natural Sciences Lab or Applied Science and Technology Lab – *Select one*  
PHYS 200, Intro to Applied Physics, 4 credits / 5 billing hours

## Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
AUTM 102	Automotive/Collision Safety	1 / 1
AUTM 111	Automotive Electrical I	4 / 6
AUTM 113	Automotive Electrical II	4 / 6
AUTM 125	Manual Drive Train and Axles	4 / 6
AUTM 126	Automatic Transmissions	4 / 6
AUTM 131	Automotive Engine Repair	4 / 6
AUTM 141	Braking Systems and ABS	4 / 6
AUTM 151	Suspension and Steering	4 / 6
AUTM 161	Auto Heating/Air Conditioning	4 / 6
AUTM 180	Intro to Alternative Fuels	2 / 2
AUTM 211	Automotive Electrical III	4 / 6
AUTM 270	Gas Eng Drivability Diagnosis	4 / 6
AUTM 273	Lt. Diesel Drivability Diag.	4 / 6
AUTM 275	Ignition/Emission Sys Diag	4 / 6
AUTM 284	Hybrid Systems & Maintenance	4 / 6

## Minimum Total Credit Hours

72 credits / 99 billing hours

## Recommended Course Sequence

Semester I (Fall)
Gen Ed – English Composition or Applied English
AUTM 102
AUTM 111 – Milestone course
AUTM 141
AUTM 151

Semester II (Spring)
AUTM 113
AUTM 131 – Milestone course
AUTM 161
AUTM 211

Semester III (Summer)
Gen Ed – English Composition (Second Course)/Communications or Applied Communications
Gen Ed – Mathematics or Applied Mathematics

Semester IV (Fall)
Gen Ed – Humanities and Fine Arts or Social Sciences or Applied Social Sciences
AUTM 125
AUTM 126
AUTM 180
AUTM 270

Semester V (Spring)
Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab
AUTM 273
AUTM 275
AUTM 284

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## **Automotive Technologies C.A.**

Career Community: Transportation

Curriculum Code: 1790

Effective: Fall 2022 – Summer 2027

### **Description**

There is a need for highly skilled automotive technicians because automobiles are more complex than ever, and are being kept for a record-breaking length of time. This Certificate will give students the training needed to diagnose, repair, and maintain the automobiles of today, as well as the automobiles of tomorrow. Certificate holders may improve their employment opportunities for advancement in this or a related area. Students explore various aspects of modern automobile theory and operation, diagnosis, repair, and maintenance for all major systems of the vehicle. Students will be trained with the newest and latest tools and equipment in a realistic hands-on laboratory environment.

### **Milestone**

Completion of AUTM 111 and AUTM 131 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

Approximately 70% of the instruction is hands-on laboratory time, and all lab and lectures feature class sizes of less than 16 students to provide generous personal interaction with your instructors. All instructors are ASE certified, and bring their extensive years of experience working within the automotive repair industry to the classroom. All students have the opportunity to take State of Michigan as well as the nationally recognized ASE tests throughout this program to become a certified automotive technician. To assist students with their career goals, LCC Automotive covers the cost of State and ASE tests as well as the cost of most of their automotive textbooks.

The Automotive Technology Program is a National Automotive Technicians Education Foundation (NATEF) Certified Training Program, evaluated by the National Institute for Automotive Service Excellence (ASE). The Automotive Program is a Snap-On Diagnostics Training Center and a member of the National Alternative Fuels Training Consortium (NAFTC).

Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

### **Contact Information**

Contact the Automotive Technology Program, West Campus Building, Room M103, telephone number 517-267-6406, or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.



## Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
AUTM 102	Automotive/Collision Safety	1 / 1
AUTM 111	Automotive Electrical I	4 / 6
AUTM 113	Automotive Electrical II	4 / 6
AUTM 131	Automotive Engine Repair	4 / 6
AUTM 141	Braking Systems and ABS	4 / 6
AUTM 151	Suspension and Steering	4 / 6
AUTM 161	Auto Heating/Air Conditioning	4 / 6
AUTM 211	Automotive Electrical III	4 / 6
AUTM 270	Gas Eng Drivability Diagnosis	4 / 6
AUTM 273	Lt. Diesel Drivability Diag.	4 / 6
AUTM 275	Ignition/Emissions Sys Diag	4 / 6

## Minimum Total Credit Hours

41 credits / 61 billing hours

## Recommended Course Sequence

Semester I
AUTM 102
AUTM 111 – Milestone course
AUTM 141
AUTM 151

Semester II
AUTM 113
AUTM 131 – Milestone course
AUTM 161
AUTM 211

Semester III
AUTM 270
AUTM 273
AUTM 275

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## **Automotive Technology: Advanced Electric Drive/Alternative Fuels C.A.**

Career Community: Transportation

Curriculum Code: 1792

Effective: Fall 2022 – Summer 2027

### **Description**

There is a need for highly skilled automotive technicians because automobiles are more complex than ever, and are being kept for a record-breaking length of time. This Advanced Electric Drive-Alternative Fuels Certificate will give students the training needed to diagnose, repair, and maintain the automobiles of today, as well as the automobiles of tomorrow. Certificate holders may improve their employment opportunities for advancement in this or a related area. Students will study theory and operation, diagnosis, repair, and maintenance of modern automobile hybrid/electric vehicles, and alternative fueled vehicles. Students will be trained with the newest and latest tools and equipment in a realistic hands-on laboratory environment.

### **Milestone**

Completion of AUTM 111 and AUTM 180 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

Approximately 70% of the instruction is hands-on laboratory time, and all lab and lectures feature class sizes of less than 16 students to provide generous personal interaction with your instructors. All instructors are ASE certified, and bring their extensive years of experience working within the automotive repair industry to the classroom. All students have the opportunity throughout this program to take State of Michigan as well as the nationally recognized ASE tests to become a certified automotive technician. To assist students with their career goals, LCC Automotive covers the cost of State and ASE tests for these specialty areas. Most automotive textbooks are provided as part of this Certificate.

The Automotive Technology Program is a National Automotive Technicians Education Foundation (NATEF) Certified Training Program, evaluated by the National Institute for Automotive Service Excellence (ASE). The Automotive Program is a Snap-On Diagnostics Training Center and a member of the National Alternative Fuels Training Consortium (NAFTC).

Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

## Contact Information

Contact the Automotive Technology Program, West Campus Building, Room M103, telephone number 517-267-6406, or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

## Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
AUTM 102	Automotive/Collision Safety	1 / 1
AUTM 111	Automotive Electrical I	4 / 6
AUTM 113	Electrical II	4 / 6
AUTM 180	Intro. to Alternative Fuels	2 / 2
AUTM 211	Automotive Electrical III	4 / 6
AUTM 270	Gas Eng Drivability Diagnosis	4 / 6
AUTM 280	Electric/Fuel Cell Technology	2 / 2.5
AUTM 282	Gaseous Fuels	3 / 4
AUTM 284	Hybrid Systems & Maintenance	4 / 6
AUTM 286	High Voltage Battery Tech	4 / 6
AUTM 288	High Voltage Management	4 / 7

## Minimum Total Credit Hours

36 credits / 52.5 billing hours

## Recommended Course Sequence

Semester I
AUTM 102
AUTM 111 – Milestone course
AUTM 113
AUTM 180 – Milestone course

Semester II
AUTM 211
AUTM 280
AUTM 282

Semester III
AUTM 270
AUTM 284
AUTM 286
AUTM 288

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## **Automotive Technology: Brakes and Suspension Systems Specialist C.C.**

Career Community: Transportation

Curriculum Code: 1793

Effective: Fall 2022 – Summer 2027

### **Description**

There is a need for highly skilled automotive technicians because automobiles are more complex than ever, and are being kept for a record-breaking length of time. This Brakes and Suspension Certificate will give students the training needed to diagnose, repair, and maintain the automobiles of today, as well as the automobiles of tomorrow. Certificate holders may improve their employment opportunities for advancement in this or a related area. Students will study theory and operation, diagnosis, repair, and maintenance of modern automobile Brakes/ABS and Suspension systems. Students will be trained with the newest and latest tools and equipment in a realistic hands-on laboratory environment.

### **Milestone**

Completion of AUTM 141 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in this course.

### **Additional Information**

Approximately 70% of the instruction is hands-on laboratory time, and all lab and lectures feature class sizes of less than 16 students to provide generous personal interaction with your instructors. All instructors are ASE certified, and bring their extensive years of experience working within the automotive repair industry to the classroom. Students have the opportunity throughout this program to take State of Michigan as well as the nationally recognized ASE tests to become a certified automotive technician. To assist students with their career goals, LCC Automotive covers the cost of State and ASE tests for these specialty areas. Most automotive textbooks are provided as part of this Certificate.

The Automotive Technology Program is a National Automotive Technicians Education Foundation (NATEF) Certified Training Program, evaluated by the National Institute for Automotive Service Excellence (ASE). The Automotive Program is a Snap-On Diagnostics Training Center and a member of the National Alternative Fuels Training Consortium (NAFTC).

Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

### Contact Information

Contact the Automotive Technology Program, West Campus Building, Room M103, telephone number 517-267-6406, or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
AUTM 102	Automotive/Collision Safety	1 / 1
AUTM 111	Automotive Electrical I	4 / 6
AUTM 141	Braking Systems and ABS	4 / 6
AUTM 151	Suspension and Steering	4 / 6

### Minimum Total Credit Hours

13 credits / 19 billing hours

### Recommended Course Sequence

Semester I
AUTM 102
AUTM 111
AUTM 141 – Milestone course
AUTM 151

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## **Automotive Technology: Electrical and HVAC Diagnostic Specialist C.C.**

Career Community: Transportation

Curriculum Code: 1794

Effective: Fall 2022 – Summer 2027

### **Description**

There is a need for highly skilled automotive technicians because automobiles are more complex than ever, and are being kept for a record-breaking length of time. This Electrical and HVAC certificate will give students the training needed to diagnose, repair, and maintain the automobiles of today, as well as the automobiles of tomorrow. Certificate holders may improve their employment opportunities for advancement in this or a related area. Students will study theory and operation, diagnosis, repair, and maintenance of modern automobile electrical and heat/air conditioning systems. Students will be trained with the newest and latest tools and equipment in a realistic hands-on laboratory environment.

### **Milestone**

Completion of AUTM 111 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in this course.

### **Additional Information**

Approximately 70% of the instruction is hands-on laboratory time, and all lab and lectures feature class sizes of less than 16 students to provide generous personal interaction with your instructors. All instructors are ASE certified, and bring their extensive years of experience working within the automotive repair industry to the classroom. All students have the opportunity throughout this program to take State of Michigan as well as the nationally recognized ASE tests to become a certified automotive technician. To assist students with their career goals, LCC Automotive covers the cost of State and ASE tests for these specialty areas. Most automotive textbooks are provided as part of this Certificate.

The Automotive Technology Program is a National Automotive Technicians Education Foundation (NATEF) Certified Training Program, evaluated by the National Institute for Automotive Service Excellence (ASE). The Automotive Program is a Snap-On Diagnostics Training Center and a member of the National Alternative Fuels Training Consortium (NAFTC).

Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

### Contact Information

Contact the Automotive Technology Program, West Campus Building, Room M103, telephone number 517-267-6406, or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
AUTM 102	Automotive/Collision Safety	1 / 1
AUTM 111	Automotive Electrical I	4 / 6
AUTM 113	Electrical II	4 / 6
AUTM 161	Auto Heating/Air Conditioning	4 / 6
AUTM 211	Automotive Electrical III	4 / 6

### Minimum Total Credit Hours

17 credits / 25 billing hours

### Recommended Course Sequence

Semester I
AUTM 102
AUTM 111 – Milestone course
AUTM 113
Semester II
AUTM 161
AUTM 211

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## **Automotive Technology: Engine and Transmission Overhaul Specialist C.C.**

Career Community: Transportation

Curriculum Code: 1795

Effective: Fall 2022 – Summer 2027

### **Description**

There is a need for highly skilled automotive technicians because automobiles are more complex than ever, and are being kept for a record-breaking length of time. This Engine and Transmission Certificate will give students the training needed to diagnose, repair, and maintain the automobiles of today, as well as the automobiles of tomorrow. Certificate holders may improve their employment opportunities for advancement in this or a related area. Students will study theory and operation, diagnosis, repair, and maintenance of modern automobile Engines, Transmissions, and Drivelines. Students will be trained with the newest and latest tools and equipment in a realistic hands-on laboratory environment.

### **Milestone**

Completion of AUTM 125 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in the course.

### **Additional Information**

Approximately 70% of the instruction is hands-on laboratory time, and all lab and lectures feature class sizes of less than 16 students to provide generous personal interaction with your instructors. All instructors are ASE certified, and bring their extensive years of experience working within the automotive repair industry to the classroom. All students have the opportunity throughout this program to take State of Michigan as well as the nationally recognized ASE tests to become a certified automotive technician. To assist students with their career goals, LCC Automotive covers the cost of State and ASE tests for these specialty areas. Most automotive textbooks are provided as part of this Certificate.

The Automotive Technology Program is a National Automotive Technicians Education Foundation (NATEF) Certified Training Program, evaluated by the National Institute for Automotive Service Excellence (ASE). The Automotive Program is a Snap-On Diagnostics Training Center and a member of the National Alternative Fuels Training Consortium (NAFTC).

Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.



### Contact Information

Contact the Automotive Technology Program, West Campus Building, Room M103, telephone number 517-267-6406, or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
AUTM 102	Automotive/Collision Safety	1 / 1
AUTM 111	Automotive Electrical I	4 / 6
AUTM 125	Manual Drive Train and Axles	4 / 6
AUTM 126	Automatic Transmissions	4 / 6
AUTM 131	Automotive Engine Repair	4 / 6

### Minimum Total Credit Hours

17 credits / 25 billing hours

### Recommended Course Sequence

Semester I
AUTM 102
AUTM 111
AUTM 125 – Milestone course

Semester II
AUTM 126
AUTM 131

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## **Automotive Technology: Engine Performance and Drivability Specialist C.C.**

Career Community: Transportation

Curriculum Code: 1796

Effective: Fall 2022 – Summer 2027

### **Description**

There is a need for highly skilled automotive technicians because automobiles are more complex than ever, and are being kept for a record-breaking length of time. This Engine Performance and Drivability Certificate will give students the training needed to diagnose, repair, and maintain the automobiles of today, as well as the automobiles of tomorrow. Certificate holders may improve their employment opportunities for advancement in this or a related area. Students will study the theory and operation, diagnosis, repair, and maintenance within the automobile drivability and engine performance specialty areas. Students will be trained with the newest and latest tools and equipment in a realistic hands-on laboratory environment.

### **Milestone**

Completion of AUTM 111 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in this course.

### **Additional Information**

Approximately 70% of the instruction is hands-on laboratory time, and all lab and lectures feature class sizes of less than 16 students to provide generous personal interaction with your instructors. All instructors are ASE certified, and bring their extensive years of experience working within the automotive repair industry to the classroom. All students have the opportunity to take State of Michigan as well as the nationally recognized ASE tests throughout this program to become a certified automotive technician. To assist students with their career goals, LCC Automotive covers the cost of State and ASE tests for these specialty areas. Most automotive textbooks are provided as part of this Certificate.

The Automotive Technology Program is a National Automotive Technicians Education Foundation (NATEF) Certified Training Program, evaluated by the National Institute for Automotive Service Excellence (ASE). The Automotive Program is a Snap-On Diagnostics Training Center and a member of the National Alternative Fuels Training Consortium (NAFTC).

Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

## Contact Information

Contact the Automotive Technology Program, West Campus Building, Room M103, telephone number 517-267-6406, or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

## Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
AUTM 102	Automotive/Collision Safety	1 / 1
AUTM 111	Automotive Electrical I	4 / 6
AUTM 113	Automotive Electrical II	4 / 6
AUTM 211	Automotive Electrical III	4 / 6
AUTM 270	Gas Eng Drivability Diagnosis	4 / 6
AUTM 273	Lt. Diesel Drivability Diag.	4 / 6
AUTM 275	Ignition/Emission Sys Diag.	4 / 6

## Minimum Total Credit Hours

25 credits / 37 billing hours

## Recommended Course Sequence

Semester I
AUTM 102
AUTM 111 - Milestone course
Semester II
AUTM 113
AUTM 211
Semester III
AUTM 270
AUTM 273
AUTM 275

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## Basic Aviation Technology C.C.

Career Community: Transportation

Curriculum Code: 1037

Effective: Fall 2022 – Summer 2027

### Description

This certificate of completion enables a non-licensed individual to develop the knowledge and understanding of basic aviation maintenance practices used to maintain aircraft in accordance with the Title 14 Code of Federal Aviation Regulations. While enrolled in this program, students will learn the basic science and technical knowledge necessary to repair and maintain modern aerospace vehicles. Graduates will have demonstrated technical abilities in aircraft ground handling and servicing, aircraft fueling procedures, parking and mooring, equipment nomenclature and identification, unapproved parts identification, and airport operations. Completion of this certificate may be applied to the Airframe and Powerplant License provided the student meets the requirements of the Federal Aviation Regulation Part 147.

### Contact Information

Contact the Aviation Technology Program at the Mason-Jewett Field, 661 Aviation Drive, Mason, telephone number 517-483-1406.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
AVGM 111	Aviation General I	4 / 5
AVGM 112	Aviation General II	6 / 8
AVGM 113	Aviation General III	4 / 5
AVGM 114	Materials and Processes	5 / 7

### Minimum Total Credit Hours

19 credits / 25 billing hours

### Recommended Course Sequence

Semester I (Fall)
AVGM 111
AVGM 112
AVGM 113
AVGM 114

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## Basic Emergency Medical Technician C.C.

Career Community: Health and Human Service Careers

Curriculum Code: 1817

Effective: Fall 2022 – Summer 2024

### Description

All Emergency Medical Services courses are approved by the Michigan Department of Health and Human Services. Basic Emergency Medical Technicians are members of the health care team in the pre-hospital emergency care setting. EMT personnel staff ambulances and are also employed in hospitals, industry, and other public service agencies. They are expected to respond rapidly and effectively to many forms of trauma and medical emergencies and work in close contact with emergency physicians. The job is often fast-paced and always challenging. State licensing is required. Daytime and evening course options are available to students.

### Milestone

Completion of EMTA 101 and EMTA 102 with a 3.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Additional Information

To be eligible to receive the Basic Emergency Medical Technician Certificate of Completion and apply for National Registry of Emergency Medical Technicians (NREMT) Certification, all courses in this curriculum must be completed with a 3.0 grade or better.

### Contact Information

Contact the Emergency Medical Services Program, Health and Human Services Building, Room 108, telephone number 517-483-1410, or the Academic Advising Department, Gannon Building – StarZone, telephone number 517-483-1904.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
EMTA 101	Basic EMT I	4 / 4
EMTA 102	Basic EMT II	2 / 4
EMTA 103	Basic EMT III	4 / 4
EMTA 104	Basic EMT IV	2 / 4
EMTA 112	Basic EMT Clinical	4 / 4

### Minimum Total Credit Hours

16 credits / 20 billing hours

**Required Course Sequence for EMT Daytime Academy**

Semester I
EMTA 101 – Milestone course
EMTA 102 – Milestone course
EMTA 103
EMTA 104
EMTA 112

**Required Course Sequence for EMT Night Academy**

Semester I (Fall)
EMTA 101 – Milestone course
EMTA 102 – Milestone course

Semester II (Spring)
EMTA 103
EMTA 104
EMTA 112

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## Biological Laboratory Techniques C.C.

Career Community: Science and Mathematics

Curriculum Code: 1608

Effective: Fall 2022 – Summer 2027

### Description

The Biological Laboratory Techniques certificate is a laboratory-intensive curriculum which emphasizes the wide-ranging applications of recombinant DNA technology (genetic engineering) including the preparation of purified DNA, Polymerase Chain Reaction, and DNA "fingerprinting". Graduates will be able to work in many areas of biotechnology, such as human genetic disease research, improvement of disease-resistance in plants, enhanced crop production, pharmaceutical research, biological cleanup of environmental pollution, forensic science, or genome sequencing projects. If you plan to transfer to a four-year school, please see an academic advisor before enrolling. Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course. This certificate program is designed for students interested in molecular biology, biochemistry, genetics, biotechnology, and forensic technologies, and is used to supplement and strengthen S.T.E.M. laboratory skills in other degree programs.

### Milestone

Completion of BIOL 127, CHEM 151, and CHEM 161 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Additional Information

BIOL 275 is only offered during Fall semester; BIOL 276 and ISCI 245 are only offered during Spring semester.

### Contact Information

Contact the Science Department, Arts and Sciences Building, Room 3203, telephone number 517-483-1092, or the Academic Advising Center, Gannon Building – StarZone, telephone number 517-483-1904.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
BIOL 127	Cell Biology	4 / 6
BIOL 203	Microbiology	3 / 3
BIOL 204	Microbiology Laboratory	1 / 3
BIOL 275	Molecular Biology I	4 / 6
BIOL 276	Molecular Biology II	4 / 6
CHEM 151	General Chemistry Lecture I	4 / 4
CHEM 161	General Chemistry Lab I	1 / 3

Course Code	Course Title	Credit / Billing Hours
ISCI 245	S.T.E.M. Workplace Practices	4 / 6

### Minimum Total Credit Hours

25 credits / 37 billing hours

### Recommended Course Sequence

Semester I
BIOL 127 – Milestone course
CHEM 151 – Milestone course
CHEM 161 – Milestone course

Semester II (Fall)
BIOL 203
BIOL 204
BIOL 275

Semester III (Spring)
BIOL 276
ISCI 245

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## **Biology A.S.**

Career Community: Science and Mathematics

Curriculum Code: 0221

Effective: Fall 2022 – Summer 2027

### **Purpose of Major**

This degree is designed for students who plan to transfer to a four-year university to pursue a baccalaureate degree in Biology with a variety of concentrations. Students completing this curriculum will also satisfy Michigan Transfer Agreement (MTA) between two-year and four-year institutions in Michigan and qualify for an LCC Transfer Studies Certificate of Achievement (1482). This degree includes a set of courses common to all Science and Mathematics majors and many transfer institutions. Students are encouraged to work with an academic advisor and program advisor to explore transfer opportunities.

Not all courses in this pathway transfer to all colleges. Students who wish to transfer to a four-year institution should select coursework indicated for that institution.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of BIOL 127 and 128, and CHEM 151 and CHEM 161 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

- *A student must earn a minimum grade of 2.0 in all courses.*
- *Note: the electives BIOL 260 and BIOL 275 are only offered in Fall semester*

### **Contact Information**

Contact the Science Department, Arts and Sciences Building, Room 3203, telephone number 517-483-1092, or the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

### **General Education – Transfer Degrees (MTA) - Recommended Courses**

Select courses as indicated for specific transfer institutions and majors. These courses are preferred General Education courses listed on Transfer Articulation agreements. The recommended courses in each General Education category also meet Michigan Transfer Agreement (MTA) requirements. If no course is indicated, choose from the list of options under [General Education](#). A minimum grade of 2.0 is required for each General Education course.

- English Composition  
ENGL 121 or ENGL 131 meets this requirement.

- English Composition (second course)/Communications  
COMM 130, ENGL 122, or ENGL 132 meets this requirement.
- Humanities and Fine Arts  
Program of Study Required Courses meets this requirement.
- Mathematics  
Program of Study Required Courses meets this requirement.
- Natural Sciences  
Career Community and Program of Study Required Courses meets this requirement.
- Social Sciences  
Career Community and Program of Study Required Courses meets this requirement.

**Science and Math Career Community Courses** – These courses are required for all Science and Math programs. They should be taken before other Program Required or Limited Choice Courses. Some courses meet General Education requirements for Michigan Transfer Agreement (MTA).

Course Code	Course Title	Credit / Billing Hours
ACAD 100	First Year College Experience	1 / 1
ANTH 270 or	Cultural Anthropology	3 / 3
ECON 120 or	Power, Authority, and Exchange	4 / 4
ECON 201 or	Principles of Economics: Micro	4 / 4
EDUC 204 or	Educational Psychology	3 / 3
EDUC 220 or	Introduction to Education	3 / 3
GEOG 120 or	Introduction to Geography	3 / 3
GEOG 200 or	World Regional Geography	4 / 4
POLS 120 or	American Political System	3 / 3
POLS 240 or	Introduction to Public Policy	3 / 3
POLS 260 or	Comparative Political Systems	4 / 4
PSYC 200 or	Introduction to Psychology	4 / 4
SOCL 120	Introduction to Sociology	4 / 4
BIOL 120 or	Environmental Science	4 / 6
BIOL 127 or	Cell Biology	4 / 6
GEOL 221 or	Physical Geology	4 / 6
GEOL 230 or	Environmental Geology	4 / 6
PHYS 251	Physics I with Calculus	5 / 7
CHEM 151	General Chemistry Lecture I	4 / 4
CHEM 161	General Chemistry Lab I	1 / 3
COMM 130 or	Fundamentals Public Speaking	3 / 3
ENGL 122 or	Composition II	4 / 4

Course Code	Course Title	Credit / Billing Hours
ENGL 132	Honors Composition II	4 / 4
ENGL 121 or ENGL 131	Composition I Honors Composition I	4 / 4 4 / 4
MATH 120 or MATH 126 or MATH 151	College Algebra Precalculus Calculus I	4 / 4 5 / 5 4 / 4

Notes:

ACAD 100 may be waived based on the recommendation of a Program Advisor.

For future transfer (all majors) to:

- Central Michigan University, Ferris State University, Grand Valley State University and Michigan State University choose BIOL 127, COMM 130, and MATH 126-
- Eastern Michigan University, University of Michigan Flint, and Western Michigan University choose BIOL 127, ENGL 122 and MATH 126.

Students considering adding Secondary Education Certification in Math or Science in order to teach in Michigan Public Schools are strongly encouraged to select EDUC courses as listed to meet the Michigan Transfer Agreement (MTA) Social Science requirement.

For future transfer (Secondary Education Certification) to:

- Central Michigan University, Ferris State University, or Michigan State University choose EDUC 204.
- Eastern Michigan University, Grand Valley State University, University of Michigan Flint, or Western Michigan University choose EDUC 220.

**Program of Study Required Courses** - *Some courses meet General Education requirements for Michigan Transfer Agreement (MTA).*

Course Code	Course Title	Credit / Billing Hours
BIOL 127	Cell Biology	4 / 6
BIOL 128	Organismal Biology	4 / 6
CHEM 152	General Chemistry Lecture II	4 / 4
CHEM 162	General Chemistry Lab II	1 / 3
CHEM 251	Organic Chemistry Lecture I	4 / 4
CHEM 252	Organic Chemistry Lecture II	4 / 4
CHEM 272	Organic Chemistry Laboratory	2 / 6
MATH 126	Precalculus	4 / 4

**Program of Study Required Courses – Limited Choices – Humanities or Fine Arts -***Select two from two different disciplines.*

Course Code	Course Title	Credit / Billing Hours
ENGL 220	Science Fiction	4 / 4
HIST 211	U.S. History to 1877	4 / 4
HIST 212	U.S. History: 1877 to Present	4 / 4
HUMS 120	Masterpieces of Art & Music	4 / 4
HUMS 160	Mythology	4 / 4
HUMS 213	World Civilizations to 1600	4 / 4
HUMS 214	World Civilizations from 1600	4 / 4
PHIL 151	Intro to Logic and Critical Thinking	4 / 4
PHIL 152	Introduction to Ethics	4 / 4
RELG 150	Intro to World Religions	4 / 4

**Program of Study Required Courses – Limited Choices – Social Sciences -***Select one from a different discipline chosen for the Science and Math Career Community block of courses.**Students considering adding Secondary Education Certification in order to teach in Michigan Public Schools are strongly encouraged to select PSYC 200.*

Course Code	Course Title	Credit / Billing Hours
ANTH 270	Cultural Anthropology	3 / 3
GEOG 200	World Regional Geography	4 / 4
POLS 120	American Political System	4 / 4
PSYC 200	Introduction to Psychology	4 / 4
SOCL 120	Introduction to Sociology	4 / 4

Note:

For future transfer (Secondary Education Certification) choose PSYC 200.

**Elective Courses, Recommended Choices –***Select courses to meet the 60-credit minimum required for this degree. For information on preferred courses for specific concentrations identified by transfer institutions, consult with a Program Advisor. (For the full list of options, see [AA and AS Degree Electives](#))*

Course Code	Course Title	Credit / Billing Hours
BIOL 210	Natural Resources Conservation	3 / 6
BIOL 260	Botany	4 / 6
BIOL 265	Zoology	3 / 6
BIOL 270	Human Genetics	3 / 3
BIOL 275	Molecular Biology	4 / 6

**Minimum Total Credit Hours**

60 credits / 72 billing hours

## Recommended Course Sequence

Semester I
CHEM 151 – Milestone course
CHEM 161 – Milestone course
ENGL 121 or ENGL 131
MATH 126

Semester II
CHEM 152
CHEM 162
COMM 130, ENGL 122, or ENGL 132
Limited Choice – Humanities and Fine Arts

Semester III
ANTH 270, ECON 120, ECON 201, EDUC 204, EDUC 220, GEOG 120, GEOG 200, POLS 120, POLS 240, POLS 260, PSYC 200, or SOCL 120
BIOL 127 – Milestone course
CHEM 251
Limited Choices – Humanities and Fine Arts
Electives as needed to complete 60 minimum degree credits

Semester IV
BIOL 128 – Milestone course
CHEM 252
CHEM 272
Limited Choices - Social Sciences
Electives as needed to complete 60 minimum degree credits

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## **Biotechnology A.A.S.**

Career Community: Science and Mathematics

Curriculum Code: 0212

Effective: Fall 2022 – Summer 2027

### **Description**

The Biotechnology degree is a laboratory-intensive curriculum which emphasizes the wide-ranging applications of DNA technology including the preparation of gene libraries, Polymerase Chain Reaction forensic DNA methods and bioinformatics. Graduates will be able to work in many areas of biotechnology, such as human genetic disease research, improvement of disease-resistance in plants, enhanced crop production, pharmaceutical research, biological cleanup of environmental pollution, forensic science, or genome sequencing projects. Near the end of the degree the Science Department will make every effort to arrange for internships in university or industrial research laboratories for students who wish to gain further experience. If you plan to transfer to a four-year school, please see an academic advisor before enrolling. Not all courses in this program transfer to all colleges as equivalent. Students planning to transfer should see an academic advisor before enrolling in any course. This program is designed for students interested in molecular biology, biochemistry, genetics, biotechnology, and forensic technologies.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of BIOL 127, BIOL 203, BIOL 204, CHEM 151, and CHEM 161 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

BIOL 260, BIOL 275, and CHEM 262 are only offered during Fall semester. BIOL 276 and ISCI 245 are only offered during Spring semester.

### **Contact Information**

Contact the Science Department in the Arts and Sciences Building, Room 3203, telephone number 517-483-1092, or the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

### **General Education – Applied Degrees, Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours

- English Composition (second course)/Communications or Applied Communications – *Select one*  
 COMM 120, Dynamics of Communication, 3 credits / 3 billing hours  
 COMM 130, Fundamentals Public Speaking, 3 credits / 3 billing hours  
 ENGL 122, Composition II, 4 credits / 4 billing hours
- Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one*  
 ECON 120, Power, Authority and Exchange, 4 credits / 4 billing hours  
 GEOG 200, World Regional Geography, 4 credits / 4 billing hours  
 HUMS 213, World Civilizations to 1600, 4 credits / 4 billing hours  
 SOCL 120, Introduction to Sociology, 4 credits / 4 billing hours
- Mathematics or Applied Mathematics  
 Program of Study Required Courses will meet this requirement
- Natural Sciences Lab or Applied Science and Technology Lab  
 Program of Study Required Courses will meet this requirement

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
BIOL 127	Cell Biology	4 / 6
BIOL 203	Microbiology	3 / 3
BIOL 204	Microbiology Laboratory	1 / 3
BIOL 270	Human Genetics	3 / 3
BIOL 275	Molecular Biology I	4 / 6
BIOL 276	Molecular Biology II	4 / 6
CHEM 151	General Chemistry Lecture I	4 / 4
CHEM 152	General Chemistry Lecture II	3 / 3
CHEM 161	General Chemistry Lab I	1 / 3
CHEM 162	General Chemistry Lab II	1 / 3
CHEM 251	Organic Chemistry Lecture I	4 / 4
CHEM 262	Quantitative Analysis	3 / 6
ISCI 245	S.T.E.M. Workplace Practices	4 / 6
MATH 126	Precalculus	5 / 5
STAT 215	Intro to Probability and Stats	4 / 4

### Program of Study Required Courses, Limited Choice – *Select a minimum of 2 credits*

Course Code	Course Title	Credit / Billing Hours
BIOL 128	Organismal Biology	4 / 6
BIOL 260	Botany	4 / 6
CHEM 252	Organic Chemistry Lecture II	4 / 4
CHEM 272	Organic Chemistry Laboratory	2 / 6
CITF 110	Intro Computer Info Systems	3 / 3

Course Code	Course Title	Credit / Billing Hours
CJUS 210	Intro to Forensic Science	3 / 3
PHYS 221	Introductory Physics I	4 / 6
SCIN 287	Science Technology Internship	2-4 / 2-4

### Minimum Total Credit Hours

61 credits / 78 billing hours

### Recommended Course Sequence

Semester I (Fall)
Gen Ed- English Composition or Applied English
CHEM 151 – Milestone course
CHEM 161 – Milestone course
MATH 126

Semester II (Spring)
Gen Ed - English Composition (second course)/ Communications or Applied Communications
BIOL 127 – Milestone course
CHEM 152
CHEM 162
ISCI 245

Semester III (Summer)
Gen Ed - Humanities and Fine Arts or Social Science or Applied Social Science
STAT 215

Semester IV (Fall)
BIOL 203 – Milestone course
BIOL 204 – Milestone course
BIOL 275
CHEM 251
CHEM 262

Semester V (Spring)
BIOL 270
BIOL 276
Limited Choice

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## Bookkeeping C.C.

Career Community: Business

Curriculum Code: 1292

Effective: Fall 2022 – Summer 2027

### Purpose of Major

The Bookkeeping curriculum is designed to provide students with basic knowledge and skills necessary for entry-level positions in bookkeeping in a variety of business settings. This curriculum is designed to allow students to explore accounting as a potential career pathway and become employable upon two semesters of coursework. Graduates will be able to perform basic accounting clerical work, under general supervision. Accounting majors may complete this certificate as part of the Accounting Associate of Business degree.

### Milestone

Completion of ACCG 100 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in this course.

### Contact Information

Contact the Business and Economics Department, Gannon Building, Room 1222, telephone number 517-483-1546 or the Academic Advising Department, Gannon Building – Star Zone, telephone number 517-483-1904.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
ACCG 100	Practical Accounting Non-Major	3 / 3
ACCG 101	Accounting Info for Management	3 / 3
ACCG 160	Payroll Systems and Taxes	2 / 2
ACCG 161	Accounting with Quickbooks	2 / 2
CITA 119	Microsoft Word	3 / 3
CITA 126	Microsoft Excel	3 / 3
MKTG 119	Mktg/Manage Your Profess Image	3 / 3

### Program of Study Required Courses, Limited Choice – *Select one*

Course Code	Course Title	Credit / Billing Hours
ENGL 121	Composition I	4 / 4
ENGL 127	Business Writing	3 / 3
ENGL 131	Honors Composition I	4 / 4

### Minimum Total Credit Hours

22 credits / 22 billing hours

## Recommended Course Sequence

Semester I
ACCG 100 – Milestone course
CITA 119
MKTG 119
Limited Choice

Semester II
ACCG 101
ACCG 160
ACCG 161
CITA 126

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## **Building Construction A.A.S.**

Career Community: Building and Construction Trades

Curriculum Code: 1766

Effective: Fall 2022 – Summer 2027

### **Description**

The Building Construction Degree is designed to prepare students to work as entry-level foremen, superintendents, project managers, estimating/scheduling assistants, as well as laborers (masons, concrete construction, and carpenters). Building Construction professionals plan, direct, or coordinate activities related to the construction and maintenance of buildings and infrastructure. This curriculum incorporates elements required for home construction, renovation work, and small-scale commercial construction. The curriculum provides graduates with a broad foundation of technical and management abilities with an emphasis on job entry skill development, estimating, scheduling, project management, and specialized technical skills related to one of six construction focus areas (masonry, concrete, framing, doors/windows/siding, roofing, and interior installation/finishes).

### **Milestone**

In addition to the required General Education courses in Math and English, completion of DCTM 100 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

Students who have already completed ELTE 102, HVAC 102, METS 102, TECH 102, or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for DCTM 102.

### **Contact Information**

Contact the Building Construction Technologies Program at the West Campus Building, Room M103, telephone number 517-483-5338 or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

### **General Education - Applied Degrees, Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours
- English Composition (Second Course)/Communications or Applied Communications – *Select one*  
COMM 130, Fundamentals Public Speaking, 3 credits / 3 billing hours
- Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one*  
GEOG 200, World Regional Geography, 4 credits / 4 billing hours  
SOCL 120, Introduction to Sociology, 4 credits / 4 billing hours

- Mathematics or Applied Mathematics – *Select one*  
 MATH 115, Technical Math II, 4 credits / 4 billing hours  
 MATH 120, College Algebra, 4 credits / 4 billing hours  
 STAT 170, Introduction to Statistics, 4 credits / 4 billing hours
- Natural Sciences Lab or Applied Science and Technology Lab – *Select one*  
 BIOL 120, Environmental Science, 4 credits / 6 billing hours

**Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
BLDT 120	Structural Framing	4 / 6
BLDT 130	Building Exterior Construction	4 / 6
BLDT 140	Building Interior Construction	4 / 6
BLDT 150	Intro Masonry/Concrete Const	4 / 6
BLDT 180	Builder Pre-Licensure Prep	4 / 4
DCTM 100	Intro to the Built Environment	3 / 4
DCTM 101	Drafting/Intro to CAD	3 / 4
DCTM 102	Construction Safety	2 / 3
DCTM 103	Codes and Specifications	3 / 3
DCTM 200	Construction Management I	4 / 6
ELTE 108	Practical Electricity I	2 / 3
ELTE 109	Practical Electricity II	2 / 3
HVAC 100	Fundamentals of HVAC	3 / 3

**Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
ARCH 113	Materials & Methods of Const.	4 / 6
ARCH 125	Environmental Systems	4 / 4
CIVL 120	Surveying	4 / 6
METS 140	Rigging	3 / 4.5

**Minimum Total Credit Hours**

64 credits / 83 billing hours

## Recommended Course Sequence

Semester I (Fall)
Gen Ed – Mathematics or Applied Mathematics
BLDT 120
DCTM 100 – Milestone course
DCTM 101
DCTM 102

Semester II (Spring)
Gen Ed – English Composition or Applied English
BLDT 130
BLDT 150
DCTM 103
HVAC 100

Semester III (Fall)
Gen Ed – English Composition (Second Course)/Communications or Applied Communications
BLDT 140
DCTM 200
Limited Choice

Semester IV (Spring)
Gen Ed – Humanities and Fine Arts or Social Sciences or Applied Social Sciences
Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab
BLDT 180
ELTE 108 (First 8 weeks)
ELTE 109 (Second 8 weeks)

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## Building Construction C.A.

Career Community: Building and Construction Trades

Curriculum Code: 0135

Effective: Fall 2022 – Summer 2027

### Description

The Building Construction Certificate is designed to prepare students to work in entry-level positions (masons, concrete, and carpenters). This curriculum incorporates elements required for home construction, renovation work and small-scale commercial construction. The curriculum provides a broad foundation of technical skills related to concrete, framing, doors/windows/siding, roofing, interior installation/finishes.

### Milestone

Completion of DCTM 200 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in the course.

### Additional Information

Students who have completed ELTE 102, HVAC 102, METS 102, TECH 102, or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for DCTM 102.

### Contact Information

Contact the Building Construction Technologies Program in the West Campus Building, Room M103, telephone number 517-483-5338 or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
BLDT 120	Structural Framing	4 / 6
BLDT 130	Building Exterior Construction	4 / 6
BLDT 140	Building Interior Construction	4 / 6
BLDT 180	Builder Pre-Licensure Prep	4 / 4
DCTM 100	Intro to the Built Environment	3 / 4
DCTM 101	Drafting/Intro to CAD	3 / 4
DCTM 102	Construction Safety	2 / 3
DCTM 103	Codes and Specifications	3 / 3
DCTM 200	Construction Management I	4 / 6

### Minimum Total Credit Hours

31 credits / 42 billing hours

## Recommended Course Sequence

Semester I - Fall
BLDT 120
BLDT 140
DCTM 102
DCTM 103
DCTM 200 – Milestone course

Semester II - Spring
BLDT 130
BLDT 180
DCTM 100
DCTM 101

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## Building Construction C.C.

Career Community: Building and Construction Trades

Curriculum Code: 1714

Effective: Fall 2022 – Summer 2027

### Description

The Building Construction Certificate is designed to prepare students to work in entry-level carpenter positions. This curriculum incorporates elements required for home construction, renovation work and small-scale commercial construction. The curriculum provides a broad foundation of technical skills related to framing, doors/windows/siding, roofing, and interior installation/finishes.

### Milestone

Completion of BLDT 120 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in this course.

### Additional Information

Students who have completed ELTE 102, HVAC 102, METS 102, TECH 102, or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for DCTM 102.

### Contact Information

Contact the Building Construction Technologies Program in the West Campus Building, Room M103, telephone number 517-483-5338 or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
BLDT 120	Structural Framing	4 / 6
BLDT 130	Building Exterior Construction	4 / 6
BLDT 140	Building Interior Construction	4 / 6
BLDT 180	Builder Pre-Licensure Prep	4 / 4
DCTM 100	Intro to the Built Environment	3 / 4
DCTM 102	Construction Safety	2 / 3

### Minimum Total Credit Hours

21 credits / 29 billing hours



## Recommended Course Sequence

Semester I (Fall)
BLDT 120 -Milestone course
BLDT 140
DCTM 102

Semester II (Spring)
BLDT 130
BLDT 180
DCTM 100

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## Building Maintenance C.A.

Career Community: Building and Construction Trades

Curriculum Code: 1481

Effective: Fall 2022 – Summer 2027

### Description

Graduates of this curriculum will be well versed in all aspects of building maintenance. Building Maintenance Technicians work on systems that control temperature, humidity, and air quality of enclosed spaces. These technicians must be able to maintain the aesthetic and structural integrity of buildings. They may also be responsible for maintenance and upkeep of mechanical, plumbing, and electrical equipment, as well as grounds keeping. They should be versatile enough to do routine painting, drywall plastering, woodworking, and pool maintenance as well as some custodial work. Technicians must have a strong mechanical aptitude, be self-motivated, willing to accept challenges, have a structured approach to problem solving and the ability to work well with others.

### Milestone

Completion of HVAC 100 and HVAC 110 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Additional Information

Students who have already completed DCTM 102, ELTE 102, HVAC 102, METS 102 or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for TECH 102. Any of these courses may also be used to fulfill the prerequisite for HVAC 110, HVAC 113, HVAC 115, and the BLDT classes.

### Contact Information

Contact the Heating and Air Conditioning Program, West Campus Building, Room M127, telephone number 517-483-1570 or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
DCTM 100	Intro to the Built Environment	3 / 4
DCTM 101	Drafting/Intro to CAD	3 / 4
HVAC 100	Fundamentals of HVAC	3 / 3
HVAC 110	Applied Electricity I	3 / 4
HVAC 111	Applied Electricity II	3 / 4
HVAC 113	HVAC/R Piping	3 / 4
HVAC 115	Sheet Metal Fab & Installation	2 / 3
HVAC 120	Heating I	3 / 4

Course Code	Course Title	Credit / Billing Hours
HVAC 130	Air Conditioning I	3 / 4
TECH 102	General Industry Safety	2 / 3

**Program of Study Required Courses, Limited Choice** – *Select one or two courses, minimum four credits*

Course Code	Course Title	Credit / Billing Hours
BLDT 120	Structural Framing	4 / 6
BLDT 130	Building Exterior Construction	4 / 6
BLDT 140	Building Interior Construction	4 / 6
ELTE 112	Basic Wiring Installation	2 / 3
HVAC 220	Heating II	3 / 4
HVAC 221	Introduction to Hydronics	3 / 4
WELD 103	Combination Welding	4 / 6

### Minimum Total Credit Hours

32 credits / 43 billing hours

### Recommended Course Sequence

Semester I
DCTM 100
HVAC 100 – Milestone course
HVAC 110 = Milestone course
HVAC 113
HVAC 115
TECH 102

Semester II
DCTM 101
HVAC 111
HVAC 120
HVAC 130
Limited Choice

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## **Business G.A.**

Career Community: Business

Curriculum Code: 1821

Effective: Fall 2022 – Summer 2027

### **Purpose of Major**

This degree is designed for students wishing to work in any Business-related field. This degree includes a common set of courses applicable to all Business majors and to many transfer institutions. Students beginning their college study in this degree program are encouraged to work with academic and program advisors throughout their first few semesters of study to determine their specific major area and, transfer destination if transfer is a goal. Students may select the Business Transfer Studies degree geared to any transfer major, including Economics, or a specific Associate in Business major (Accounting, Business Administration, Field Sales and Marketing, Financial Institutions, Human Resource Management, Insurance and Risk Management, International Business, Management, Marketing), which prepares students to work in the field on completion of the Associate degree and may also allow transfer to specific institutions.

Not all courses in this pathway transfer to all colleges. Students who also wish to transfer to a four-year institution should select coursework indicated for that institution and may complete the coursework for a Business, Enhanced AB degree. The Business, Enhanced AB option allows students to transfer additional credits toward the Bachelor's degree. This allows completion of credits required for employment and of additional requirements for the Bachelor's.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of BUSN 118 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Contact Information**

Contact the Business and Economics Department, Gannon Building, Room 1222, telephone number 517-483-1546 or the Academic Advising Department, Gannon Building – Star Zone, telephone number 517-483-1904.

### **General Education – Applied Degrees - Recommended Courses**

Select courses as indicated for specific transfer institutions. These courses are preferred General Education courses listed on Transfer Articulation agreements. The recommended courses in each General Education category also meet Michigan Transfer Agreement (MTA) requirements. If no course is indicated, choose from the list of options under [General Education](#). A minimum grade of 2.0 is required for each General Education course.

- English Composition  
ENGL 121 or 131 will meet this requirement.
- English Composition (Second Course) or Communications or Applied Communications  
COMM 110 or 130 will meet this requirement.
- Humanities and Fine Arts or Social Science or Applied Social Science  
ECON 201 will meet this requirement.
- Mathematics or Applied Mathematics  
MATH 119, MATH 120, or STAT 170 will meet this requirement.
- Natural Sciences Lab or Applied Science and Technology Lab  
BIOL 120 or 125 will meet this requirement.

**Business Career Community Required Courses** – *These courses are required for all Business programs. They should be taken before other Program Required or Limited Choice Courses. Some courses meet General Education requirements for Michigan Transfer Agreement (MTA). A minimum of 2.0 is required to meet LCC degree requirements for General Education courses and for all courses to transfer to other colleges (some colleges, and some programs within colleges, require a higher grade in a course.)*

Course Code	Course Title	Credit / Billing Hours
ACAD 100	First Year College Experience	1 / 1
ACCG 210	Principles of Financial Accg	4 / 4
BIOL 120 or BIOL 125	Environmental Science Introductory Biology	4 / 6 4 / 5
BUSN 118	Introduction to Business	3 / 3
COMM 110 or COMM 130	Communication in the Workplace Fundamentals Public Speaking	3 / 3 3 / 3
ECON 201	Principles of Economics - Micro	4 / 4
ENGL 121 or ENGL 131	Composition I Honors Composition I	4 / 4 4 / 4
LEGL 215	Business Law – Basic Principles	3 / 3
MATH 119 or MATH 120 or STAT 170	Math – Applications for Living College Algebra Introduction to Statistics	4 / 4 4 / 4 4 / 4
MGMT 225	Principles of Mgmt/Leadership	3 / 3
MKTG 200	Principles of Marketing	3 / 3

Notes:

ACAD 100 may be waived based on the recommendation of a Program Advisor.

For future transfer to:

- Davenport University and Western Michigan University choose COMM 110 and STAT 170.
- Central Michigan University and Ferris State University choose COMM 130 and STAT 170.
- Eastern Michigan University choose STAT 170.
- Grand Valley State University, Michigan State University, and University of Michigan Flint choose COMM 130 and MATH 120.
- Northwood University and Oakland University choose MATH 120.
- Siena Heights University (all Business majors except Accounting) choose BIOL 120 and STAT 170.
- Siena Heights University (Accounting majors) choose BIOL 125 and STAT 170.
- Siena Heights University (Professional Communications majors) choose BIOL 120.

For students not considering transfer as an option, MGMT 234, Diversity in the Workplace, may be substituted for ECON 201 using the Course Substitution process. MGMT 234 meets LCC General Education requirements for Applied Degrees – Humanities or Social Science or Applied Social Science. MGMT 234 does not meet the Michigan Transfer Agreement (MTA) Social Science requirement for transfer as a General Education course.

**Program of Study Required Courses – Limited Choice** - *Select a minimum of 24 credits to reach the 60 credits required for the degree. Work with an Academic Advisor or Program Advisor to select the most appropriate courses or to select a field-specific major or transfer major that meets your educational and career goals. Some courses meet General Education requirements for Michigan Transfer Agreement (MTA). A minimum of 2.0 is required to transfer to other colleges (some colleges, and some programs within colleges, require a higher grade in a course.)*

Course Code	Course Title	Credit / Billing Hours
ACCG 100	Practical Accounting Non-Major	3 / 3
ACCG 101	Accounting Info for Management	3 / 3
ACCG 160	Payroll Systems and Taxes	2 / 2
ACCG 161	Accounting with Quickbooks	2 / 2
ACCG 211	Principles of Managerial Accg	4 / 4
ACCG 220	Intermediate Accounting I	4 / 4
ACCG 221	Intermediate Accounting II	4 / 4
ACCG 230	Cost/Managerial I	4 / 4
ACCG 240	Federal Income Tax I	4 / 4
ACCG 241	Federal Income II	4 / 4
ACCG 245	Accounting Internship	2 / 2
ACCG 260	Accounting Systems	4 / 4
ACCG 271	Principles of Finance	3 / 3
ACCG 280	Governmental Accounting	2 / 2
ACCG 290	Auditing	4 / 4

Course Code	Course Title	Credit / Billing Hours
ANTH 270*	Cultural Anthropology	3 / 3
ASTR 201*	Introductory Astronomy	4 / 5
BUSN 201	International Business	3 / 3
BUSN 250	Personal Finance	3 / 3
BUSN 251	Understanding Investments	3 / 3
BUSN 260	Starting a Business	4 / 4
BUSN 285	Business Admin Internship	3 / 3
CHEM 135*	Chemistry in Society	4 / 5
CITA 110	Intro to Microsoft Office	3 / 3
CITA 119	Microsoft Word	3 / 3
CITA 126	Microsoft Excel	3 / 3
CITA 226	Microsoft Excel - Advanced	3 / 3
CITF 110	Intro Computer Info Systems	3 / 3
CJUS 101	Intro to Criminal Justice	3 / 3
CJUS 204	Criminal Investigation	4 / 4
COMM 280*	Intercultural Communication	3 / 3
ENGL 122* or ENGL 132*	Composition II Honors Composition II	4 / 4 4 / 4
ENGL 200*	Introduction to Literature	3 / 3
FREN 121* or GRMN 121* or JAPN 121* or SPAN 121*	Elementary French I Elementary German I Elementary Japanese I Elementary Spanish I	4 / 4 4 / 4 4 / 4 4 / 4
FREN 122* or GRMN 122* or JAPN 122* or SPAN 122*	Elementary French II Elementary German II Elementary Japanese II Elementary Spanish II	4 / 4 4 / 4 4 / 4 4 / 4
GEOG 200*	World Regional Geography	4 / 4
GEOG 221*	Physical Geography	4 / 4
HUMS 140	Art of Being Human	4 / 4
INSU 105	Prin of Prop & Liability Ins	3 / 3
INSU 110	Personal Insurance	3 / 3
INSU 125	Commercial Insurance	3 / 3
INSU 175	Intro to Financial Advising	3 / 3
INSU 250	Claims and Underwriting	3 / 3
INSU 260	Life/Health Insur Licensing	2 / 2
INSU 270	Property/Casualty Insur Licens	2 / 2
INSU 285	Insurance Agency Operations	3 / 3
INSU 295	Insurance Internship	3 / 3
LABR 200	Intro to Labor Relations	3 / 3
LABR 204	Employment Law for Managers	3 / 3
MATH 141*	Calculus with Applications	4 / 4

Course Code	Course Title	Credit / Billing Hours
MGMT 150	Managing Customer Relations	3 / 3
MGMT 200	Creative Thinking for Business	3 / 3
MGMT 201	Time Management for Business	1 / 1
MGMT 202	Managing Difficult People	1 / 1
MGMT 203	Managing Meetings	1 / 1
MGMT 224	Human Resource Management	3 / 3
MGMT 225	Principles of Mgmt/Leadership	3 / 3
MGMT 227	Training/Development for Busn	3 / 3
MGMT 228	Organization Behavior	3 / 3
MGMT 229	Compensation Management	3 / 3
MGMT 231	Developing and Leading Teams	3 / 3
MGMT 234	Diversity in the Workplace	3 / 3
MGMT 280	Mgmt/Leadership Internship	3 / 3
MGMT 300	Leading for Possibility	3 / 3
MGMT 304	Organization Development	3 / 3
MGMT 329	Advanced Mgmt Communication	3 / 3
MGMT 332	Ethics: Assumpt for the Future	3 / 3
MGMT 335	Managerial Statistics	3 / 3
MGMT 338	Current Topics in Management	3 / 3
MGMT 345	Context and Transformation	3 / 3
MGMT 346	Managerial Finance	3 / 3
MKTG 119	Mktg/Manage Your Profess Image	3 / 3
MKTG 120	Sales	3 / 3
MKTG 130	Retailing	3 / 3
MKTG 140	Introduction to Advertising	3 / 3
MKTG 202	Managerial Marketing	3 / 3
MKTG 204	Marketing Research	3 / 3
MKTG 210	Marketing on the Internet	3 / 3
MKTG 221	Consumer Behavior	3 / 3
MKTG 229	Public Relations	3 / 3
MKTG 235	Marketing Internship	3 / 3
MUSC 199*	Music Appreciation	3 / 3
PFHW 123*	Human Nutrition	3 / 3
PHIL 101*	Introduction to Philosophy	3 / 3
PHIL 151*	Intro to Logic & Critical Think	4 / 4
PHIL 152*	Introduction to Ethics	4 / 4
SOCL 120*	Introduction to Sociology	4 / 4
STAT 215*	Intro to Probability and Stats	4 / 4

\*Indicates Michigan Transfer Agreement (MTA) courses – minimum 2.0 grade needed.

### Minimum Total Credit Hours

60 credits / 61 billing hours



## Recommended Course Sequence

### College-Ready Students (Full-time)

Semester I
ACAD 100 (if waived, add Career Community Required Course)
BIOL 120 or BIOL 125
BUSN 118 – Milestone course
ENGL 121 or ENGL 131

Semester II
LEGL 215
MATH 119 or MATH 120 or STAT 170
MGMT 225
MKTG 200

Semester III - Summer (Optional)
ACCG 210
ECON 201

Semester IV
ACCG 210 (if no Summer enrollment)
COMM 110 or COMM 130
ECON 201 (if no Summer enrollment)
Students who have decided on an academic program within the Business Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.
Limited Choice course(s) for students completing the Business GA

Semester V
Limited Choice courses as needed for students completing the Business GA

### College-Ready Students (Part-time)

Semester I
ACAD 100 (if waived, add Career Community Required Course)
BUSN 118 – Milestone course
ENGL 121 or ENGL 131

Semester II
BIOL 120 or BIOL 125
MATH 119 or MATH 120 or STAT 170

Semester III - Summer (Optional)
MGMT 225
MKTG 200

Semester IV
ACCG 210
COMM 110 or COMM 130 (if Summer enrollment)
MGMT 225 (if no Summer enrollment)
MKTG 200 (if no Summer enrollment)

Semester V
COMM 110 or COMM 130 (if no Summer enrollment)
ECON 201
LEGL 215
Students who have decided on an academic program within the Business Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.
Limited Choice course(s) for students completing the Business GA

Semester VI
Limited Choice courses as needed for students completing the Business GA

**MATH 097 and MATH 109 Students (Full-time)**

Semester I
ACAD 100 (if waived, add Career Community Required Course)
BIOL 120 or BIOL 125
BUSN 118 – Milestone course
ENGL 121 or ENGL 131

Semester II
LEGL 215 (if taking MATH 109)
MGMT 225
MKTG 200
MATH 119 or STAT 170 (with MATH 097 if needed) or MATH 109 (if MATH 120 is desired)

Semester III - Summer (Optional)
ACCG 210
LEGL 215 (if MATH 097 was taken)
MATH 120 (if MATH 109 was taken)

Semester IV
ACCG 210 (if no Summer enrollment)
COMM 110 or COMM 130
ECON 201
LEGL 215 (if no Summer enrollment and MATH 097 was taken)
MATH 120 (if MATH 109 was taken and no Summer enrollment)
Students who have decided on an academic program within the Business Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.
Limited Choice course(s) for students completing the Business GA

Semester VI
Limited Choice courses as needed for students completing the Business GA

Note: MATH 097 and MATH 109 are developmental prerequisites and do not count toward program credit totals.

### **MATH 106 Students (Full-time)**

Semester I
ACAD 100 (if waived, add Career Community Required Course)
BUSN 118 – Milestone course
ENGL 121 or ENGL 131
MATH 106

Semester II
LEGL 215
MATH 109 (if MATH 120 is desired) or MATH 119 or STAT 170
MGMT 225
MKTG 200

Semester III - Summer (Optional)
ACCG 210 (if MATH 119 or STAT 170 was taken)
BIOL 120 or BIOL 125
MATH 120 (if MATH 109 was taken)

Semester IV
ACCG 210 (if no Summer enrollment and MATH 119 or STAT 170 was taken)
BIOL 120 or BIOL 125 (if no Summer enrollment)
COMM 110 or COMM 130 (if Summer enrollment)
ECON 201
MATH 120 (if no Summer enrollment)

Semester IV
Students who have decided on an academic program within the Business Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway. (if Summer enrollment)
Limited Choice course(s) for students completing the Business GA (if Summer enrollment)

Semester V
ACCG 210 (if no Summer enrollment and MATH 120 was taken)
COMM 110 or COMM 130 (if no Summer enrollment)
Students who have decided on an academic program within the Business Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway. (if no Summer enrollment)
Limited Choice course(s) for students completing the Business GA

Semester VI
Limited Choice courses as needed for students completing the Business GA

Note: MATH 106 and MATH 109 are developmental prerequisites and do not count toward program credit totals.

**ENGL 099 Students (Full-time)**

Semester I
ACAD 100 (if waived, add Career Community Required Course)
BUSN 118 – Milestone course
ENGL 099
ENGL 121

Semester II
BIOL 120 or BIOL 125
MATH 119 or MATH 120 or STAT 170
MGMT 225
MKTG 200

Semester III - Summer (Optional)
ACCG 210
LEGL 215

Semester IV
ACCG 210 (if no Summer enrollment)
COMM 110 or COMM 130
ECON 201
LEGL 215 (if no Summer enrollment)

Semester IV
Students who have decided on an academic program within the Business Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.
Limited Choice course(s) for students completing the Business GA

Semester V
Limited Choice courses as needed for students completing the Business GA

Note: ENGL 099 is a developmental prerequisite and does not count toward program credit totals.

**ENGL 098 Students (Full-time)**

Semester I
ACAD 100 (if waived, add Career Community Required Course)
BUSN 118 – Milestone course
ENGL 098
SOCL 120 (required for ENGL 098 enrollment)

Semester II
ENGL 121 (if 2.5 or higher in ENGL 098 or 2.0 or higher in SOCL 120)
BIOL 120 or BIOL 125
MATH 119 or MATH 120 or STAT 170
ENGL 099 (if below 2.5 in ENGL 098 and below 2.0 in SOCL 120)
ENGL 121
MATH 119 or MATH 120 or STAT 170

Semester III - Summer (Optional)
MGMT 225
MKTG 200

Semester IV
ENGL 099 was required:
BIOL 120 or BIOL 125
COMM 110 or COMM 130 (if Summer enrollment)
ECON 201
LEGL 215 (if Summer enrollment)
MGMT 225 (if no Summer enrollment)
MKTG 200 (if no Summer enrollment)
ENGL 099 was not required:
ACCG 210 (if Summer enrollment)

Semester IV
COMM 110 or COMM 130
ECON 201
LEGL 215 (if Summer enrollment)
MGMT 225 (if no Summer enrollment)
MKTG 200 (if no Summer enrollment)
ENGL 099 was required and Summer enrollment:
ACCG 210
COMM 110 or COMM 130
ECON 201
LEGL 215
ENGL 099 was required and no Summer enrollment:
ACCG 210
BIOL 120 or BIOL 125
ECON 201
Students who have decided on an academic program within the Business Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway. (if Summer enrollment)
Limited Choice course(s) for students completing the Business GA (if Summer enrollment)

Semester V
ENGL 099 was not required:
ACCG 210 (if no Summer enrollment)
LEGL 215 (if no Summer enrollment)
ENGL 099 was required:
ACCG 210
COMM 110 or COMM 130 (if no Summer enrollment)
LEGL 215 (if no Summer enrollment)
Students who have decided on an academic program within the Business Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway. (if no Summer enrollment)
Limited Choice course(s) for students completing the Business GA

Semester VI
Limited Choice courses as needed for students completing the Business GA if needed

Note: ENGL 098 and ENGL 099 are developmental prerequisites and do not count toward program credit totals.

**ENGL 099 Students and MATH 097/MATH 109 (Full-time)**

Semester I
ACAD 100 (if waived, add Career Community Required Course)
BUSN 118 – Milestone course
ENGL 099
ENGL 121

Semester II
BIOL 120 or BIOL 125
ECON 201
MATH 119 or STAT 170 (with MATH 097 if needed) or MATH 109 (if MATH 120 is desired)

Semester III - Summer (Optional)
MGMT 225
MKTG 200 (if MATH 097 was taken)
MATH 120 (if MATH 109 was taken)

Semester IV
If no Summer enrollment:
COMM 110 or COMM 130
LEGL 215
MATH 120 (if MATH 109 was taken)
MGMT 225
MKTG 200 (if MATH 097 was taken)
If Summer enrollment:
ACCG 210
COMM 110 or COMM 130
LEGL 215
MKTG 200 (if MATH 120 was taken)
Students who have decided on an academic program within the Business Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.
Limited Choice course(s) for students completing the Business GA

Semester V
If no Summer enrollment:
ACCG 210
MKTG 200 (if MATH 120 was taken)

Semester V
Students who have decided on an academic program within the Business Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.
Limited Choice course(s) for students completing the Business GA

Semester VI
Limited Choice courses as needed for students completing the Business GA

Note: ENGL 099, MATH 097 and MATH 109 are developmental prerequisites and do not count toward program credit totals.

**ENGL 099 Students and MATH 106 (Full-time)**

Semester I
ACAD 100 (if waived, add Career Community Required Course)
BUSN 118 – Milestone course
ENGL 099
ENGL 121

Semester II
BIOL 120 or BIOL 125
MATH 106
MGMT 225
MKTG 200

Semester III - Summer (Optional)
LEGL 215
MATH 109 (If MATH 120 is desired) or MATH 119 or STAT 170

Semester IV
If no Summer enrollment:
COMM 110 or COMM 130
ECON 201
LEGL 215
MATH 109 (If MATH 120 is desired) or MATH 119 or STAT 170
If Summer enrollment:
ACCG 210
COMM 110 or COMM 130
ECON 201
MATH 120 (if MATH 109 was taken)



<b>Semester IV</b>
Students who have decided on an academic program within the Business Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.
Limited Choice course(s) for students completing the Business GA

<b>Semester V</b>
If no Summer enrollment:
ACCG 210
MATH 120 (if MATH 109 was taken)
Students who have decided on an academic program within the Business Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.
Limited Choice course(s) for students completing the Business GA

<b>Semester VI</b>
Limited Choice courses as needed for students completing the Business GA

Note: ENGL 099, MATH 106 and MATH 109 are developmental prerequisites and do not count toward program credit totals.

**ENGL 098 Students and MATH 097/MATH 109 (Full-time)**

<b>Semester I</b>
ACAD 100 (if waived, add Career Community Required Course)
BUSN 118 – Milestone course
ENGL 098
SOCL 120 (required for ENGL 098 enrollment)

<b>Semester II</b>
ENGL 121 (if 2.5 in ENGL 098 or 2.0 or higher in SOCL 120)
BIOL 120 or BIOL 125
MATH 119 or STAT 170 (with MATH 097 if needed) or MATH 109 (If MATH 120 is desired)
ENGL 099 (if below 2.5 in ENGL 098 and below 2.0 in SOCL 120)
ENGL 121
MATH 119 or STAT 170 (with MATH 097 if needed) or MATH 109 (If MATH 120 is desired)

<b>Semester III - Summer (Optional)</b>
ENGL 099 was not required:
MGMT 225

Semester III - Summer (Optional)
MKTG 200 (if MATH 097 was taken)
MATH 120 (if MATH 109 was taken)
ENGL 099 was required:
BIOL 120 or BIOL 125
MGMT 225 (if MATH 097 was taken)
MATH 120 (if MATH 109 was taken)

Semester IV
ENGL 099 was not required and no Summer enrollment:
ACCG 210 (if MATH 097 was taken)
COMM 110 or COMM 130
MATH 120 (if MATH 109 was taken)
MGMT 225
MKTG 200
ENGL 099 was not required and Summer enrollment:
ACCG 210 (if MATH 097 was taken)
COMM 110 or COMM 130
ECON 201
LEGL 215
MKTG 200 (if MATH 109 was taken)
If MATH 097 was taken, submit a change of program request and enroll in major-specific courses as noted on the pathway.
ENGL 099 was required and no Summer enrollment:
BIOL 120 or BIOL 125 (if MATH 097 was taken)
COMM 110 or COMM 130
MGMT 225
MKTG 200
MATH 120 (If MATH 109 was taken)
ENGL 099 was required and Summer enrollment:
COMM 110 or COMM 130
ECON 201
LEGL 215
MKTG 200

Semester V
ENGL 099 was not required:
ACCG 210 (if MATH 109 was taken)

<b>Semester V</b>
ECON 201 (if no Summer enrollment)
LEGL 215 (if no Summer enrollment)
ECON 201 (if no Summer enrollment)
LEGL 215 (if no Summer enrollment)
ENGL 099 was required:
ACCG 210
BIOL 120 or BIOL 125 (if MATH 109 was taken)
ECON 201
LEGL 215
Students who have decided on an academic program within the Business Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.
Limited Choice course(s) for students completing the Business GA

<b>Semester VI</b>
Limited Choice courses as needed for students completing the Business GA

Note: ENGL 098, ENGL 099, MATH 097 and MATH 109 are developmental prerequisites and do not count toward program credit totals.

### **ENGL 098 Students and MATH 106 (Full-time)**

<b>Semester I</b>
ACAD 100 (if waived, add Career Community Required Course)
BUSN 118 – Milestone Course
ENGL 098
SOCL 120 (required for ENGL 098 enrollment)

<b>Semester II</b>
ENGL 121 (if 2.5 in ENGL 098 or 2.0 or higher in SOCL 120)
BIOL 120 or BIOL 125
MATH 106
ENGL 099 (if below 2.5 in ENGL 098 and below 2.0 in SOCL 120)
ENGL 121
MATH 106

<b>Semester III - Summer (Optional)</b>
ENGL 099 was not required:
MATH 109 (If MATH 120 is desired) or MATH 119 or STAT 170

Semester III - Summer (Optional)
ENGL 099 was required:
BIOL 120 or BIOL 125
MATH 109 (If MATH 120 is desired) or MATH 119 or STAT 170

Semester IV
ENGL 099 was not required and no Summer enrollment:
MATH 109 (if MATH 120 is desired) or MATH 119 or STAT 170
LEGL 215
MGMT 225
MKTG 200
ENGL 099 was not required and Summer enrollment:
COMM 110 or COMM 130 (if MATH 119 or STAT 170 was taken)
ECON 201 (if MATH 119 or STAT 170 was taken)
MATH 120 (if MATH 109 was taken)
LEGL 215
MKTG 200
ENGL 099 was required and no Summer enrollment:
BIOL 120 or BIOL 125
MATH 109 (if MATH 120 is desired) or MATH 119 or STAT 170
MGMT 225
MKTG 200
ENGL 099 was required and Summer enrollment:
LEGL 215
MGMT 225
MKTG 200
MATH 120 (if MATH 109 was taken)

Semester V
ENGL 099 not required and Summer enrollment:
ACCG 210
ECON 201 (if MATH 120 was taken)
MATH 120 (if MATH 109 was taken)
ENGL 099 was required and Summer enrollment:
ACCG 210
COMM 110 or COMM 130 (if MATH 120 was taken)
ECON 201
ENGL 099 was required and no Summer enrollment:

Semester V
ACCG 210 (if MATH 119 or STAT 170 was taken)
COMM 110 or COMM 130 (if MATH 120 was taken)
ECON 201
LEGL 215
MATH 120 (if MATH 109 was taken)
Students who have decided on an academic program within the Business Career Community should select that program through the Change of Program Request form and follow the coursework outlined in the associated pathway.
Limited Choice course(s) for students completing the Business GA

Semester VI – Summer (Optional)
ACCG 210 (if MATH 120 was taken)
Students who have decided on an academic program within the Business Career Community should select that program through the Change of Program Request form and follow the coursework outlined in the associated pathway.
Limited Choice course(s) for students completing the Business GA

Semester VII
Limited Choice courses as needed for students completing the Business GA

Note: ENGL 098, ENGL 099, MATH 106 and MATH 109 are developmental prerequisites and do not count toward program credit totals.

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## **Business Administration A.B.**

Career Community: Business

Curriculum Code: 0243

Effective: Fall 2022 – Summer 2027

### **Purpose of Major**

This major is designed for students wishing to work in the field of Business Administration on completion of the Associate of Business degree. This degree provides basic instruction in key business areas such as management, marketing, finance, and other key business areas. Graduates may qualify for entry-level hands-on positions. Additional education will enhance an individual's employment and advancement opportunities. Not all courses in this program transfer to all colleges. Students who also wish to transfer to a four-year institution should select coursework indicated for that institution and may complete the coursework for a Business, Enhanced AB degree. The Business, Enhanced AB option allows students to transfer additional credits toward the Bachelor's degree. This allows completion of credits required for employment and of additional requirements for the Bachelor's. Institutions accepting coursework for Business, Enhanced AB, Business Administration Pathway include Davenport University, Eastern Michigan University, Ferris State University (Business Administration – Professional Track), Northwood University, Oakland University, and Siena Heights University.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of BUSN 118 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in the courses.

### **Contact Information**

Contact the Business and Economics Department, Gannon Building, Room 1222, telephone number 517-483-1546 or the Academic Advising Department, Gannon Building – Star Zone, telephone number 517-483-1904.

### **General Education – Applied Degrees, Recommended Courses**

Select courses as indicated for specific transfer institutions. These courses are preferred General Education courses listed on Transfer Articulation agreements. The recommended courses in each General Education category also meet Michigan Transfer Agreement (MTA) requirements. If no course is indicated, choose from the list of options under [General Education](#). A minimum grade of 2.0 is required for each General Education course.

- English Composition or Applied English  
Business Career Community courses meet this requirement.
- English Composition (Second Course) or Communications or Applied Communications  
Business Career Community Courses meet this requirement.
- Humanities and Fine Arts or Social Science or Applied Social Science  
Business Career Community Courses meet this requirement.
- Mathematics or Applied Mathematics  
Business Career Community Courses meet this requirement.
- Natural Sciences Lab or Applied Science and Technology Lab  
Business Career Community Courses meet this requirement.

**Business Career Community Required Courses** – *These courses are required for all Business programs. They should be taken before other Program Required or Limited Choice Courses. Some courses meet General Education requirements for Michigan Transfer Agreement (MTA). A minimum of 2.0 is required to transfer to other colleges (some colleges, and some programs within colleges, require a higher grade in a course.)*

Course Code	Course Title	Credit / Billing Hours
ACAD 100	First Year College Experience	1 / 1
ACCG 210	Principles of Financial Accg	4 / 4
BIOL 120 or BIOL 125	Environmental Science Introductory Biology	4 / 6 4 / 5
BUSN 118	Introduction to Business	3 / 3
COMM 110 or COMM 130	Communication in the Workplace Fundamentals Public Speaking	3 / 3 3 / 3
ECON 201	Principles of Economics - Micro	4 / 4
ENGL 121 or ENGL 131	Composition I Honors Composition I	4 / 4 4 / 4
LEGL 215	Business Law – Basic Principles	3 / 3
MATH 119 or MATH 120 or STAT 170	Math – Applications for Living College Algebra Introduction to Statistics	4 / 4 4 / 4 4 / 4
MGMT 225	Principles of Mgmt/Leadership	3 / 3
MKTG 200	Principles of Marketing	3 / 3

Notes:

ACAD 100 may be waived based on the recommendation of a Program Advisor.

For students not considering transfer as an option, MGMT 234, Diversity in the Workplace, may be substituted for ECON 201 using the Course Substitution process. MGMT 234 meets LCC General Education requirements for Applied Degrees – Humanities or Social Science or Applied Social Science. MGMT 234 does not meet Michigan Transfer Agreement (MTA) Social Science requirements for transfer as a General Education course.

For future transfer to:

- Davenport University choose COMM 110 and STAT 170.
- Eastern Michigan University choose STAT 170.
- Ferris State University choose COMM 130 and STAT 170.
- Northwood University and Oakland University choose MATH 120.
- Siena Heights University choose BIOL 120 and STAT 170.

**Program of Study Required Courses** - A minimum of 2.0 is required to transfer to other colleges (some colleges, and some programs within colleges, require a higher grade in a course.)

Course Code	Course Title	Credit / Billing Hours
ACCG 211	Principles of Managerial Accg	4 / 4
BUSN 201	International Business	3 / 3
BUSN 285	Business Admin Internship	3 / 3
ECON 202	Principles of Economics - Macro	4 / 4
MGMT 228	Organization Behavior	3 / 3

Note:

BUSN 285 may be waived based on the recommendation of a Program Advisor.

**Program of Study Required Courses, Limited Choice** – *Select a minimum of 7 credits to reach the 60 credits required for the degree, choosing courses as indicated for each transfer institution. A minimum of 2.0 is required to transfer to other colleges (some colleges, and some programs within colleges, require a higher grade in a course.)*

Course Code	Course Title	Credit / Billing Hours
ACCG 160	Payroll Systems and Taxes	2 / 2
ACCG 161	Accounting with Quickbooks	2 / 2
BUSN 250	Personal Finance	3 / 3
BUSN 251	Understanding Investments	3 / 3
BUSN 260	Starting a Business	4 / 4
CITA 110	Intro to Microsoft Office	3 / 3
CITF 110	Intro Computer Info Systems	3 / 3
INSU 105	Prin of Prop & Liability Ins	3 / 3
INSU 110	Personal Insurance	3 / 3
INSU 125	Commercial Insurance	3 / 3



Course Code	Course Title	Credit / Billing Hours
INSU 175	Intro to Financial Advising	3 / 3
MATH 141	Calculus with Applications	4 / 4
MGMT 150	Managing Customer Relations	3 / 3
MGMT 200	Creative Thinking for Business	3 / 3
MGMT 223	Supervisory Skills	3 / 3
MGMT 224	Human Resource Management	3 / 3
MGMT 227	Training/Development for Busn	3 / 3
MGMT 234	Diversity in the Workplace	3 / 3
MGMT 335	Managerial Statistics	3 / 3
MKTG 119	Mktg/Manage Your Profess Image	3 / 3
MKTG 120	Sales	3 / 3
MKTG 140	Introduction to Advertising	3 / 3
MKTG 210	Marketing on the Internet	3 / 3
MKTG 229	Public Relations	3 / 3

For future transfer to:

- Davenport University choose MGMT 227, MGMT 234, and MKTG 210.
- Eastern Michigan University choose CITF 110 and MGMT 234
- Ferris State University choose MGMT 224 and 4 credits from any Limited Choice.
- Northwood University choose MGMT 200, MGMT 234, and MGMT 335.
- Oakland University choose CITA 110 and MATH 141.
- Siena Heights University choose MGMT 200, MGMT 234, and MKTG 119.

### Minimum Total Credit Hours

60 credits / 61 billing hours

### Recommended Course Sequence

Semester I
ACAD 100
ACCG 210
BIOL 120 or BIOL 125
BUSN 118 – Milestone course
ENGL 121 or ENGL 131

Semester II
ACCG 211
BUSN 201
ECON 201
MATH 119 or MATH 120 or STAT 170

Semester III
ECON 202
LEGL 215
MGMT 225
MGMT 228
MKTG 200

Semester IV
BUSN 285
COMM 110 or COMM 130
Limited Choice

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## **Business, Enhanced A.B. Business Administration Track**

Career Community: Business

Curriculum Code: 1822

Effective: Fall 2022 – Summer 2027

### **Purpose of Program**

This degree is designed for students wishing to transfer after having completed the Associate in Business, Major in Business Administration degree. This Enhanced AB option allows completion of credits required for employment through the AB and completion of additional courses required for the Bachelor's degree, as designated by transfer articulation agreements. Required coursework follows for the Business Administration subtracks of the Business, Enhanced AB for students transferring to Davenport University, Eastern Michigan University, Ferris State University, Northwood University, Oakland University, and Siena Heights University.

### **Contact Information**

Before beginning this program of study, students must contact the Business and Economics Department, Gannon Building, Room 1222, telephone number 517-483-1546, or the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

### **Program of Study Required Courses**

Completion of an LCC associate in Business is required for the Business, Enhanced degree. Completion of the AB in [Business Administration \(0243\)](#) as required for the specified transfer institution is the most efficient path to completing the Enhanced degree Accounting track. Students who have completed a different degree will need to work with a Program Advisor to create a personalized MAP (My Academic Pathway) in Degree Works to ensure that all requirements are met.

### **Recommended Courses by College/University**

Completing courses as directed meets transfer articulation agreement requirements for each institution.

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*

## **Davenport University (Business)**

### **General Education – Transfer Degrees (MTA) Courses**

(For the list of options, see [General Education](#))

- Any MTA Humanities course, 3-4 credits / 3-4 billing hours
- Any MTA Social Science course, 3-4 credits / 3-4 billing hours

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
ACCG 271	Principles of Finance	3 / 3
INSU 105	Prin of Prop & Liability Ins	3 / 3
MATH 120	College Algebra	4 / 4
MGMT 332	Ethics: Assumpt for the Future	3 / 3

### **Program of Study Required Courses, Limited Choice– *Select one***

Course Code	Course Title	Credit / Billing Hours
ENGL 122	Composition II	4 / 4
ENGL 132	Honors Composition II	4 / 4

### **Minimum Total Credit Hours**

83 credits / 84 billing hours

## **Eastern Michigan University**

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
ENGL 127	Business Writing	3 / 3
MUSC 199	Music Appreciation	3 / 3
STAT 215	Intro to Probability and Statistics	4 / 4

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
ANTH 270	Cultural Anthropology	3 / 3
COMM 280	Intercultural Communication	3 / 3
GEOG 200	World Regional Geography	4 / 4

### **Program of Study Required Courses, Limited Choice - *Select one***

Course Code	Course Title	Credit / Billing Hours
ASTR 201	Introductory Astronomy	4 / 5
CHEM 135	Chemistry in Society	4 / 5
GEOG 221	Physical Geography	4 / 4
ISCI 131	Integrated Physical Science	4 / 6

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
ENGL 122	Composition II	4 / 4
ENGL 132	Honors Composition II	4 / 4

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
PHIL 151	Intro to Logic & Critical Think	4 / 4
PHIL 152	Introduction to Ethics	4 / 4

### **Minimum Total Credit Hours**

85 credits / 86 billing hours

## **Ferris State University**

### **General Education – Transfer Degrees (MTA) Courses**

(For the list of options, see [General Education](#))

- Any non-BIOL MTA Science course, 3-4 credits / 3-4 billing hours
- Any non-ECON MTA Social Science course, 3-4 credits / 3-4 billing hours
- Two MTA Humanities courses from 2 different disciplines, 6-8 credits / 6-8 billing hours

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
LEGL 216	Commercial Transactions	3 / 3

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
ENGL 122	Composition II	4 / 4
ENGL 127	Business Writing	3 / 3
ENGL 132	Honors Composition II	4 / 4

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
MATH 119	Math-Applications for Living	4 / 4
MATH 120	College Algebra	4 / 4

### **Minimum Total Credit Hours**

82 credits / 83 billing hours

## **Northwood University (Finance)**

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
ACCG 271	Principles of Finance	3 / 3
CITA 110	Intro to Microsoft Office	3 / 3
MATH 141	Calculus with Applications	4 / 4
MGMT 200	Creative Thinking for Business	3 / 3
MGMT 332	Ethics: Assumpt for the Future	3 / 3
MGMT 329	Advanced Mgmt Communication	3 / 3

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
ENGL 122	Composition II	4 / 4
ENGL 132	Honors Composition II	4 / 4

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
HIST 211	U.S. History to 1877	4 / 4
HIST 212	U.S. History: 1877 to Present	4 / 4
HUMS 213	World Civilizations to 1600	4 / 4
HUMS 214	World Civilizations from 1600	4 / 4

### **Program of Study Required Courses, Limited Choice – *Select one***

Any 3-credit course from ARTS, BIOL, CHEM, ISCI, HIST, HUMS, PHIL, PHYS, POLS, PSYC, or SOCL

### **Minimum Total Credit Hours**

90 credits / 91 billing hours

## Oakland University

### **General Education – Transfer Degrees (MTA) Courses**

(For the list of options, see [General Education](#))

- Any non-BIOL MTA Science course, 3-4 credits / 3-4 billing hours
- Any non-ECON MTA Social Science course, 3-4 credits / 3-4 billing hours
- Two MTA Humanities courses from 2 disciplines, 6-8 credits / 6-8 billing hours

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
ENGL 127	Business Writing	3 / 3

### **Program of Study Required Courses, Limited Choice– *Select one***

Course Code	Course Title	Credit / Billing Hours
ENGL 122	Composition II	4 / 4
ENGL 132	Honors Composition II	4 / 4

### **Program of Study Required Courses, Limited Choice– *Select one***

Any 3-credit ACCG or BUSN or INSU or LABR or MGMT or MKTG course

### **Minimum Total Credit Hours**

82 credits / 83 billing hours





## **Business, Enhanced A.B.**

Career Community: Business

Curriculum Code: 1822

Effective: Fall 2022 – Summer 2027

Revised: 7/8/22

### **Purpose of Program**

This degree is designed for students wishing to transfer after having completed an Associate in Business degree (Accounting, Business Administration, Field Sales and Marketing, Financial Institutions, Human Resource Management, Insurance and Risk Management, International Business, Management and Leadership, Marketing) or the Business Transfer Studies Associate in Arts degree. This Enhanced AB option allows students to transfer between 71 and 103 credits (depending on institution) toward the Bachelor's degree. This allows completion of credits required for employment through the AB, or for transfer through the AA, and completion of additional courses required for the Bachelor's degree, as designated by transfer articulation agreements. Required coursework follows for the Business, Enhanced A.B. pathways.

- **Accounting** - transfer to Davenport University in Accounting or Finance, Eastern Michigan University, Ferris State University – Business Administration Professional Track, Northwood University, Oakland University, Siena Heights University
- **Business Administration** - transfer to Davenport University, Eastern Michigan University, Ferris State University – Business Administration Professional Track, Northwood University, Oakland University, Siena Heights University
- **Business Transfer Studies** - transfer to Central Michigan University, Eastern Michigan University, Ferris State University and Oakland University
- **Field Sales and Marketing** - transfer to Davenport University, Eastern Michigan University, Ferris State University – Business Administration Professional Track, Northwood University, Oakland University, Siena Heights University
- **Financial Institutions** - transfer to Eastern Michigan University, Ferris State University – Business Administration Professional Track, Northwood University, Oakland University, Siena Heights University
- **Human Resource Management** - transfer to Davenport University, Ferris State University – Business Administration Professional Track, Northwood University, Oakland University
- **Insurance and Risk Management** - transfer to Davenport University, Ferris State University – Business Administration Professional Track, Northwood University in Insurance and Risk Management or Finance
- **International Business** - transfer to Davenport University, Ferris State University – Business Administration Professional Track, Siena Heights University
- **Management and Leadership** - transfer to Davenport University, Eastern Michigan University, Ferris State University – Business Administration Professional Track, Northwood University, Oakland University, Siena Heights University
- **Marketing** - transfer to Davenport University, Eastern Michigan University, Ferris State University – Business Administration Professional Track, Northwood University, Oakland University, Siena Heights University

## Contact Information

Before beginning this program of study, students must contact the Business and Economics Department, Gannon Building, Room 1222, telephone number 517-483-1522, or the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

## Program of Study Required Courses

Complete all courses as indicated for one Track as required for the specified transfer institution.

Choose one track:

- [Accounting](#)
- [Business Administration](#)
- [Business Transfer Studies](#)
- [Field Sales and Marketing](#)
- [Financial Institutions](#)
- [Human Resource Management](#)
- [Insurance and Risk Management](#)
- [International Business](#)
- [Management and Leadership](#)
- [Marketing](#)

## Recommended Courses by College/University

Completing courses as directed for each subtrack meets transfer articulation agreement requirements for each institution.



## **Business Transfer Studies A.A.**

Career Community: Business

Curriculum Code: 1622

Effective: Fall 2022 – Summer 2027

Revised: 6/30/22

### **Purpose of Major**

This major focuses on preparing students for transfer to a four-year institution with the goal of admission to the College of Business in any major offered by that institution, including Economics for students wishing to earn a Bachelor's of Business Administration in Economics. Not all institutions offer all majors. Institutions and major areas for which this pathway is designed are listed below:

- Central Michigan University (Accounting, Economics, Finance, General Management, Hospitality Services Administration, Human Resources Management, International Business, Law and Economics, Logistics Management, Marketing, Marketing: Professional Sales Concentration, Personal Financial Planning, Purchasing and Supply Management, Real Estate Development and Finance)
- Eastern Michigan University (Accounting, Economics, Human Resources Management, International Business, Management, Purchasing/Supply Chain Management, Marketing, Sales)
- Ferris State University (Advanced Fleet Management, Human Resource Management, International Business Management, Risk Management and Insurance, Lean Systems, Leadership and Project Management, Operations and Supply Management, Small Business Entrepreneurship)
- Grand Valley State University (Accounting, Economics, Finance, General Business, General Management, Human Resource Management, International Business, Marketing, Marketing: Distribution and Logistics Emphasis, Marketing: Sales Emphasis, Operations Management, Supply Chain Management)
- Michigan State University (Accounting, Finance, Hospitality Business, Human Resources Management, Management, Marketing, Supply Chain Management)
- Oakland University (Accounting, Economics, General Business, Human Resources Management, Management, Marketing)
- Olivet College (Accounting, Business Administration, Business Analysis in Insurance, Financial Planning, Insurance and Risk Management, Management, Marketing)
- University of Michigan Flint (Accounting, Entrepreneurship and Innovation Management, Finance, General Business, International Business, Marketing, Operations and Supply Chain Management, Organizational Behavior and Human Resources Management)
- Western Michigan University (Accounting, E-Business Design, Economics, Finance, General Business, Human Resource Management, Integrated Supply Chain Management, Management, Marketing, Marketing: Advertising and Promotion, Marketing: Food and Consumer Package Goods, Marketing: Sales and Business, Personal Financial Planning)

## **Milestone**

In addition to the required General Education courses in Math and English, completion of BUSN 118 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses may be the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

## **Additional Information**

A student must earn a minimum grade of 2.0 in all courses.

## **Contact Information**

*Contact the Business and Economics Department, Gannon Building, Room 1222, telephone number 517-483-1546 or the Academic Advising Department, Gannon Building – Star Zone, telephone number 517-483-1904.*

## **Business, Enhanced AB with Business Transfer Studies Option**

Central Michigan University, Eastern Michigan University, Ferris State University, and Oakland University allow students to transfer additional credits toward the Bachelor's degree. Students wishing to transfer should complete the requirements for the Business Transfer Studies AA with transfer to Central Michigan University, Eastern Michigan University, Ferris State University (Business Administration with Concentration), or Oakland University; then, complete the Business, Enhanced AB requirements. The Business, Enhanced AB degree, Business Transfer Studies track, meets requirements for transfer to Central Michigan University, Eastern Michigan University, Ferris State University (Business Administration with Concentrations), or Oakland University in the following majors:

- Central Michigan University (Accounting, Economics, Finance, General Management, Hospitality Services Administration, Human Resources Management, International Business, Law and Economics, Logistics Management, Marketing, Marketing: Professional Sales Concentration, Personal Financial Planning, Purchasing and Supply Management, Real Estate Development and Finance)
- Eastern Michigan University (Accounting, Economics, Human Resources Management, International Business, Management, Purchasing/Supply Chain Management, Marketing, Sales)
- Ferris State University – Business Administration with Concentrations (Advanced Fleet Management, Human Resource Management, International Business Management, Risk Management and Insurance, Lean Systems, Leadership and Project Management, Operations and Supply Management, Small Business Entrepreneurship)
- Oakland University (Accounting, Economics, General Business, Human Resources Management, Management, Marketing)

## **Career-Specific AB Options**

The coursework in the Business Transfer Studies A.A. Pathway does not prepare students to work in the field of their choice on completion of the Associate's degree. Students who wish to work in their field of choice on completion of the Associate's degree should select a major in Accounting,

Business Administration, Field Sales and Marketing, Financial Institutions, Human Resource Management, Insurance and Risk Management, International Business, Management and Leadership, or Marketing. Students who wish to work in the field on completion of the A.B. and also transfer to a four-year institution with the majority of their coursework accepted for transfer may complete the coursework for the Enhanced Associate in Business degree related to a specific AB pathway.

### **General Education – Transfer (MTA) Recommended Choices**

Select courses as indicated for specific transfer institutions. These courses are preferred General Education courses listed on Transfer Articulation agreements. The recommended courses in each General Education category also meet Michigan Transfer Agreement (MTA) requirements. If no course is indicated, choose from the list of options under [General Education](#).

- English Composition  
Business Career Community Courses will meet this requirement.
- English Composition (Second Course) or Communications  
Business Career Community Courses will meet this requirement.
- Humanities and Fine Arts – *Select two, each from a different discipline.*  
Program of Study Required Courses will meet this requirement.
- Mathematics  
Business Career Community Courses will meet this requirement.
- Natural Sciences – *Select two, each from a different discipline; one must be a lab course.*  
Business Career Community and Program of Study Required Courses will meet this requirement.
- Social Sciences - – *Select two, each from a different discipline.*  
Business Career Community and Program of Study Required Courses will meet this requirement.

**Business Career Community Required Courses** - *These courses are required for all Business programs. They should be taken before other Program Required or Limited Choice Courses. Some courses meet General Education requirements for Michigan Transfer Agreement (MTA).*

Course Code	Course Title	Credit / Billing Hours
ACAD 100	First Year College Experience	1 / 1
ACCG 210	Principles of Financial Accg	4 / 4
BIOL 120 or BIOL 125	Environmental Science Introductory Biology	4 / 6 4 / 5
BUSN 118	Introduction to Business	3 / 3
COMM 110 or COMM 130	Communication in the Workplace Fundamentals Public Speaking	3 / 3 3 / 3
ECON 201	Principles of Economics - Micro	4 / 4
ENGL 121 or	Composition I	4 / 4

Course Code	Course Title	Credit / Billing Hours
ENGL 131	Honors Composition I	4 / 4
LEGL 215	Business Law – Basic Principles	3 / 3
MATH 120 or STAT 170	College Algebra Introductory to Statistics	4 / 4 4 / 4
MGMT 225	Principles of Mgmt/Leadership	3 / 3
MKTG 200	Principles of Marketing	3 / 3

Notes:

ACAD 100 may be waived based on the recommendation of a Program Advisor.

For future transfer to:

- Central Michigan University, Ferris State University, and Grand Valley State University choose COMM 130, and STAT 170
- Eastern Michigan University and Oakland University, choose STAT 170
- Michigan State University and University of Michigan Flint, choose COMM 130, and MATH 120
- Olivet College and Western Michigan University, choose MATH 120

### **Program of Study Required Courses, Limited Choice – Humanities and Fine Arts -**

*Select courses as indicated for each major and transfer institution. If specific courses are not noted, select any two courses from different disciplines.*

Course Code	Course Title	Credit / Billing Hours
ENGL 200	Introduction to Literature	3 / 3
FREN 121 or GRMN 121 or JAPN 121 or SPAN 121 or	Elementary French I Elementary German I Elementary Japanese I Elementary Spanish I	4 / 4 4 / 4 4 / 4 4 / 4
FREN 201 or GRMN 201 or JAPN 201 or SPAN 201	Intermediate French I Intermediate German I Intermediate Japan I Intermediate Spanish I	4 / 4 4 / 4 4 / 4 4 / 4
MUSC 199	Music Appreciation	3 / 3
PHIL 101	Introduction to Philosophy	3 / 3
PHIL 151	Intro to Logic & Critical Think	4 / 4
PHIL 152	Introduction to Ethics	4 / 4
RELG 150	Intro to World Religions	4 / 4

For future transfer to:

- International Business majors only - Central Michigan University, Ferris State University, Grand Valley State University, and University of Michigan Flint choose FREN 121 or 201 or GRMN 121 or 201 or JAPN 121 or 201 or SPAN 121 or 201 based on proficiency testing and a second Humanities course as indicated below.
- International Business majors only – Central Michigan University, Ferris State University, Grand Valley State University, and University of Michigan Flint, choose one from ENGL 200, MUSC 199, or PHIL 101.
- Central Michigan University, Eastern Michigan University, Ferris State University, and Grand Valley State University – all majors except International Business, choose two from ENGL 200, MUSC 199, and PHIL 101.
- Olivet College, Oakland University, and Western Michigan University, choose two from ENGL 200, MUSC 199, and PHIL 101.
- Michigan State University, choose two from two different disciplines - PHIL 151, PHIL 152, and RELG 150.
- University of Michigan Flint – all majors except International Business, choose one from ENGL 200, MUSC 199, or PHIL 101, and one from PHIL 151, PHIL 152, and RELG 150.

**Program of Study Required Courses, Limited Choice – Natural Sciences** - *Select one course as indicated for each transfer institution. If specific courses are not noted, select any course from a discipline other than BIOL.*

Course Code	Course Title	Credit / Billing Hours
ASTR 201	Introductory Astronomy	4 / 5
CHEM 135	Chemistry in Society	4 / 5
GEOG 221	Physical Geography	4 / 4
ISCI 131	Integrated Physical Science	4 / 6
PFHW 123	Human Nutrition	3 / 3

For future transfer to:

- Central Michigan, Ferris State University, Grand Valley State University, Oakland University, Olivet College, University of Michigan Flint, and Western Michigan University, choose PFHW 123.
- Eastern Michigan University, choose ASTR 201, CHEM 135, GEOG 221, or ISCI 131.

**Program of Study Required Courses, Limited Choice – Social Sciences** - Select one course as indicated for each transfer institution. If specific courses are not noted, select any course from a discipline other than ECON.

Course Code	Course Title	Credit / Billing Hours
ANTH 270	Cultural Anthropology	3 / 3
COMM 280	Intercultural Communication	3 / 3
GEOG 200	World Regional Geography	4 / 4
SOCL 120	Introduction to Sociology	4 / 4

For future transfer to:

- Central Michigan University, Ferris State University, Grand Valley State University, Oakland University, Olivet College, and Western Michigan University, choose ANTH 270 or COMM 280.
- Eastern Michigan University, choose ANTH 270, COMM 280, or GEOG 200.
- University of Michigan Flint, choose SOCL 120.

**Program of Study Required Courses, Limited Choice** – *Select a minimum of 8 credits in order to reach the 60 credits required for the degree. See the notes below for specific course selections for each transfer institution and major.*

Course Code	Course Title	Credit / Billing Hours
ACCG 211	Principles of Managerial Accg	4 / 4
BUSN 201	International Business	3 / 3
CITA 110	Intro to Microsoft Office	3 / 3
CITF 110	Intro Computer Info Systems	3 / 3
ECON 120	Power, Authority, and Exchange	4 / 4
ECON 202	Principles of Economics - Macro	4 / 4
ECON 213	U.S. Economic/Business History	3 / 3
ECON 260	Comparative Economic Systems	3 / 3
ENGL 122 or ENGL 132	Composition II Honors Composition II	4 / 4 4 / 4
FREN 122 or GRMN 122 or JAPN 122 or SPAN 122 or FREN 202 or GRMN 202 or JAPN 202 or SPAN 202	Elementary French II Elementary German II Elementary Japanese II Elementary Spanish II Intermediate French II Intermediate German II Intermediate Japanese II Intermediate Spanish II	4 / 4 4 / 4 4 / 4 4 / 4 4 / 4 4 / 4 4 / 4 4 / 4
INSU 105	Prin of Prop & Liability Ins	3 / 3
INSU 110	Personal Insurance	3 / 3
INSU 125	Commercial Insurance	3 / 3
INSU 175	Intro to Financial Advising	3 / 3
MATH 120	College Algebra	4 / 4
MATH 141	Calculus with Applications	4 / 4



Course Code	Course Title	Credit / Billing Hours
MGMT 224	Human Resource Management	3 / 3
MGMT 228	Organization Behavior	3 / 3
STAT 215	Intro to Probability and Stats	4 / 4

For future transfer to:

- Central Michigan University, Ferris State University, Grand Valley State University, and University of Michigan-Flint (International Business majors), choose four credits of the same foreign language chosen to meet the Humanities requirement, based on proficiency testing, ACCG 211 and ECON 202.
- Central Michigan University (Economics majors), choose ACCG 211, ECON 120, and ECON 202.
- Central Michigan University (all other majors), Eastern Michigan University, and Ferris State University (all majors except International Business), choose ACCG 211, ECON 202, and ENGL 122 or ENGL 132.
- Grand Valley State University (all majors except International Business), choose ACCG 211, ECON 202, and MATH 120.
- Michigan State University (all majors) choose ACCG 211, ECON 202, and STAT 215.
- Oakland University and Western Michigan University choose ACCG 211, ECON 202, and ENGL 122 or ENGL 132.
- Olivet College (Insurance and Risk Management majors only) choose INSU 105, INSU 110, INSU 125, and INSU 175.
- Olivet College (all other majors) choose ACCG 211, ECON 202, and STAT 215.
- University of Michigan Flint (all majors except International Business), choose ACCG 211, ECON 202, and MATH 141.

### **Minimum Total Credit Hours**

60 credits / 61 billing hours

## Recommended Course Sequence

Semester I
ACAD 100
BIOL 120 or BIOL 125
BUSN 118 – Milestone course
ENGL 121 or ENGL 131

Semester II
ECON 201
LEGL 215
MATH 120 or STAT 170
MKTG 200

Semester III
ACCG 210
MGMT 225
Limited Choice – Humanities and Fine Arts
Limited Choice – Natural Sciences
Limited Choice – Social Sciences

Semester IV
COMM 110 or COMM 130
Limited Choice – Humanities and Fine Arts
Limited Choice – complete as directed per transfer institution

Semester V
Limited Choice if needed to complete transfer requirements

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## **Business, Enhanced A.B. Business Transfer Studies Track**

Career Community: Business

Curriculum Code: 1822

Effective: Fall 2022 – Summer 2027

Revised: 7/6/22

### **Purpose of Program**

This degree is designed for students wishing to transfer to Central Michigan University, Eastern Michigan University, or Oakland University after having completed the Associate in Arts, Business Transfer Studies degree. This Enhanced AB option allows completion of credits required for the AA and completion of additional courses required for the Bachelor's degree, as designated by transfer articulation agreements. Required coursework follows for the Business Transfer subtracks of the Business, Enhanced AB for students transferring to Central Michigan University, Eastern Michigan University, and Oakland University.

### **Contact Information**

Before beginning this program of study, students must contact the Business and Economics Department, Gannon Building, Room 1222, telephone number 517-483-1546, or the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

### **Program of Study Required Courses**

Completion of an LCC associate in Business is required for the Business, Enhanced degree. Complete all courses as indicated for the AA in [Business Transfer Studies \(1622\)](#) as required for the specified transfer institution is the most efficient path to completing the Enhanced degree Accounting track. Students who have completed a different degree will need to work with a Program Advisor to create a personalized MAP (My Academic Pathway) in Degree Works to ensure that all requirements are met.

### **Recommended Courses by College/University**

Completing courses as directed meets transfer articulation agreement requirements for each institution.

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*

## **Central Michigan University**

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
CITF 110	Intro Computer Info Systems	3 / 3
ENGL 122 or ENGL 132	Composition II or Honors Composition II	4 / 4 4 / 4
MATH 120	College Algebra	4 / 4

Note:

ENGL 122 or ENGL 132 may be waived if completed as part of the A.A.

### **Minimum Total Credit Hours**

71 credits / 72 billing hours

## **Eastern Michigan University**

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
CITF 110	Intro Computer Info Systems	3 / 3
ENGL 127	Business Writing	3 / 3

### **Program of Study Required Courses, Limited Choice**– *Select eight to nine credits.*

Courses related to the major. Consult a Program Advisor and an advisor from Eastern Michigan University's College of Business to select appropriate courses.

### **Minimum Total Credit Hours**

77 credits / 78 billing hours

## **Ferris State University**

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
BUSN 201	International Business	3 / 3
LEGL 215	Business Law-Basic Principles	3 / 3
MGMT 224	Human Resource Management	3 / 3
MGMT 228	Organization Behavior	3 / 3

### **Program of Study Required Courses, Limited Choice– *Select one.***

Course Code	Course Title	Credit / Billing Hours
CITA 110	Intro to Microsoft Office	3 / 3
CITF 110	Intro Computer Info Systems	3 / 3

### **Program of Study Required Courses, Limited Choice– *Select one.***

Course Code	Course Title	Credit / Billing Hours
MATH 119	Math – Applications for Living	4 / 4
MATH 120	College Algebra	4 / 4

### **Program of Study Required Courses– *International Business majors only***

Course Code	Course Title	Credit / Billing Hours
ENGL 122	Composition II	4 / 4

### **Minimum Total Credit Hours**

79 credits / 80 billing hours

## **Oakland University**

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
CITA 110	Intro to Microsoft Office	3 / 3

### **Program of Study Required Courses, Limited Choice**– *Select fourteen credits*

Courses related to the major. Consult a Program Advisor and an advisor from Oakland University's College of Business to select appropriate courses.

### **Minimum Total Credit Hours**

77 credits / 78 billing hours



## Chemical Technology A.A.S.

Career Community: Science and Mathematics

Curriculum Code: 0163

Effective: Fall 2022 – Summer 2027

### Description

Graduates with associate degrees in Chemical Technology are in great demand by the chemical industry. This program prepares students to work with chemists and chemical engineers in many settings. Research, development, and production of pharmaceuticals, agricultural chemicals, and plastics as well as related functions such as sales and technical writing are some of the opportunities that are available to persons with this type of training. Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

### Milestone

In addition to the required General Education courses in Math and English, completion of BIOL 127, CHEM 151, and CHEM 161 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Contact Information

Contact the Science Department in the Arts and Sciences Building, Room 3203, telephone number 517-483-1092, or the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

### General Education – Applied Degrees, Recommended Courses

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours  
ENGL 131, Honors Composition I, 4 credits / 4 billing hours
- English Composition (second course)/Communications or Applied Communications – *Select one*  
COMM 120, Dynamics of Communication, 3 credits / 3 billing hours  
COMM 130, Fundamentals Public Speaking, 3 credits / 3 billing hours  
ENGL 122, Composition II, 4 credits / 4 billing hours  
ENGL 132, Honors Composition II, 4 credits / 4 billing hours
- Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one*  
ECON 120, Power, Authority and Exchange, 4 credits / 4 billing hours  
GEOG 200, World Regional Geography, 4 credits / 4 billing hours  
HUMS 213, World Civilizations to 1600, 4 credits / 4 billing hours  
PHIL 211, Philosophy: Ancient & Medieval, 4 credits / 4 billing hours  
SOCL 120, Introduction to Sociology, 4 credits / 4 billing hours



- Mathematics or Applied Mathematics  
Program of Study Required Courses will meet this requirement
- Natural Sciences Lab or Applied Science and Technology Lab  
Program of Study Required Courses will meet this requirement

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
BIOL 127	Cell Biology	4 / 6
CHEM 151	General Chemistry Lecture I	4 / 4
CHEM 152	General Chemistry Lecture II	3 / 3
CHEM 161	General Chemistry Lab I	1 / 3
CHEM 162	General Chemistry Lab II	1 / 3
CHEM 251	Organic Chemistry Lecture I	4 / 4
CHEM 252	Organic Chemistry Lecture II	4 / 4
CHEM 262	Quantitative Analysis	3 / 6
CHEM 272	Organic Chemistry Laboratory	2 / 6
ISCI 245	S.T.E.M. Workplace Practices	4 / 6
MATH 126	Precalculus	5 / 5
PHYS 221	Introductory Physics I	4 / 6
STAT 215	Intro to Probability and Stats	4 / 4

### Program of Study Required Courses, Limited Choice – *Select two or more courses, a minimum of 6-7 credits*

Course Code	Course Title	Credit / Billing Hours
BIOL 203	Microbiology	3 / 3
BIOL 204	Microbiology Laboratory	1 / 3
ENVR 121	Environmental Rules and Regs	3 / 3
ENVR 122	Enviro Sampl & Instrumentation	4 / 6
ENVR 131	Industrial Process Safety	3 / 3
MUSC 108	Concert Choir	1 / 3
MUSC 122	Rock Band	1 / 3
MUSC 123	Jazz Ensemble	1 / 3
MUSC 124	Multi-Instrumental Music Ensem	1 / 3
PHYS 222	Introductory Physics II	4 / 6
SCIN 287	Science Technology Internship	2-4 / 2-4

### Minimum Total Credit Hours

60 credits / 78 billing hours

## Recommended Course Sequence

Semester I
Gen Ed - English Composition or Applied English
BIOL 127 – Milestone course
CHEM 151 – Milestone course
CHEM 161 – Milestone course

Semester II
CHEM 152
CHEM 162
ISCI 245
MATH 126
Limited Choice

Semester III
Gen Ed – English Comp (second course) or Communications or Applied Communications
Gen Ed - Humanities and Fine Arts or Social Sciences or Applied Social Sciences
CHEM 251
CHEM 262
STAT 215

Semester IV
CHEM 252
CHEM 272
PHYS 221
Limited Choice, if needed

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## **Chemistry A.S.**

Career Community: Science and Mathematics

Curriculum Code: 0117

Effective: Fall 2022 – Summer 2027

### **Description**

This degree is designed for students who intend to transfer to a four-year college or university to pursue a baccalaureate degree in this subject area. Students completing this curriculum will also satisfy the Michigan Transfer Agreement (MTA) between two-year and four-year institutions in Michigan and qualify for an LCC Transfer Studies Certificate of Achievement (1482).

### **Milestone**

In addition to the required General Education courses in Math and English, completion of CHEM 151 and CHEM 161 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

A student must earn a minimum grade of 2.0 in all courses.

### **Contact Information**

Contact the Science Department in the Arts & Sciences Building, Room 3203, telephone number 517-483-1092 or the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

### **General Education – Transfer Degree (MTA), Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition  
ENGL 121 or ENGL 131 meets this requirement.
- English Composition (second course) or Communications  
COMM 130 or ENGL 122 or ENGL 132 meets this requirement.
- Humanities and Fine Arts  
Program of Study Required Courses meets this requirement.
- Mathematics  
Program of Study Required Courses meets this requirement.
- Natural Sciences – *Select one from a discipline other than CHEM*  
BIOL 120 or BIOL 127 or GEOL 221 or GEOL 230 or PHYS 251  
BIOL 127 is strongly recommended.

- Social Science – *Select two, each from a different discipline*  
Career Community and Program of Study Required Courses meets this requirement.

**Science and Math Career Community Courses** – *These courses are required for all Science and Mathematics programs. They should be taken before other Program Required or Limited Choice Courses. Some courses meet General Education requirements for Michigan Transfer Agreement (MTA). A minimum of 2.0 is required to meet LCC degree requirements for General Education courses and for all courses to transfer to other colleges (some colleges, and some programs within colleges, require a higher grade in a course.)*

Course Code	Course Title	Credit / Billing Hours
ACAD 100	First Year College Experience	1 / 1
ANTH 270 or ECON 120 or ECON 201 or EDUC 204 or EDUC 220 or GEOG 120 or GEOG 200 or POLS 120 or POLS 240 or POLS 260 or PSYC 200 or SOCL 120	Cultural Anthropology Power, Authority, and Exchange Principles of Economics-Micro Educational Psychology Introduction to Education Introduction to Geography World Regional Geography American Political System Introduction to Public Policy Comparative Political Systems Introduction to Psychology Introduction to Sociology	3 / 3 4 / 4 4 / 4 3 / 3 3 / 3 3 / 3 4 / 4 4 / 4 3 / 3 3 / 3 4 / 4 4 / 4
BIOL 120 or BIOL 127 or GEOL 221 or GEOL 230 or PHYS 251	Environmental Science Cell Biology Physical Geology Environmental Geology Physics I with Calculus	4 / 6 4 / 6 4 / 6 4 / 6 5 / 7
CHEM 151	General Chemistry Lecture I	4 / 4
CHEM 161	General Chemistry Lab I	1 / 3
COMM 130 or ENGL 122 or ENGL 132	Fundamentals Public Speaking Composition II Honors Composition II	3 / 3 4 / 4 4 / 4
ENGL 121 or ENGL 131	Composition I Honors Composition I	4 / 4 4 / 4
MATH 120 or MATH 126 or MATH 151	College Algebra Precalculus Calculus I	4 / 4 5 / 5 4 / 4

Notes:

ACAD 100 may be waived based on the recommendation of a Program Advisor.

Students considering adding Secondary Education Certification in Math or Science in order to teach in Michigan Public Schools are strongly encouraged to select EDUC courses as listed to meet the Michigan Transfer Agreement (MTA) Social Science requirement.

For future transfer (Secondary Education Certification) to:

- Central Michigan University, Ferris State University, or Michigan State University choose EDUC 204.
- Eastern Michigan University, Grand Valley State University, University of Michigan Flint, or Western Michigan University choose EDUC 220.

For future transfer (all majors) to:

- Central Michigan University, Ferris State University, Grand Valley State University and Michigan State University choose COMM 130.
- Eastern Michigan University, University of Michigan Flint, and Western Michigan University choose ENGL 122.

**Program of Study Required Courses - CHEM 151 and CHEM 161 will meet both Career Community and Program of Study Requirements.**

Course Code	Course Title	Credit / Billing Hours
CHEM 151	General Chemistry Lecture I	4 / 4
CHEM 152	General Chemistry Lecture II	3 / 3
CHEM 161	General Chemistry Lab I	1 / 3
CHEM 162	General Chemistry Lab II	1 / 3
CHEM 251	Organic Chemistry Lecture I	4 / 4
CHEM 252	Organic Chemistry Lecture II	4 / 4
CHEM 262	Quantitative Analysis	3 / 6
CHEM 272	Organic Chemistry Laboratory	2 / 6
MATH 151	Calculus I	4 / 4
MATH 152	Calculus II	4 / 4

**Program of Study Required Courses, Limited Choice – Humanities or Fine Arts**

*Select two from different disciplines.*

Course Code	Course Title	Credit / Billing Hours
HIST 212	U.S. History: 1877 to Present	4 / 4
HUMS 213	World Civilizations to 1600	4 / 4
HUMS 214	World Civilizations from 1600	4 / 4
PHIL 151	Intro to Logic and Critical Thinking	4 / 4
PHIL 152	Introduction to Ethics	4 / 4
RELG 150	Intro to World Religions	4 / 4

**Program of Study Required Courses – Limited Choice – Social Sciences** - *Select one from a different discipline chosen for the Science and Math Career Community block of courses.*

Course Code	Course Title	Credit / Billing Hours
ANTH 270	Cultural Anthropology	3 / 3
POLS 120	American Political System	4 / 4
PSYC 200	Introduction to Psychology	4 / 4
SOCL 120	Introduction to Sociology	4 / 4

Note:

For future transfer (Secondary Education Certification) choose PSYC 200.

**Elective Courses, Recommended Choices** – *Select a minimum of one course to reach the minimum 60 total credits required for this degree. For information on preferred courses for specific concentrations identified by transfer institutions, consult with a Program Advisor.*

Course Code	Course Title	Credit / Billing Hours
ISCI 245	S.T.E.M. Workplace Practices	4 / 6
MATH 253	Calculus III	4 / 4
MUSC 108	Concert Choir	1 / 3
MUSC 122	Rock Band	1 / 3
MUSC 123	Jazz Ensemble	1 / 3
MUSC 124	Multi-Instrumental Music Ensemble	1 / 3
PHYS 251	Physics I with Calculus	5 / 7
PHYS 252	Physics II with Calculus	5 / 7

**Minimum Total Credit Hours**

60 credits / 75 billing hours

**Recommended Course Sequence**

Semester I
ENGL 121 or 131
ANTH 270 or ECON 120 or ECON 201 or EDUC 204 or EDUC 220 or POLS 120 or POLS 240 or POLS 260 or PSYC 200 or SOCL 120
CHEM 151 – Milestone course
CHEM 161 – Milestone course
MATH 151

Semester II
COMM 130 or ENGL 122 or ENGL 132
Limited Choice - Humanities and Fine Arts
CHEM 152
CHEM 162
MATH 152

Semester III
BIOL 120 or BIOL 127 or GEOL 221 or GEOL 230 or PHYS 251 (BIOL 127 recommended)
Limited Choice - Social Sciences
CHEM 251
CHEM 262
Elective as needed for total credits

Semester IV
Limited Choice - Humanities and Fine Arts
CHEM 252
CHEM 272
Elective as needed for total credits

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## **Child Development and Early Education A.A.A.**

Career Community: Education

Curriculum Code: 1637

Effective: Fall 2022 – Summer 2027

### **Description**

This degree program prepares individuals to work in early childhood education and care programs as a lead teacher, teacher assistant, or program director. This program has been awarded Early Childhood Associate Degree Accreditation from the National Association for the Education of Young Children (NAEYC), 1313 L St. NW, Suite 500, Washington, D.C. 20005. The curriculum is aligned with the NAEYC Professional Standards and Competencies for Early Childhood Educators, the Michigan Core Knowledge and Core Competencies for the Early Care and Education Workforce, and the Michigan Department of Education Birth-Kindergarten Standards for Teacher Certification. Students learn to plan and implement high quality, developmentally appropriate programs for children birth to age 12 in a variety of early childhood education settings. Graduates of the associate degree program meet the educational requirements for childcare center program directors as specified by the State of Michigan Child Care Licensing Bureau. This degree articulates with certain Child Development/Early Education bachelor degrees. Several semesters of daytime field work in early education and childcare settings is required.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of CHDV 100, CHDV 101, and CHDV 111 with a 2.5 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

This degree is designed for students seeking an associate degree. It is also for students who intend to transfer to a four-year college or university to pursue a baccalaureate degree in this subject area. Students completing this curriculum will satisfy the Michigan Transfer Agreement (MTA) between two-year and four-year institutions in Michigan and qualify for an LCC Transfer Studies Certificate of Achievement (1482).

Criminal background checks and DHHS Central Registry Clearance are required for students in CHDV field placement classes to meet State of Michigan Child Care Licensing regulations. To meet field placement requirements students must submit proof of COVID vaccination prior to beginning field experience.

Students enrolled in CHDV 284 may be required to complete a TB test for field placement.

All CHDV courses must be completed with a minimum 2.5 grade and all non-CHDV courses must be completed with a 2.0 grade to receive this degree.



To finish this Associate's Degree in the shortest possible time, students must enroll in CHDV 100, CHDV 101, and CHDV 111 in the first semester.

### Contact Information

Contact the Child Development Program, Health and Human Services Building, Room 108, telephone number 517-483-1410, or the Academic Advising Department, Gannon Building – StarZone, telephone number 517-483-1904.

### General Education – Transfer Degrees (MTA), Recommended Courses

(For the full list of options, see [General Education](#))

- English Composition – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours  
ENGL 131, Honors Composition I, 4 credits / 4 billing hours
- English Composition (second course)/Communications – *Select one*  
COMM 120, Dynamics of Communication, 3 credits / 3 billing hours
- Humanities and Fine Arts – *Select one, not from the ENGL discipline*  
HIST 220, Michigan History, 4 credits / 4 billing hours  
HUMS 120, Masterpieces of Art & Music, 4 credits / 4 billing hours  
RELG 150, Intro to World Religions, 4 credits / 4 billing hours  
SPAN 121, Elementary Spanish I, 4 credits / 4 billing hours
- Mathematics – *Select one*  
MATH 119, Math - Applications for Living, 4 credits / 4 billing hours  
STAT 170, Introduction to Statistics, 4 credits / 4 billing hours
- Natural Sciences – *Select two, each from a different discipline, one must be a lab course*  
BIOL 120, Environmental Science, 4 credits / 6 billing hours  
CHEM 135, Chemistry in Society, 4 credits / 5 billing hours  
ISCI 121, Integrated Sci for Education I, 4 credits / 6 billing hours  
PFHW 123, Human Nutrition, 3 credits / 3 billing hours
- Social Sciences  
Program of Study Required Courses will meet this requirement.

## Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
CHDV 100	Foundations Early Childhood Ed	3 / 3
CHDV 101	Child Growth/Develop: 0-12 Yrs	4 / 4
CHDV 111	Child Guidance/Communication	4 / 4
CHDV 215	Infant Toddler Program Dev	4 / 4
CHDV 220	Preschool Curriculum Approach	4 / 4
CHDV 225	Families and Inclusion	4 / 4
CHDV 230	Early Childhood Program Admin	3 / 3
CHDV 284	Early Childhood Practicum	5 / 5
ENGL 208	Children's Literature	4 / 4
SOCL 120	Introduction to Sociology	4 / 4

## Program of Study Required Courses, Limited Choice – *Select one or two courses, minimum of two credits*

Course Code	Course Title	Credit / Billing Hours
CHDV 113	Health/Safety:Early Child Prog	2 / 2
CHDV 122	Creativity and Play	1 / 1
CHDV 123	Literacy and Play	1 / 1
CHDV 124	Young Investigators: Math/Sci	1 / 1
CHDV 126	Discovery Learning:Inf/Tod Gps	1 / 1
CHDV 129	Caring for Youngest Learners	2 / 2
CHDV 222	Caring for School Age Children	2 / 2

## Minimum Total Credit Hours

63 credits / 64 billing hours

## Recommended Course Sequence

Semester I (Fall)
MTA English Composition
CHDV 100 – Milestone course
CHDV 101 – Milestone course
CHDV 111 – Milestone course
Semester II (Spring)
MTA English Comp (2nd course) or Communications
MTA Mathematics
CHDV 215
ENGL 208

Semester III (Fall)
MTA Humanities and Fine Arts
MTA Natural Sciences
CHDV 220
CHDV 225
Limited Choice

Semester IV (Spring)
MTA Natural Sciences
CHDV 230
CHDV 284
SOCL 120

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## **Child Development and Early Education C.A.**

Career Community: Education

Curriculum Code: 0133

Effective: Fall 2022 – Summer 2027

### **Description**

This certificate program prepares individuals for positions as assistant teachers or teachers in early childhood education and care programs. The curriculum is aligned with the NAEYC (National Association for the Education of Young Children) Professional Standards and Competencies for Early Childhood Educators, the Michigan Core Knowledge and Core Competencies for the Early Care and Education Workforce, and the Michigan Department of Education Birth-Kindergarten Standards for Teacher Certification. Courses for the certificate can be applied toward the associate degree. This curriculum requires four semesters to complete. Several semesters of daytime field work in early education and child care settings is required.

### **Milestone**

Completion of CHDV 100, CHDV 101, and CHDV 111 with a 2.5 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

- All CHDV courses must be completed with a minimum 2.5 grade and all non-CHDV courses must be completed with a 2.0 grade to receive this certificate.
- Criminal background checks and DHHS Central Registry Clearance are required for students in CHDV field placement classes to meet State of Michigan Child Care Licensing regulations. To meet field placement requirements students must submit proof of COVID vaccination prior to beginning field experience.
- Students enrolled in CHDV 284 may be required to complete a TB test for field placement.

To finish this Certificate in the shortest possible time, students must enroll in CHDV 100, CHDV 101, and CHDV 111 in the first semester.

### **Contact Information**

Contact the Child Development and Early Education Program, Health and Human Services Building, Room 108, telephone number 517-483-1410, or the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
CHDV 100	Foundations Early Childhood Ed	3 / 3
CHDV 101	Child Growth/Develop: 0-12 Yrs	4 / 4
CHDV 111	Child Guidance/Communication	4 / 4
CHDV 215	Infant Toddler Program Dev	4 / 4
CHDV 220	Preschool Curriculum Approach	4 / 4
CHDV 225	Families and Inclusion	4 / 4
CHDV 230	Early Childhood Program Admin	3 / 3
CHDV 284	Early Childhood Practicum	5 / 5

### Program of Study Required Courses, Limited Choice- *Select one*

Course Code	Course Title	Credit / Billing Hours
ENGL 121	Composition I	4 / 4
ENGL 131	Honors Composition 1	4 / 4

### Program of Study Required Courses, Limited Choice - *Select one or two courses, minimum of 2 credits*

Course Code	Course Title	Credit / Billing Hours
CHDV 113	Health/Safety:Early Child Prog	2 / 2
CHDV 122	Creativity and Play	1 / 1
CHDV 123	Literacy and Plan	1 / 1
CHDV 124	Young Investigators: Math/Sci	1 / 1
CHDV 126	Discovery Learning:Inf/Tod Gps	1 / 1
CHDV 129	Caring for Youngest Learners	2 / 2
CHDV 222	Caring for School Age Children	2 / 2

### Minimum Total Credit Hours

37 credits / 37 billing hours

### Recommended Course Sequence

Semester I (Fall)
CHDV 100 – Milestone course
CHDV 101 – Milestone course
CHDV 111 – Milestone course

Semester II (Spring)
CHDV 215
CHDV 230
ENGL 121 or 131

Semester III (Fall)
CHDV 220
CHDV 225

Semester IV (Spring)
CHDV 284
Limited Choice

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice*



## **Child Development and Early Education C.C.**

Career Community: Education

Curriculum Code: 1815

Effective: Fall 2022 – Summer 2027

### **Description**

This certificate program prepares individuals for gainful, entry-level positions as assistant teachers, lead teachers, or program directors in early childhood education and care programs. This certificate can be used for students who intend to transfer to a four-year college or university to pursue a baccalaureate degree in this subject area. The curriculum is aligned with the NAEYC (National Association for the Education of Young Children) Professional Standards and Competencies for Early Childhood Educators, the Michigan Core Knowledge and Core Competencies for the Early Care and Education Workforce, and the Michigan Department of Education Birth-Kindergarten Standards for Teacher Certification. Courses for the certificate can be applied toward the associate degree. This curriculum requires two semesters to complete. One course of daytime field work in an early education and child care settings is required.

### **Milestone**

Completion of CHDV 100, CHDV 101, and CHDV 111 with a 2.5 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

All CHDV courses must be completed with a minimum 2.5 grade and all non-CHDV courses must be completed with a 2.0 grade to receive this certificate.

Criminal background checks and DHHS Central Registry Clearance are required for students in CHDV 111 to meet State of Michigan Child Care Licensing regulations. To meet field placement requirements students must submit proof of COVID vaccination prior to beginning field experience.

CHDV 111 should be completed in the first semester, as it is a prerequisite for CHDV 230.

Students seeking immediate employment, select CHDV 230 plus a one-credit elective (CHDV 122, CHDV 124, or CHDV 126). Students seeking employment as an infant/toddler teacher, select CHDV 126. Students seeking to transfer to a four-year college or university, select ENGL 121 or SOCL 120.

### **Contact Information**

Contact the Child Development and Early Education Program, Health and Human Services Building, Room 108, telephone number 517-483-1410, or the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
CHDV 100	Foundations Early Childhood Ed	3 / 3
CHDV 101	Child Growth/Develop: 0-12 Yrs	4 / 4
CHDV 111	Child Guidance/Communication	4 / 4
CHDV 123	Literacy and Play	1 / 1
CHDV 129	Caring for Youngest Learners	2 / 2

### Program of Study Required Courses, Limited Choice – *Select a minimum of 4 credits*

Course Code	Course Title	Credit / Billing Hours
CHDV 122	Creativity and Play	1 / 1
CHDV 124	Young Investigators: Math/Sci	1 / 1
CHDV 126	Discovery Learning:Inf/Tod Gps	1 / 1
CHDV 230	Early Childhood Program Admin	3 / 3
ENGL 121	Composition I	4 / 4
SOCL 120	Introduction to Sociology	4 / 4

### Minimum Total Credit Hours

18 credits / 18 billing hours

### Recommended Course Sequence

Semester I
CHDV 100 – Milestone course
CHDV 111 – Milestone course
CHDV 129

Semester II
CHDV 101 – Milestone course
CHDV 123
Limited Choice (total 4 credits)

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## Cisco Certified Network Associate Certification Preparation (CCNA) C.C.

Career Community: Computer Technology and Networking

Curriculum Code: 1469

Effective: Fall 2022 – Summer 2027

### Description

The Cisco Certified Network Associate Certification Preparation (CCNA) curriculum prepares students for the CCNA certification exam. CCNA is the industry standard foundational certification for networking careers. This curriculum provides a highly concentrated training experience in computer networking and is designed for retraining and professional development. Students completing this certificate may use the credits towards the Computer Networking and Cybersecurity Associate of Business Degree (1453).

### Milestone

Completion of CITN 220 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in this course.

### Contact Information

Contact the Computer Information Technologies Program in the West Campus Building, Room M103, telephone number 517-267-6406 or Student Services West Campus, West Campus Building, Room M016, telephone number 517-267-5452.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
CITN 220	Introduction to Networks	3 / 3
CITN 225	Switch Route Wireless Essentls	3 / 3
CITN 240	Ent Networking Sec Automation	3 / 3
CITS 125	Computer Support: A+ Cert Prep	6 / 6

### Program of Study Required Courses, Limited Choice – *Select one*

Course Code	Course Title	Credit / Billing Hours
CITN 120	Networking Concepts	3 / 3
CITN 222	Wireless Networking & Security	3 / 3
CITN 244	Securing Networking Devices	3 / 3

### Minimum Total Credit Hours

18 credits / 18 billing hours

## Recommended Course Sequence

Semester I
CITN 220 (First 8 weeks) – Milestone course
CITN 225 (Second 8 weeks)
CITS 125

Semester II
CITN 240 (First 8 weeks)
Limited Choice

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## **Civil Technology A.A.S.**

Career Community: Building and Construction Trades

Curriculum Code: 0178

Effective: Fall 2022 – Summer 2027

### **Description**

Civil engineering technicians apply theory and principles of civil engineering in planning, designing, and overseeing the construction and maintenance of structures and facilities in the highway system. They may work at construction or survey sites, offices or in testing labs with engineers, surveyors, supervisors, managers, or skilled trade workers. The successful civil engineering technician must have a working knowledge of college algebra and trigonometry, civil drafting, communications, construction materials, surveying, and must be computer literate. Civil engineering technicians work for construction, engineering, and architecture firms, government agencies, mapping agencies, and private petroleum and mining companies. Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of CIVL 101 and CIVL 120 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

Students who have completed ELTE 102, HVAC 102, METS 102, TECH 102, or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for DCTM 102.

Students will need to talk to a program advisor before enrolling in the Civil Technology Internship.

### **Contact Information**

Contact the Civil Technology Program at the West Campus Building, Room M103, telephone number 517-483-5338 or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

### **General Education-Applied Degree, Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours  
ENGL 124, Technical Writing, 3 credits / 3 billing hours

- English Composition (Second Course)/Communications or Applied Communication – *Select one*  
 COMM 110, Communication in the Workplace, 3 credits / 3 billing hours  
 COMM 120, Dynamics of Communication, 3 credits / 3 billing hours  
 COMM 130, Fundamentals Public Speaking, 3 credits / 3 billing hours
- Humanities and Fine Arts or Social Sciences or Applied Social Sciences– *Select one*  
 GEOG 200, World Regional Geography, 4 credits / 4 billing hours  
 MGMT 234, Diversity in the Workplace, 3 credits / 3 billing hours  
 SOCL 120, Introduction to Sociology, 4 credits / 4 billing hours
- Mathematics or Applied Mathematics – *Select one*  
 MATH 115, Technical Math II, 4 credits / 4 billing hours
- Natural Sciences Lab or Applied Science and Technology Lab – *Select one*  
 BIOL 120, Environmental Science, 4 credits / 6 billing hours  
 GEOL 230, Environmental Geology, 4 credits / 6 billing hours  
 ISCI 131, Integrated Physical Science, 4 credits / 6 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
CIVL 101	Civil Drafting	3 / 4
CIVL 110	Density Certification	2 / 2
CIVL 120	Surveying	4 / 6
CIVL 124	Route Survey	4 / 6
CIVL 131	Traffic Technology	3 / 3
CIVL 135	Soils Technology	3 / 3
CIVL 141	Site Inspection	3 / 3
CIVL 143	Site Dsgn & Layout/Civil Techn	3 / 4
CIVL 241	Statics/Strength of Materials	4 / 5
CIVL 290	Civil Technology Internship	2 / 2
DCTM 100	Intro to the Built Environment	3 / 4
DCTM 102	Construction Safety	2 / 3
DCTM 103	Codes and Specifications	3 / 3
GSCI 210	Global Positioning Systems	3 / 4
METS 140	Rigging	3 / 4.5

### Minimum Total Credit Hours

62 credits / 75.5 billing hours

## Recommended Course Sequence

Semester I - Fall
CIVL 101 – Milestone course
CIVL 120 – Milestone course
DCTM 100
DCTM 102
DCTM 103

Semester II - Spring
Gen Ed – English Composition or Applied English
Gen Ed – Mathematics or Applied Mathematics
CIVL 110
CIVL 124
CIVL 141

Semester III – Fall
Gen Ed – English Comp (Second Course)/ Communications or Applied Communications
Gen Ed – Humanities and Fine Arts or Social Sciences or Applied Social Sciences
CIVL 131
GSCI 210
METS 140

Semester IV - Spring
Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab
CIVL 135
CIVL 143
CIVL 241

Semester V - Summer
CIVL 290

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## CNC Machine Technology C.A.

Career Community: Electrical and Manufacturing

Curriculum Code: 1798

Effective: Fall 2022 – Summer 2027

### Description

This certificate is designed for a person interested in developing or advancing his/her skill set in the machinist or tool & die trade. Students receive hands-on instruction in manual machining, advanced computer numerical control (CNC) machining/programming, advanced computer aided machining (CAM), basics of geometric dimensioning and tolerancing, blueprint reading, and manufacturing principles. Employment possibilities include entry-level positions in manufacturing companies. Technical math, blueprint reading, and metallurgy are just some of the skills and knowledge that are necessary for this type of work.

### Milestone

Completion of METM 112 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in this course.

### Additional Information

All course work will apply to the Associate in Applied Science Degree in Manufacturing Engineering Technology.

### Contact Information

Contact the Trades Technology Program, West Campus Building, Room M103, telephone number 517-483-5338, Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
METD 100	Basic Mechanical Drafting	3 / 4
METD 130	Geometric Dimension/Tolerance	4 / 6
METM 108	Machine Tool Operations	4 / 6
METM 112	Introduction to CNC Machining	4 / 6
METM 150	Advanced CNC Machining	4 / 6
METM 190	Metallurgy and Heat Treatment	4 / 6
METM 195	Quality/Metrology/Inspection	2 / 3
METM 220	Basic Mastercam	4 / 6
METM 221	Advanced Mastercam	4 / 6
TECH 102	General Industry Safety	2 / 3

## Minimum Total Credit Hours

35 credits / 52 billing hours

## Recommended Course Sequence

Semester I
METD 100
METM 108
METM 190
TECH 102

Semester II
METD 130
METM 112 – Milestone course
METM 220

Semester III
METM 150
METM 195
METM 221

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## CNC Machine Technology C.C.

Career Community: Electrical and Manufacturing

Curriculum Code: 1797

Effective: Fall 2022 – Summer 2027

Revised: 8/17/22

### Description

This certificate is designed for a person interested in developing his/her skill set in the machinist or tool and die trade. Students receive hands-on instruction in manual machining, basic computer numerical control (CNC) machining/programming, basic computer aided machining (CAM), basics of geometric dimensioning and tolerancing, blueprint reading, and manufacturing principles. Employment possibilities include entry-level positions in manufacturing companies. Technical math, blueprint reading, and metallurgy are just some of the skills and knowledge that are necessary for this type of work.

### Milestone

Completion of METM 108 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in this course.

### Additional Information

All course work will apply to the Certificate of Achievement in CNC Machine Technology and the Associate in Applied Science Degree in Manufacturing Engineering Technology.

### Contact Information

Contact the Trades Technology Program, West Campus Building, Room M103, telephone number 517-483-5338, or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
METD 100	Basic Mechanical Drafting	3 / 4
METD 130	Geometric Dimension/Tolerance	4 / 6
METM 108	Machine Tool Operations	4 / 6
METM 112	Introduction to CNC Machining	4 / 6
METM 220	Basic Mastercam	4 / 6
TECH 102	General Industry Safety	2 / 3

### Minimum Total Credit Hours

21 credits / 31 billing hours



## Recommended Course Sequence

Semester I
METD 100
METM 108 – Milestone course
TECH 102

Semester II
METD 130
METM 112
METM 220

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## **Communication A.A.**

Career Community: Communication, Journalism, and Language

Curriculum Code: 0136

Effective: Fall 2022 – Summer 2027

### **Purpose of Major**

This degree is designed for students who plan to transfer to a four-year university to pursue a baccalaureate degree in Communications with a variety of concentrations, including a major in Communications Disorders, as a junior. Students may also pursue Secondary Education Certification in Communications/Theater Arts in order to teach in Michigan public schools. Students completing this curriculum will satisfy the Michigan Transfer Agreement (MTA) requirements for General Education between two and four-year institutions in Michigan and will qualify for the Transfer Studies Certificate of Achievement (1482).

Not all courses in this pathway transfer to all colleges. Students who wish to transfer to a four-year institution should select coursework indicated for that institution and may also complete coursework for a Communications Arts, Enhanced AA degree. The Communication Arts, Enhanced AA option allows students to transfer additional credits toward the Bachelor's degree.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of COMM 120 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

A student must earn a minimum grade of 2.0 in all courses.

### **Contact Information**

Contact the Communication, Media and the Arts Department, Gannon Building, Room 1222, telephone number 517-483-1546 or the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

### **General Education - Transfer Degrees (MTA), Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition – *Select one*  
ENGL 121 or ENGL 131 will meet this requirement.
- English Composition (second course) or Communications  
Program of Study Required Courses will meet this requirement
- Humanities and Fine Arts – *Select two*  
Program of Study Required Courses will meet this requirement

- Mathematics – *Select one*  
MATH 119, MATH 120, or STAT 170 will meet this requirement
- Natural Sciences – *Select two, each from a different discipline, one must be a lab course*  
Career Community and Program of Study Required Courses – Natural Sciences will meet this requirement.
- Social Sciences – *Select one from a different discipline other than COMM*  
Program of Study Required Courses will meet this requirement

**Communications and Language Career Community Courses** – *These courses are required for all Communications and Language programs (Communication, Sign Language Interpreter, and World Language). They should be taken before other Program Required or Limited Choice Courses. Some courses meet General Education requirements for MTA. A minimum of 2.0 is required to meet LCC degree requirements for General Education courses and for all courses to transfer to other colleges (some colleges, and some programs within colleges, require a higher grade in a course).*

Course Code	Course Title	Credit / Billing Hours
ACAD 100	First Year College Experience	1 / 1
ASTR 201 or	Introductory Astronomy	4 / 5
BIOL 120 or	Environmental Science	4 / 6
BIOL 125 or	Introductory Biology	4 / 5
BIOL 145 or	Intro Anatomy and Physiology	4 / 6
CHEM 135 or	Chemistry in Society	4 / 5
GEOG 200 or	World Regional Geography	4 / 4
GEOG 221 or	Physical Geography	4 / 4
ISCI 131 or	Integrated Physical Science	4 / 6
PHYS 120	The Art of Physics	4 / 5
COMM 120 or	Dynamics of Communication	3 / 3
COMM 130 or	Fundamentals Public Speaking	3 / 3
ENGL 122 or	Composition II	4 / 4
ENGL 132 or	Honors Composition II	4 / 4
SIGN 160	Intro to the Deaf Community	3 / 3
DMAC 260 or	World Cinema	4 / 4
ENGL 200 or	Introduction to Literature	3 / 3
JAPN 121 or	Elementary Japanese I	4 / 4
SIGN 162 or	American Sign Language II	3 / 3
SPAN 121 or	Elementary Spanish I	4 / 4
THEA 110	Introduction to Theater	3 / 3
ENGL 121 or	Composition I	4 / 4
ENGL 131	Honors Composition I	4 / 4
LING 230 or	Introduction to Linguistics	3 / 3
SIGN 161	American Sign Language I	3 / 3
MATH 119 or	Math – Applications for Living	4 / 4
MATH 120 or	College Algebra	4 / 4
STAT 170	Introduction to Statistics	4 / 4

**Program of Study Required Courses** – *COMM 120 will also meet the General Education English Composition (second course) requirement. DMAC 260 or THEA 110 and LING 230 will also meet the General Education Humanities and Fine Arts requirements.*

Course Code	Course Title	Credit / Billing Hours
COMM 120	Dynamics of Communication	3 / 3
COMM 130	Fundamentals Public Speaking	3 / 3
COMM 200	Small Group Communication	3 / 3
COMM 240	Interpersonal Communication	3 / 3
COMM 280	Intercultural Communication	3 / 3
DMAC 260 or THEA 110	World Cinema Introduction to Theater	4 / 4 3 / 3
LING 230	Introduction to Linguistics	3 / 3

Note:

Students considering adding secondary certification in Communication and Theater Arts Secondary Education, choose THEA 110.

**Program of Study Required Courses, Limited Choice – Natural Sciences** - *Select one, as indicated for each transfer institution and major. This course must be from a difference discipline than what was selected for the Career Community Science course. Students considering moving into a Communications Disorders major are strongly encouraged to select the Science courses designated for that major.*

Course Code	Course Title	Credit / Billing Hours
CHEM 135	Chemistry and Society	4 / 5
ISCI 131	Integrated Physical Science	4 / 5
PFHW 123	Human Nutrition	3 / 3
PHYS 120	The Art of Physics	4 / 5

For future transfer to:

- Central Michigan University (Communication) choose PFHW 123.
- Central Michigan University (Communication Disorders) choose CHEM 135 or PHYS 120.
- Eastern Michigan University (Communication) choose PFHW 123.
- Eastern Michigan University (Communication Disorders) choose CHEM 135 or PHYS 120.
- Eastern Michigan University (Communication and Theater Arts Secondary Education) choose PFHW 123.
- Ferris State University (Communication or Sports Communication) choose PFHW 123.
- Grand Valley State University (B.S. in Communication Studies) choose PFHW 123.
- Grand Valley State University (B.S. in Communication Disorders) choose PHYS 120.
- Western Michigan University (Communication) choose PFHW 123.
- Western Michigan University (Speech, Language, and Hearing Disorders) choose CHEM 135 or PHYS 120.

**Program of Study Required Courses, Limited Choice – Social Sciences** - *Select one from a discipline other than COMM. See the notes below for each transfer institution and major. If specific courses are not indicated, select any recommended courses. Students considering the possibility of adding Secondary K-12 Certification at some point in the future are strongly encouraged to select the courses indicated for each transfer institution. These selections will satisfy requirements for admission to the Teacher Education program, required for certification, as well as satisfying Social Science General Education requirements and will prevent possible delay in degree completion. Courses meet General Education requirements for Michigan Transfer Agreement (MTA). A minimum of 2.0 is required to meet LCC degree requirements for General Education courses and for all courses to transfer to other colleges (some colleges, and some programs within colleges, require a higher grade in a course.)*

Course Code	Course Title	Credit / Billing Hours
ANTH 120	Introduction to Anthropology	3 / 3
ANTH 270	Cultural Anthropology	3 / 3
EDUC 204	Educational Psychology	3 / 3
EDUC 220	Intro to Education	3 / 3
EDUC 230	Intro to Special Education	3 / 3
POLS 201	Introduction to Political Science	3 / 3
POLS 240	Introduction to Public Policy	3 / 3
PSYC 200	Introductory Psychology	4 / 4

For future transfer to:

- Central Michigan University (Communication) choose ANTH 270.
- Central Michigan University (BAA in Communication Disorders) choose PSYC 200.
- Eastern Michigan University (Communication) choose ANTH 270.
- Eastern Michigan University (BS in Communication Disorders) choose PSYC 200.
- Eastern Michigan University (Secondary Certification in Communication/Theater Arts) choose EDUC 220.
- Ferris State University (Communication or Sport Communication) choose ANTH 270.
- Grand Valley State University (B.S. in Communication Studies) choose ANTH 270.
- Grand Valley State University (B.S. In Communication Disorders) choose PSYC 200.
- Michigan State University (Communication) choose PSYC 200.
- Western Michigan University (Communication or Speech, Language, and Hearing Disorders) choose PSYC 200.

**Program of Study Limited Choice Courses** – *Select a minimum of 6 credits to reach the 60 credits required for the degree. See the notes below for the courses indicated for each transfer institution. A minimum of 2.0 is required to meet degree requirements for General Education and for all courses to transfer to other colleges (some colleges, and some programs within colleges, require a higher grade in a course.)*

Course Code	Course Title	Credit / Billing Hours
ANTH 270	Cultural Anthropology	3 / 3
ANTH 271	Medical Anthropology	3 / 3
CHSE 120	Medical Terminology	4 / 4
COMM 110	Communication in the Workplace	3 / 3
COMM 260	Nonverbal Communication	3 / 3
COMM 270	Mass Communication	3 / 3
DMAC 120	Digital Audio Production I	4 / 4
DMAC 141	Ethics and Impact of the Media	3 / 3
EDUC 230	Introduction to Special Education	3 / 3
ENGL 124	Technical Writing	3 / 3
ENGL 127	Business Writing	3 / 3
ENGL 122 or ENGL 132	Composition II Honors Composition II	4 / 4 4 / 4
ENGL 200	Introduction to Literature	3 / 3
ENGL 245	Popular Culture and Mass Media	4 / 4
FREN 121 or GRMN 121 or JAPN 121 or SPAN 121	Elementary French I Elementary German I Elementary Japanese I Elementary Spanish I	4 / 4 4 / 4 4 / 4 4 / 4
FREN 122 or GRMN 122 or JAPN 122 or SPAN 122	Elementary French II Elementary German II Elementary Japanese II Elementary Spanish II	4 / 4 4 / 4 4 / 4 4 / 4
JRNL 151	Newswriting and Reporting	3 / 3
JRNL 254	Opinion Writing	3 / 3
MGMT 223	Supervisory Skills	3 / 3
MGMT 224	Human Resource Management	3 / 3
MGMT 329	Advanced Management Communication	3 / 3
PHIL 101	Introduction to Philosophy	3 / 3
PHIL 151	Intro to Logic and Critical Thinking	4 / 4
PHIL 152	Introduction to Ethics	4 / 4
PHOT 111	Digital Photography I	3 / 3
PHOT 117	Digital Photography II	4 / 4
PSYC 202	Psychology of Personality	3 / 3
PSYC 203	Social Psychology	3 / 3
PSYC 205	Human Growth and Development	3 / 3
RELG 150	Intro to World Religions	3 / 3
SIGN 160	Intro to the Deaf Community	3 / 3

Course Code	Course Title	Credit / Billing Hours
SIGN 161	American Sign Language I	3 / 3
SIGN 162	American Sign Language II	3 / 3
SIGN 163	American Sign Language III	3 / 3
STAT 170	Introduction to Statistics	4 / 4
THEA 220	Play Directing	3 / 4

Notes:

Students wishing to transfer to MSU should take COMM 120. Students wishing to transfer to FSU, UM-Flint, WMU or EMU should take COMM 110. Students wishing to transfer to CMU or GVSU may take COMM 110 or COMM 120 (required course).

For future transfer to:

- Central Michigan University (BA in Communications) choose COMM 110, COMM 260, COMM 270, ENGL 122 or ENGL 132, and 6 credits from any Limited Choice.
- Central Michigan University (BAA in Communication Disorders with American Sign Language Minor) choose COMM 260, ENGL 122 or ENGL 132, and 2 from ENGL 200 or PHIL 101 or RELG 150, SIGN 163, and STAT 170.
- Eastern Michigan University choose (BA in Communications) choose COMM 260, COMM 270, DMAC 120, JRNL 151 and JRNL 254.
- Eastern Michigan University (BS in Communication Disorders with Communication Minor) choose CHSE 120, COMM 260, EDUC 230, PHIL 151, and STAT 170.
- Eastern Michigan University (Secondary Certification in Communication/Theater Arts) choose COMM 260, COMM 270, EDUC 230, ENGL 200, PSYC 205, and THEA 220.
- Ferris State University (Communication) choose COMM 260, COMM 270, DMAC 120, DMAC 141, ENGL 122 or ENGL 124 or ENGL 127 or ENGL 132, and ENGL 245.
- Ferris State University (Sports Communication) choose COMM 270, ENGL 122 or ENGL 132, ENGL 245, MGMT 223, MGMT 224, and MGMT 329.
- Grand Valley State University (B.S. in Communication Studies) choose COMM 260, COMM 270, DMAC 141, ENGL 245, PHOT 111, and PHOT 117.
- Grand Valley State University (B.S. in Communication Disorders) choose COMM 260, COMM 270, EDUC 230, PHIL 152, and 6 credits from any Limited Choice.
- Michigan State University (Communication – variety of concentrations) choose ANTH 270, ANTH 271, COMM 270, PSYC 202, PSYC 203, and 3 from any Limited Choice.
- University of Michigan Flint (Communication) choose COMM 260, COMM 270, DMAC 120, ENGL 122 and, FREN 121 and FREN 122 or GRMN 121 and GRMN 122 or JAPN 121 and JAPN 122 or SIGN 161 and SIGN 162 or SPAN 121 and SPAN 122.
- Western Michigan University (Communication) choose COMM 110, COMM 260, COMM 270, DMAC 120, and DMAC 141.
- Western Michigan University (Speech, Language, and Hearing Disorders) choose COMM 110, COMM 260, COMM 270, SIGN 160, SIGN 161, and SIGN 162.

## Minimum Total Credit Hours

60 credits / 61-63 billing hours

## Recommended Course Sequence

Semester I
ACAD 100
ENGL 121 or ENGL 131
Program of Study Required Course – Natural Science (CHEM 135 or ISCI 131 or PFHW 123 or PHYS 120) or other Career Community Science Course
COMM 120 – Milestone
COMM 130

Semester II
MATH 119 or MATH 120 or STAT 170
Program of Study Required Course – Social Science (ANTH 120 or ANTH 270 or EDUC 204 or EDUC 220 or EDUC 230 or POLS 201 or POLS 240 or PSYC 200)
COMM 240
COMM 280
Limited Choice

Semester III
Program of Study Required Course – Natural Science (CHEM 135 or ISCI 131 or PFHW 123 or PHYS 120) or other Career Community Science Course
COMM 200
DMAC 260 or THEA 110
LING 230

Semester IV
Limited Choice

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*





## **Communications and Language G.A.**

Career Community: Communication, Journalism, and Language

Curriculum Code: 1823

Effective: Fall 2022 – Summer 2027

### **Purpose of Major**

This degree is designed for students wishing to work in a field related to Communications. Pathways included in this Career Community are Communications, Sign Language Interpreter, and World Languages. The degree includes a common set of courses applicable to the Communications and Language majors listed above and to many transfer institutions. Students beginning college in this degree program are encouraged to work with academic and program advisors throughout their first few semesters of study to determine their specific major area and transfer institution (if transfer is a goal).

Not all courses in this pathway transfer to all colleges. Students who wish to transfer to a four-year institution should select coursework indicated for that institution and may also complete coursework for a Communications Arts, Enhanced AA degree. The Communication Arts, Enhanced AA option allows students to transfer additional credits toward the Bachelor's degree.

### **Milestone**

In addition to the required English and Mathematics courses, completion of LING 230 or SIGN 160 with a 2.0 or higher is a key component for success in completing this program. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Contact Information**

Contact the Communications and the Arts Department, Gannon Building, Room 1222, telephone number 517-483-1546 or the English Department, Arts and Sciences Building, Room 1106, telephone number 517-483-1061.

### **General Education – Applied Degrees - Recommended Courses**

Select courses as indicated for specific transfer institutions and majors. These courses are preferred General Education courses listed on Transfer Articulation agreements. The recommended courses in each General Education category may also meet Michigan Transfer Agreement (MTA) requirements. If no course is indicated, choose from the list of options under [General Education](#). A minimum grade of 2.0 is required for each General Education course.

- English Composition or Applied English  
ENGL 121 or ENGL 131 meets this requirement.

- English Composition (Second Course) or Communications or Applied Communications  
COMM 120, COMM 130, ENGL 122, or ENGL 132 meets MTA requirements. SIGN 160 meets General Education Applied Degree requirements but does not satisfy MTA. SIGN 160 is a required course for the Sign Language Interpreter A.A.A. degree and transfers to Bachelor’s degree programs articulated with LCC.
- Humanities and Fine Arts or Social Sciences or Applied Social Sciences  
DMAC 260, JAPN 121, LING 230, SPAN 121, or THEA 110 meets this requirement.
- Mathematics or Applied Mathematics  
MATH 119, MATH 120, or STAT 170 meets this requirement.
- Natural Sciences or Applied Sciences and Technology Lab Course  
Career Community courses meet this requirement.

**Communications and Language Career Community Courses** – *These courses are required for all Communications and Language programs (Communication, Sign Language Interpreter, and World Language). They should be taken before other Program Required or Limited Choice Courses. Some courses meet General Education requirements for MTA. A minimum of 2.0 is required to meet LCC degree requirements for General Education courses and for all courses to transfer to other colleges (some colleges, and some programs within colleges, require a higher grade in a course).*

Course Code	Course Title	Credit / Billing Hours
ACAD 100	First Year College Experience	1 / 1
ASTR 201 or BIOL 120 or BIOL 125 or BIOL 145 or CHEM 135 or GEOG 220 or GEOG 221 or ISCI 131 or PHYS 120	Introductory Astronomy Environmental Science Introductory Biology Intro Anatomy and Physiology Chemistry in Society Weather, Forecasting & Climate Physical Geography Integrated Physical Science The Art of Physics	4 / 5 4 / 6 4 / 5 4 / 6 4 / 5 4 / 4 4 / 4 4 / 6 4 / 5
COMM 120 or COMM 130 or ENGL 122 or ENGL 132 or SIGN 160	Dynamics of Communication Fundamentals Public Speaking Composition II Honors Composition II Intro to the Deaf Community	3 / 3 3 / 3 4 / 4 4 / 4 3 / 3
DMAC 260 or JAPN 121 or SIGN 162 or SPAN 121 or THEA 110	World Cinema Elementary Japanese I American Sign Language II Elementary Spanish I Introduction to Theater	4 / 4 4 / 4 3 / 3 4 / 4 3 / 3

Course Code	Course Title	Credit / Billing Hours
ENGL 121 or ENGL 131	Composition I Honors Composition I	4 / 4 4 / 4
LING 230 or SIGN 161	Introduction to Linguistics American Sign Language I	3 / 3 3 / 3
MATH 119 or MATH 120 or STAT 170	Math – Applications for Living College Algebra Introduction to Statistics	4 / 4 4 / 4 4 / 4

Notes:

ACAD 100 may be waived based on the recommendation of a Program Advisor.

For future major areas:

- Communication choose DMAC 260 and LING 230 plus one of the following: COMM 120, ENGL 122, or ENGL 132.
- Communication (Secondary Education certification) choose LING 230 and THEA 110 plus one of the following: COMM 120, ENGL 122, or ENGL 132.
- Sign Language Interpreter choose SIGN 160, SIGN 161, and SIGN 162.
- World Language (including Secondary Education certification) choose LING 230 and JAPN 121 or SPAN 121 plus one of the following: COMM 130, ENGL 122, or ENGL 132.

**Program of Study Required Courses – Limited Choices** - *Select a minimum of 38 credits. Work with an Academic Advisor or Program Advisor to select the most appropriate courses or to select a field-specific major or transfer major that meets your educational and career goals. Some courses meet General Education requirements for MTA. A minimum of 2.0 is required to transfer to other colleges (some colleges, and some programs within colleges, require a higher grade in a course.)*

Course Code	Course Title	Credit / Billing Hours
ANTH 120	Introduction to Anthropology	3 / 3
ANTH 270	Cultural Anthropology	3 / 3
ANTH 271	Medical Anthropology	3 / 3
ARTS 151	Color and Design	3 / 4
ARTS 162	Type Communications	3 / 4
ARTS 171	Adobe Photoshop	3 / 4
ARTS 251	Graphic Design Communications	3 / 4
ARTS 252	Graphic Design Publications	3 / 4
CHEM 135	Chemistry in Society	4 / 5
CHSE 120	Medical Terminology	4 / 4
COMM 110	Communication in the Workplace	3 / 3
COMM 200	Small Group Communication	3 / 3
COMM 240	Interpersonal Communication	3 / 3
COMM 260	Nonverbal Communication	3 / 3
COMM 270	Mass Communication	3 / 3

Course Code	Course Title	Credit / Billing Hours
COMM 280	Intercultural Communication	3 / 3
DMAC 120	Digital Audio Production I	4 / 4
DMAC 121	Digital Audio Production II	4 / 4
DMAC 140	Pre-Production Design	3 / 3
DMAC 141	Ethics and Impact of the Media	3 / 3
EDUC 204	Educational Psychology	3 / 3
EDUC 220	Introduction to Education	3 / 3
EDUC 226	Reading in Elementary School	3 / 3
EDUC 230	Intro to Special Education	3 / 3
ENGL 124	Technical Writing	3 / 3
ENGL 127	Business Writing	3 / 3
ENGL 122 or ENGL 132	Composition II Honors Composition II	4 / 4 4 / 4
FREN 121 or GRMN 121 or JAPN 121 or SPAN 121	Elementary French I Elementary German I Elementary Japanese I Elementary Spanish I	4 / 4 4 / 4 4 / 4 4 / 4
FREN 122 or GRMN 122 or JAPN 122 or SPAN 122	Elementary French II Elementary German II Elementary Japanese II Elementary Spanish II	4 / 4 4 / 4 4 / 4 4 / 4
FREN 201 or GRMN 201 or JAPN 201 or SPAN 201	Intermediate French I Intermediate German I Intermediate Japanese I Intermediate Spanish I	4 / 4 4 / 4 4 / 4 4 / 4
FREN 202 or GRMN 202 or JAPN 202 or SPAN 202	Intermediate French II Intermediate German II Intermediate Japanese II Intermediate Spanish II	4 / 4 4 / 4 4 / 4 4 / 4
HUMS 160	Mythology	4 / 4
ISCI 131	Integrated Physical Science	4 / 6
JRNL 151	Newswriting and Reporting	3 / 3
JRNL 254	Opinion Writing	3 / 3
MGMT 223	Supervisory Skills	3 / 3
MGMT 224	Human Resource Management	3 / 3
MGMT 329	Advanced Mgmt Communication	3 / 3
MKTG 140	Introduction to Advertising	3 / 3
PFHW 123	Human Nutrition	3 / 3
PHIL 101	Introduction to Philosophy	3 / 3
PHIL 151	Intro to Logic & Critical Think	4 / 4
PHIL 152	Introduction to Ethics	4 / 4
PHOT 111	Digital Photography I	3 / 3
PHOT 117	Digital Photography II	4 / 4

Course Code	Course Title	Credit / Billing Hours
PHYS 120	The Art of Physics	4 / 5
POLS 201	Intro to Political Science	3 / 3
POLS 270	International Relations	3 / 3
PSYC 200	Introduction to Psychology	4 / 4
PSYC 202	Psychology of Personality	3 / 3
PSYC 203	Social Psychology	3 / 3
PSYC 205	Human Growth and Development	3 / 3
RELG 150	Intro to World Religions	4 / 4
SIGN 160	Intro to the Deaf Community	3 / 3
SIGN 161	American Sign Language I	3 / 3
SIGN 162	American Sign Language II	3 / 3
SIGN 163	American Sign Language III	3 / 3
SIGN 166	Fingerspelling	3 / 3
SIGN 167	Beginning Sign to Voice	3 / 3
SIGN 170	Expressive/Receptive ASL	3 / 3
SIGN 176	Advanced Fingerspelling	2 / 2
SIGN 200	Applied Skill in the Workplace	2 / 2
SIGN 260	Linguistic Principles of ASL	3 / 3
SIGN 261	Principles of Interpreting	3 / 3
SIGN 263	Intermediate Sign to Voice	3 / 3
SIGN 266	Educational Interpreting	2 / 2
SIGN 267	Sign Practicum I	3 / 3
SIGN 268	Sign Practicum II	3 / 3
SIGN 270	Advanced Interpreting	3 / 3
SIGN 271	Advanced Sign to Voice	3 / 3
SOCL 120	Introduction to Sociology	4 / 4
STAT 170	Introduction to Statistics	4 / 4
THEA 220	Play Directing	3 / 4

### Minimum Total Credit Hours

60 credits / 60 billing hours

## Recommended Course Sequence

### College-ready Full-time

Semester I
ACAD 100 (if waived, substitute Career Community course) ENGL 121 or 131 LING 230 or (SIGN 160 and SIGN 161) Career Community Science

Semester II
COMM 120 or 130 or ENGL 122 or 132 or SIGN 162 DMAC 260 or JAPN 121 or SPAN 121 or THEA 110 (if no SIGN 162) MATH 119 or 120 or STAT 170
Students who have decided on an academic program within the Communications and Language Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.

Semester III
Limited Choice courses for students completing the Communications and Language GA

Semester IV
Limited Choice courses for students completing the Communications and Language GA

### College-ready Part-time

Semester I
ACAD 100 (if waived, substitute Career Community course) ENGL 121 LING 230 or (SIGN 160 and SIGN 161)

Semester II
COMM 120 or 130 or ENGL 122 or 132 or SIGN 162 MATH 119 or 120 or STAT 170

Semester III (Summer – optional)
DMAC 260 or JAPN 121 or SPAN 121 or THEA 110 (if no SIGN 162) Career Community Science
Students who have decided on an academic program within the Communications and Language Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.

Semester IV
DMAC 260 or JAPN 121 or SPAN 121 or THEA 110 (if no SIGN 162 and no Summer enrollment) Career Community Science (if no Summer enrollment)

Semester IV
Students who have decided on an academic program within the Communications and Language Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.
Limited Choice courses for students completing the Communications and Language GA

Semester V
Limited Choice courses for students completing the Communications and Language GA

### **MATH 097/MATH 109**

Semester I
ACAD 100 (if waived, substitute Career Community course) ENGL 121 LING 230 or (SIGN 160 and SIGN 161) Career Community Science

Semester II
COMM 120 or 130 or ENGL 122 or 132 or SIGN 162 DMAC 260 or JAPN 121 or SPAN 121 or THEA 110 (if no SIGN 162) MATH 119 or STAT 170 (with MATH 097 if needed) or MATH 109

Semester III (Summer – optional)
MATH 120 (if MATH 109)
Students who have decided on an academic program within the Communications and Language Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.
Limited Choice courses for students completing the Communications and Language GA

Semester IV
MATH 120 (if MATH 109 and no Summer enrollment)
Students who have decided on an academic program within the Communications and Language Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.
Limited Choice courses for students completing the Communications and Language GA

Semester V
Limited Choice courses for students completing the Communications and Language GA

Note: MATH 097 and MATH 109 are developmental prerequisites and do not count toward program credit totals.

## **MATH 106**

Semester I
ACAD 100 (if waived, substitute Career Community course) ENGL 121 LING 230 or SIGN 160 and SIGN 161 MATH 106

Semester II
COMM 120 or 130 or ENGL 122 or 132 or SIGN 162 DMAC 260 or JAPN 121 or SPAN 121 or THEA 110 (if no SIGN 162) MATH 119 or STAT 170 (with MATH 097 if needed) or MATH 109 Career Community Science

Semester III (Summer – optional)
MATH 120 (if MATH 109)
Students who have decided on an academic program within the Communications and Language Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.
Limited Choice courses for students completing the Communications and Language GA

Semester IV
MATH 120 (if MATH 109 and no Summer enrollment)
Students who have decided on an academic program within the Communications and Language Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.
Limited Choice courses for students completing the Communications and Language GA

Semester V
Limited Choice courses for students completing the Communications and Language GA

Note: MATH 106 is a developmental prerequisite and does not count toward program credit totals.

## **ENGL 099**

Semester I
ACAD 100 (if waived, substitute Career Community course) ENGL 099 ENGL 121 LING 230 or (SIGN 160 and SIGN 161)

Semester II
COMM 120 or 130 or ENGL 122 or 132 or SIGN 162 DMAC 260 or JAPN 121 or SPAN 121 or THEA 110 (if no SIGN 162) MATH 119 or 120 or STAT 170



Semester II
Career Community Science Students who have decided on an academic program within the Communications and Language Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.

Semester III
Limited Choice courses for students completing the Communications and Language GA

Semester IV
Limited Choice courses for students completing the Communications and Language GA

Note: ENGL 099 is a developmental prerequisite and does not count toward program credit totals.

**ENGL 099 and MATH 097/MATH 109**

Semester I
ACAD 100 (if waived, substitute Career Community course) ENGL 099 ENGL 121 LING 230 or (SIGN 160 and SIGN 161) Career Community Science (if LING 230)

Semester II
MATH 119 or STAT 170 (with MATH 097 if needed) or MATH 109 COMM 120 or 130 or ENGL 122 or 132 or SIGN 162 DMAC 260 or JAPN 121 or SPAN 121 or THEA 110 (if no SIGN 162) Career Community Science (if SIGN 162)

Semester III (Summer – optional)
MATH 120 (if MATH 109)
Students who have decided on an academic program within the Communications and Language Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.

Semester IV
MATH 120 (if MATH 109 and no Summer enrollment)
Students who have decided on an academic program within the Communications and Language Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.
Limited Choice courses for students completing the Communications and Language GA

Semester V
Limited Choice courses for students completing the Communications and Language GA

Note: ENGL 099, MATH 097 and MATH 109 are developmental prerequisites and do not count toward program credit totals.

### **ENGL 099 and MATH 106**

Semester I
ACAD 100 (if waived, substitute Career Community course) ENGL 099 ENGL 121 LING 230 or (SIGN 160 and SIGN 161) MATH 106

Semester II
COMM 120 or 130 or ENGL 122 or 132 or SIGN 162 DMAC 260 or JAPN 121 or SPAN 121 (if no SIGN 162) MATH 119 or STAT 170 (with MATH 097 if needed), or MATH 109 Career Community Science

Semester III (Summer – optional)
MATH 120 (if MATH 109)
Students who have decided on an academic program within the Communications and Language Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.

Semester IV
MATH 120 (if MATH 109 and no Summer enrollment)
Students who have decided on an academic program within the Communications and Language Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.
Limited Choice courses for students completing the Communications and Language GA

Semester V
Limited Choice courses for students completing the Communications and Language GA

Note: ENGL 099 and MATH 106 are developmental prerequisites and do not count toward program credit totals.

### **ENGL 098**

Semester I
ACAD 100 (if waived, substitute Career Community course) ENGL 098 DMAC 260 or JAPN 121 or SPAN 121 or (SIGN 160 and SIGN 161)

Semester II
ENGL 121 (if 2.5 in ENGL 098) or ENGL 099 and ENGL 121 (if below 2.5 in ENGL 098) MATH 119 or 120 or STAT 170

Semester II
LING 230 or SIGN 162 Career Community Science
Students who have decided on an academic program within the Communications and Language Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.

Semester III
Limited Choice courses for students completing the Communications and Language GA

Semester IV
Limited Choice courses for students completing the Communications and Language GA

Note: ENGL 098 is a developmental prerequisite and does not count toward program credit totals.

### **ENGL 098 and MATH 097/109**

Semester I
ACAD 100 (if waived, substitute Career Community course) ENGL 098 DMAC 260 or JAPN 121 or SPAN 121 or (SIGN 160 and SIGN 161)

Semester II
ENGL 121 (if 2.5 in ENGL 098) or ENGL 099 and ENGL 121 (if below 2.5 in ENGL 098) MATH 119 or STAT 170 (with MATH 097 if needed) or MATH 109 LING 230 or SIGN 162 Career Community Science
Students who have decided on an academic program within the Communications and Language Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.

Semester III
Limited Choice courses for students completing the Communications and Language GA

Semester IV
Limited Choice courses for students completing the Communications and Language GA

Note: ENGL 098, MATH 097 and MATH 109 are developmental prerequisites and do not count toward program credit totals.

### **ENGL 098 and MATH 106**

Semester I
ACAD 100 (if waived, substitute Career Community course) ENGL 098 DMAC 260 or JAPN 121 or SPAN 121 or (SIGN 160 and SIGN 161)

Semester I
MATH 106

Semester II
ENGL 121 (if 2.5 in ENGL 098) or ENGL 099 and ENGL 121 (if below 2.5 in ENGL 098) MATH 119 or STAT 170 (with MATH 097 if needed) or MATH 109 LING 230 or SIGN 162 Career Community Science (if no ENGL 099)

Semester III (Summer – optional)
MATH 120 (if MATH 109) Career Community Science (if no ENGL 099)
Students who have decided on an academic program within the Communications and Language Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.

Semester IV
MATH 120 (if MATH 109 and no summer enrollment) Career Community Science (if no ENGL 099 and no summer enrollment)
Students who have decided on an academic program within the Communications and Language Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.
Limited Choice courses for students completing the Communications and Language GA

Semester V
Limited Choice courses for students completing the Communications and Language GA

Note: ENGL 098 and MATH 106 are developmental prerequisites and do not count toward program credit totals.

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## **Communications and Language, Enhanced A.A.A.**

Career Community: Communication, Journalism, and Language

Curriculum Code: 1834

Effective: Fall 2022 – Summer 2027

### **Purpose of Program**

This degree is designed for students wishing to transfer after having completed an Associate of Arts or Associate of Applied Arts degree in the area of Communication and Language (Communications, Sign Language Interpreter, World Language). This Enhanced AAA option allows students to transfer additional credits toward the Bachelor's degree, as designated by transfer articulation agreements. Required coursework follows for the Communication and Language, Enhanced AAA pathways.

### **Contact Information**

Before beginning this program of study, students must *contact the Communications and the Arts Department, Gannon Building, Room 1222, telephone number 517-483-1546* or the Sign Language Interpreter Program, 517-483-5329 or [signadvising@star.lcc.edu](mailto:signadvising@star.lcc.edu).

### **Program of Study Required Courses**

Completion of coursework required for the Communication and Language, Enhanced AAA follows:

- ***Sign Language Interpreter*** (for transfer to Gallaudet University or Siena Heights University)

### **Recommended Courses by College/University**

Completing courses as directed meets transfer articulation agreement requirements for each institution.

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## **Gallaudet University**

### **General Education – Transfer (MTA) Courses**

(For the list of options, see [General Education](#))

- Any MTA Humanities course, [3 credits / 3 billing hours](#)

**Program of Study Required Courses, Limited Choice – Social Science** - *Select the course not already completed for the Sign Language degree.*

Course Code	Course Title	Credit / Billing Hours
COMM 280	Intercultural Communication	3 / 3
SOCL 120	Introduction to Sociology	4 / 4

### **Minimum Total Credit Hours**

76 credits / 76 billing hours

## **Siena Heights University**

**Program of Study Required Courses** – *Select the course(s) not already completed for the Sign Language Interpreter AAA*

Course Code	Course Title	Credit / Billing Hours
COMM 130	Fundamentals Public Speaking	3 / 3
ENGL 122 or ENGL 132	Composition II or Honors Composition II	4 / 4 4 / 4

**Program of Study Required Courses – Limited Choices – Humanities** - *Select one HUMS course and PHIL 152 or RELG 150.*

Course Code	Course Title	Credit / Billing Hours
HUMS 211	Art History to the Renaissance	4 / 4
HUMS 212	Art History from the Renaissance	4 / 4
PHIL 152	Introduction to Ethics	4 / 4
RELG 150	Intro to World Religions	4 / 4

**Program of Study Required Courses, Limited Choice – Social Science** -

*Select the course not already completed for the Sign Language degree.*

Course Code	Course Title	Credit / Billing Hours
COMM 280	Intercultural Communication	3 / 3
SOCL 120	Introduction to Sociology	4 / 4

### **Minimum Total Credit Hours**

80 credits / 80 billing hours



## Community Paramedicine C.C.

Career Community: Health and Human Service Careers

Curriculum Code: 1819

Effective: Fall 2022 – Summer 2024

### Description

Community Paramedicine is an emerging profession aimed at improving the quality and access to healthcare services for underserved patients of varying cultural, religious, social, and economic backgrounds. Community Paramedicine utilizes licensed Paramedics in an expanded scope of practice to serve a wide variety of community healthcare needs. Community Paramedics are typically employed through emergency medical service agencies or hospital systems. This two semester program prepares a licensed Paramedic for an expanded scope of practice and role as a community healthcare provider. Lansing Community College collaborates with the Michigan Department of Health and Human Services, Bureau of EMS, Trauma and Preparedness (MDHHS-BETP) to offer this program.

### Milestone

Completion of CPAR 250, CPAR 251, and CPAR 252 with a 3.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Additional Information

The Community Paramedicine program is intended for licensed Paramedics. To progress through the program and be eligible to receive the Community Paramedicine Certificate of Completion, all courses in this curriculum must be completed with a 3.0 grade or better.

### Contact Information

Contact the Emergency Medical Services Program, Health and Human Services Building, Room 108, telephone 517-483-1410, or the Academic Advising Department, Gannon Building – StarZone, telephone number 517-483-1904.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
CPAR 250	Community Paramedicine I	3 / 3
CPAR 251	Chronic Care in the Community	5 / 6
CPAR 252	Community Paramedicine II	3 / 3
CPAR 270	Community Paramedic Clinical	5 / 6.5

### Minimum Total Credit Hours

16 credits / 18.5 billing hours



## Recommended Course Sequence

Semester I
CPAR 250 – Milestone course
CPAR 251 – Milestone course
CPAR 252 – Milestone course
Semester II
CPAR 270

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## Computed Tomography C.C.

Career Community: Health and Human Service Careers

Curriculum Code: 1816

Effective: Fall 2022 – Summer 2023

### Description

The Computed Tomography Certificate of Completion is intended for registered/certified radiologic technologists with the American Registry of Radiologic Technologists® (ARRT). The curriculum provides didactic distance education, and clinical experience to teach the essential content needed for a Registered Radiologic Technologist in Radiography to begin a career in Computed Tomography. Successful completion of the program qualifies students for examination by the ARRT in Computed Tomography.

Courses in this program are offered through the Michigan Community College Association/ Michigan Colleges Online, and taught by various colleges in the Educational Programs in Collaboration (EPIc) consortium.

### Milestone

Completion of CTGT 220 and CTGT 230 with a 2.5 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Additional Information

The Computed Tomography (CT) Consortium Program is offered through the Michigan Community College Association via the Michigan Colleges Online of which LCC is a member.

First semester courses require Department Approval. Applications must be submitted by May 1 and are available through the [LCC Medical Diagnostic Technologies webpage](#). After Department Approval is received, students must complete each CTGT course with a minimum 2.5 to progress to the second and final semester and meet graduation requirements.

### Contact Information

For the most current information, contact the Medical Imaging Program, Health and Human Services Building, Room 108, telephone number 517-483-1410.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
CTGT 210	CT Patient Care and Safety	1 / 0*
CTGT 215	Principles of CT	1 / 0*
CTGT 220	CT Instrumentation	2 / 0*
CTGT 230	CT Procedures & Pathophys I	3 / 0*
CTGT 231	CT Procedures & Pathophys II	3 / 0*
CTGT 240	CT Clinical Practice I	3 / 0*
CTGT 241	CT Clinical Practice II	3 / 0*

## Minimum Total Credit Hours

16 credits / 0 billing hours\*

\*CTGT courses follow the Michigan Community College Association/Michigan Colleges Online tuition rates, and are not included in billing hours. Please contact the Imaging Technology Program Director at 517-483-1410 for current tuition rates.

## Recommended Course Sequence

Semester I (Fall 2022)
CTGT 210
CTGT 215
CTGT 230 – Milestone course
CTGT 240
Semester II (Spring 2023)
CTGT 220 – Milestone course
CTGT 231
CTGT 241

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## **Computer Automated Design A.A.S.**

Career Community: Electrical and Manufacturing

Curriculum Code: 1801

Effective: Fall 2022 – Summer 2027

### **Description**

This program prepares individuals to apply technical skills and knowledge of computer software installed on a variety of stationary devices and mobile devices to the CAD design process leading through to output of product manufacturing. Automation design brings together engineering. Graphics design systems across the production cycle and links communication to the industry 4.0 concept. Students receive detailed instruction on building virtual representations of products by employing 3D parametric Solid Modeling found in the automotive, aerospace, medical, nuclear, special machinery, and defense industries. Computer Aided Design software is also applied to staging a product through virtual simulation and analysis of computer numerical control, computer programming of robotic systems, metrology quality control actions. Solid models are used in assemblies and drawings to convey material properties, dimensions and tolerances, execution of engineering change orders through until tool production, and additive manufacturing, and 3D printing.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of METD 110, METD 150, and METD 220 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Contact Information**

Contact the Trades Technology Program, West Campus Building, Room M103, telephone number 517-483-5338, or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

### **General Education - Applied Degrees, Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*  
ENGL 124, Technical Writing, 3 credits / 3 billing hours
- English Composition (Second Course)/Communications or Applied Communications – *Select one*  
COMM 110, Communication in the Workplace, 3 credits / 3 billing hours
- Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one*  
MGMT 234, Diversity in the Workplace, 3 credits / 3 billing hours

- Mathematics or Applied Mathematics – *Select one*  
MATH 115, Technical Math II, 4 credits / 4 billing hours
- Natural Sciences Lab or Applied Science and Technology Lab  
Program of Study Required Courses will meet this requirement

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
METD 110	Mechanical CAD Drafting I	4 / 6
METD 111	Mechanical CAD Drafting II	4 / 6
METD 130	Geometric Dimension/ Tolerance	4 / 6
METD 150	Industrial Blueprint Reading	3 / 3
METD 220	Basic Unigraphics/NX	4 / 6
METD 221	Advanced Unigraphics/NX	4 / 6
METD 240	Basic NX Machining	4 / 5
METD 250	Detailing Assembly Drawings	4 / 6
METD 265	Basic CAD FEA Simulation	4 / 6
METM 100	Manufacturing Processes	3 / 4.5
METM 108	Machine Tool Operations	4 / 6
METM 190	Metallurgy and Heat Treatment	4 / 6
METM 195	Quality/Metrology/ Inspection	2 / 3
METM 220	Basic Mastercam	4 / 6
METS 115	Intro to Mechanical Systems	4 / 6

### Minimum Total Credit Hours

69 credits / 94.5 billing hours

### Recommended Course Sequence

Semester I
Gen Ed – Mathematics or Applied Mathematics
METD 110 – Milestone course
METD 150 – Milestone course
METM 100
METM 108

Semester II
Gen Ed – English Composition or Applied English
METD 111
METD 130
METD 220 – Milestone course
METS 115

Semester III
Gen Ed – English Composition (Second Course)/Communications or Applied Communications
METD 221
METD 250
METM 195
METM 220

Semester IV
Gen Ed – Humanities and Fine Arts or Social Sciences or Applied Social Sciences
METD 240
METD 265
METM 190

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## Computer Automated Design C.A.

Career Community: Electrical and Manufacturing

Curriculum Code: 1800

Effective: Fall 2022 – Summer 2027

### Description

This program prepares individuals to apply technical skills and computer software and hardware to the design and manufacturing of machined components relating to various industries. Students receive instruction in the use of engineering graphics, two-dimensional and three-dimensional engineering design graphics, parametric modeling, computer numerical control programming, 3D printing, and additive manufacturing. Industry 4.0 processes are applied inside the CAD system to stage products for metrology inspection, metallurgy, geometric dimensioning and tolerancing, tools for production, and engineering changes. Employment possibilities include entry-level positions in engineering firms, consulting firms, and manufacturing companies that make automotive, defense industry, special machinery, and medical components, to name a few.

### Milestone

Completion of METD 110 and METD 150 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Contact Information

Contact the Trades Technology Program, West Campus Building, Room M103, telephone number 517-483-5338, or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
METD 110	Mechanical CAD Drafting I	4 / 6
METD 111	Mechanical CAD Drafting II	4 / 6
METD 130	Geometric Dimension/Tolerance	4 / 6
METD 150	Industrial Blueprint Reading	3 / 3
METD 220	Basic Unigraphics/NX	4 / 6
METM 100	Manufacturing Processes	3 / 4.5
METM 108	Machine Tool Operations	4 / 6
METM 190	Metallurgy and Heat Treatment	4 / 6
METM 195	Quality/Metrology/ Inspection	2 / 3
METM 220	Basic Mastercam	4 / 6
METS 115	Intro to Mechanical Systems	4 / 6

### Minimum Total Credit Hours

40 credits / 58.5 billing hours

## Recommended Course Sequence

Semester I
METD 110 – Milestone course
METD 150 – Milestone course
METM 100
METM 108

Semester II
METD 111
METD 130
METD 220
METS 115

Semester III
METM 190
METM 195
METM 220

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## Computer Automated Design C.C.

Career Community: Electrical and Manufacturing

Curriculum Code: 1799

Effective: Fall 2022 – Summer 2027

### Description

This certificate provides an introduction to manufacturing principles and prepares individuals to pursue entry-level employment and advanced training in automation design. Students receive instruction in the use of two-dimensional engineering design graphics, computer numerical control programming, manufacturing processes, tools for production, and engineering changes. Employment possibilities include entry-level positions in engineering firms, consulting firms, and manufacturing companies that make automotive, defense, special machinery, and medical components, to name a few.

### Milestone

Completion of METD 110 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in this course.

### Contact Information

Contact the Trades Technology Program, West Campus Building, Room M103, telephone number 517-483-5338, or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
METD 110	Mechanical CAD Drafting I	4 / 6
METD 111	Mechanical CAD Drafting II	4 / 6
METD 150	Industrial Blueprint Reading	3 / 3
METM 100	Manufacturing Processes	3 / 4.5
METM 108	Machine Tool Operations	4 / 6
METS 115	Intro to Mechanical Systems	4 / 6

### Minimum Total Credit Hours

22 credits / 31.5 billing hours

## Recommended Course Sequence

Semester I
METD 110 – Milestone course
METD 150
METM 100
METM 108
Semester II
METD 111
METS 115

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## Computer Graphics Animation A.A.A.

Career Community: Arts, Design, and Media

Curriculum Code: 0284

Effective: Fall 2022 – Summer 2027

### Description

A computer animator is an artist who designs for video and film and uses a computer as a primary tool. Animators must have creative abilities and design, drawing, problem-solving, production, communication, and presentation skills. Computer animators are employed in advertising, video production, the motion picture industry (special effects to full cartoon features), and in the growing multimedia industry, creating games, training materials, and presentations. This is an integrated program that may prepare students for transfer to four-year programs in animation, multimedia, and game design career paths. Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

### Milestone

In addition to the required General Education courses in Math and English, completion of ARTS 102 and ARTS 131 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses may be the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Contact Information

Contact the Communication, Media and the Arts Department, Gannon Building, Room 1222, telephone number 517-483-1546 or the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

### General Education – Applied Degrees, Recommended Courses

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours  
ENGL 131, Honors Composition I, 4 credits / 4 billing hours
- English Composition (second course)/Communications or Applied Communications – *Select one*  
COMM 110, Communication in the Workplace, 3 credits / 3 billing hours  
COMM 120, Dynamics of Communication, 3 credits / 3 billing hours  
COMM 130, Fundamentals Public Speaking, 3 credits / 3 billing hours
- Humanities and Fine Arts or Social Sciences or Applied Social Sciences  
Program of Study Required Courses will meet this requirement
- Mathematics or Applied Mathematics – *Select one*  
MATH 118, The Art of Geometry, 3 credits / 4 billing hours

- Natural Sciences Lab or Applied Science and Technology Lab – *Select one*  
PHYS 120, The Art of Physics, 4 credits / 5 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
ARTS 102	Design & Communication	3 / 4
ARTS 103	Spatial Dynamics I	3 / 4
ARTS 131	Drawing I	3 / 4
ARTS 132	Figure Drawing	3 / 4
ARTS 151	Color and Design	3 / 4
ARTS 153	Drawing II	3 / 4
ARTS 164	Vector Drawing	3 / 4
ARTS 171	Adobe Photoshop	3 / 4
ARTS 173	Web Design I	3 / 4
ARTS 226	Storyboards & Animatics	3 / 4
ARTS 232	Comp Graphics/2-D Animation	3 / 4
ARTS 234	Comp Graphics/3-D Animation I	3 / 4
ARTS 235	Comp Graphics/3-D Animation II	3 / 4
DMAC 130	Digital Video Production	4 / 4

### Program of Study Required Course, Limited Choice – *choose one*

Course Code	Course Title	Credit / Billing Hours
HUMS 211	Art History to the Renaissance	4 / 4
HUMS 212	Art Hist from the Renaissance	4 / 4

### Minimum Total Credit Hours

61 credits / 76 billing hours

### Recommended Course Sequence

Semester I
Gen Ed - English Composition or Applied English
Gen Ed - English Composition (second course)/ Communications or Applied Communications
Gen Ed - Mathematics or Applied Mathematics
ARTS 102 – Milestone course
ARTS 131 – Milestone course
ARTS 171

Semester II
ARTS 103
ARTS 132
ARTS 151
ARTS 173

Semester III
Gen Ed - Natural Sciences Lab or Applied Science and Technology Lab
DMAC 130

Semester IV
ARTS 164
ARTS 232
ARTS 234

Semester V
ARTS 153
ARTS 226
ARTS 235
HUMS 211 or 212

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## **Computer Networking Technology A.B.**

Career Community: Computer Technology and Networking

Curriculum Code: 1453

Effective: Fall 2022 – Summer 2027

### **Description**

Networking technology binds computers and connects people with information, and information security seeks to protect this information. Students learn to design, create, and administer efficient information technology networks of data, voice, image, and video communications. Students learn to provide the technical management and support to keep systems running 24/7, and to safeguard the data they control. This degree focuses on technical competencies, as well as communication with users, management, and project planning skills. Students will be prepared to earn several industry-respected certifications. Students completing this curriculum may also be eligible to apply for certificates of completion in Cisco Certified Network Associate Certification Preparation (CCNA) (1469) and in Information Technology Foundations (0766). Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of CITS 125 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Contact Information**

Contact the Computer Information Technologies Program in the West Campus Building, Room M103, telephone number 517-267-6406 or Student Services West Campus, West Campus Building, Room M016, telephone number 517-267-5452.

### **General Education – Applied Degrees, Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*  
ENGL 127, Business Writing, 3 credits / 3 billing hours
- English Composition (second course)/Communications or Applied Communications – *Select one*  
CITS 110, Helpdesk Support Specialist, 3 credits / 3 billing hours  
COMM 110, Communication in the Workplace, 3 credits / 3 billing hours  
COMM 120, Dynamics of Communication, 3 credits / 3 billing hours  
COMM 130, Fundamentals Public Speaking, 3 credits / 3 billing hours
- Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one*  
MGMT 234, Diversity in the Workplace, 3 credits / 3 billing hours

- Mathematics or Applied Mathematics – *Select one*  
STAT 170, Introduction to Statistics, 4 credits / 4 billing hours
- Natural Sciences Lab or Applied Science and Technology Lab – *Select one*  
ISCI 131, Integrated Physical Science, 4 credits / 6 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
BUSN 118	Introduction to Business	3 / 3
CITF 110	Intro Computer Info Systems	3 / 3
CITF 140	Information Technology Ethics	3 / 3
CITN 220	Introduction to Networks	3 / 3
CITN 225	Switch Route Wireless Essentials	3 / 3
CITN 230	Linux/UNIX Operating System	3 / 3
CITN 240	Ent Networking Sec Automation	3 / 3
CITP 110	Intro to Programming-Python	4 / 4
CITS 125	Computer Support: A+ Cert Prep	6 / 6
CITS 230	Computer Virtualization	3 / 3

### Program of Study Required Courses, Limited Choice – *Select three*

Course Code	Course Title	Credit / Billing Hours
CITD 250	Database Concepts	3 / 3
CITF 120	Operating Systems Concepts	3 / 3
CITF 240	IT Project Management	3 / 3
CITN 222	Wireless Networking & Security	3 / 3
CITN 250	Microsoft Network Server	3 / 3
CITN 280	IT Security Foundations	3 / 3
CITO 100	Cloud Foundations with AWS	3 / 3
CITO 120	Cloud Architecting with AWS	3 / 3
CITS 285	IT Professional Internship	3 / 3

### Minimum Total Credit Hours

60 credits / 62 billing hours

### Recommended Course Sequence

Semester I
Gen Ed – Mathematics or Applied Mathematics
CITF 110
CITP 110
CITS 125 – Milestone course

Semester II
Gen Ed - English Composition or Applied English
CITF 140
CITN 220 (First 8 weeks)
CITN 225 (Second 8 weeks)
CITS 230

Semester III
Gen Ed - Natural Sciences Lab or Applied Science and Technology
CITN 230
CITN 240
Limited Choice

Semester IV
Gen Ed – English Composition (Second Course)/ Communications or Applied Communications
Gen Ed - Humanities and Fine Arts or Social Sciences or Applied Social Sciences
BUSN 118
Limited Choice
Limited Choice

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## **Computer Programmer/Analyst A.B.**

Career Community: Computer Technology and Networking

Curriculum Code: 0113

Effective: Fall 2022 – Summer 2027

Revised: 6/28/22

### **Description**

Programmer/analysts plan, develop, test, and document computer programs at the request of a specific user, applying knowledge of programming, project management, testing, and quality assurance techniques and computer systems. They may evaluate user requests to determine feasibility, cost, and time required, as well as compatibility with current system and computer capabilities. In addition, they read manuals, periodicals, and technical reports to develop programs that meet user requirements and to remain current with developments and standards in the information technology industry. They formulate a plan outlining steps required to develop programs and convert project specifications into program source instructions which are entered into the computer system and tested. They may write documentation and the user manual. Students completing this curriculum may also be eligible for the Computer Programmer/Analyst Certificate of Completion (0969), Computer Software Tester Certificate of Achievement (1633), and Mobile Application Developer Certificate of Achievement (1712). Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of CITP 110 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Contact Information**

Contact the Computer Information Technologies Program in the West Campus Building, Room M103, telephone number 517-267-6406 or Student Services West Campus, West Campus Building, Room M016, telephone number 517-267-5452.

### **General Education - Applied Degrees, Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours
- English Composition (Second Course)/Communications or Applied Communications – *Select one*  
COMM 110, Communication in the Workplace, 3 credits / 3 billing hours  
COMM 120, Dynamics of Communication, 3 credits / 3 billing hours  
COMM 130, Fundamentals Public Speaking, 3 credits / 3 billing hours

- Humanities and Fine Arts or Social Sciences or Applied Social Sciences– *Select one*  
 GEOG 200, World Regional Geography, 4 credits / 4 billing hours  
 MGMT 234, Diversity in the Workplace, 3 credits / 3 billing hours  
 SOCL 120, Introduction to Sociology, 4 credits / 4 billing hours
- Mathematics or Applied Mathematics – *Select one*  
 MATH 119, Math - Applications for Living, 4 credits / 4 billing hours  
 STAT 170, Introduction to Statistics, 4 credits / 4 billing hours
- Natural Sciences Lab or Applied Science and Technology Lab – *Select one*  
 BIOL 120, Environmental Science, 4 credits / 6 billing hours  
 CHEM 135, Chemistry in Society, 4 credits / 5 billing hours  
 PHYS 120, The Art of Physics, 4 credits / 5 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
BUSN 118	Introduction to Business	3 / 3
CITD 120	SQL Concepts	3 / 3
CITF 110	Intro Computer Info Systems	3 / 3
CITF 260	Systems Analysis and Design	4 / 4
CITP 110	Intro to Programming-Python	4 / 4
CITP 130	Intro to Mobile App Devel	3 / 3
CITP 140	Software Testing	3 / 3
CITP 190	Intro to Programming in JAVA	4 / 4
CITW 150	Internet Literacy	3 / 3
CITW 160	Web Development HTML & CSS	3 / 3

### Program of Study Required Courses, Limited Choice - Introductory Programming

- *Select one*

Course Code	Course Title	Credit / Billing Hours
CITP 150	Intro to VB.NET Programming	4 / 4
CITP 180	Intro to C#.NET Programming	4 / 4
CITP 230	Mobile App Devel for Android	4 / 4
CITP 235	Mobile App Devel for Apple	4 / 4

### Program of Study Required Courses, Limited Choice - Computer - *Select two courses, minimum 6 credits*

Course Code	Course Title	Credit / Billing Hours
CITD 250	Database Concepts	3 / 3
CITF 140	Information Technology Ethics	3 / 3
CITN 120	Networking Concepts	3 / 3
CITP 220	Game Design & Development	2 / 4
CITP 295	Programming Internship	3 / 3

Course Code	Course Title	Credit / Billing Hours
CITW 165	Web Development JavaScript	3 / 3
CITW 180	Web Development ASP.NET	4 / 4
CITW 185	Web Development PHP & MySQL	4 / 4

### Program of Study Required Courses, Limited Choice - Advanced Programming -

*Select one*

Course Code	Course Title	Credit / Billing Hours
CITP 230	Mobile App Devel for Android	4 / 4
CITP 235	Mobile App Devel for Apple	4 / 4
CITP 250	Advanced VB.NET Programming	4 / 4
CITP 280	Advanced C#.NET Programming	4 / 4
CITP 290	Adv JAVA Programming for Busn	4 / 4

### Minimum Total Credit Hours

65 credits / 66 billing hours

### Recommended Course Sequence

Semester I
Gen Ed – Mathematics or Applied Mathematics
CITF 110
CITP 110 – Milestone course
CITP 130
CITW 150

Semester II
Gen Ed – English Composition or Applied English
BUSN 118
CITD 120
CITW 160
Limited Choice - Introductory Programming

Semester III
Gen Ed – English Composition (Second Course)/ Communications or Applied Communications
CITP 140
CITP 190
Limited Choice - Computer

Semester IV
Gen Ed – Humanities and Fine Arts or Social Sciences or Applied Social Sciences
Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab
CITF 260
Limited Choice - Advanced Programming
Limited Choice - Computer

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## Computer Programmer/Analyst C.C.

Career Community: Computer Technology and Networking

Curriculum Code: 0969

Effective: Fall 2022 – Summer 2027

Revised: 6/28/22

### Description

The Computer Programmer/Analyst certificate is a start for students new to the Information Technology field. The classes offered in this certificate represent the building blocks for other degrees and certificate programs. Students will learn computer skills and concepts that will help them decide their future path based on their interests. This is a stackable certificate with Computer Programmer Analyst AB (0113)

### Milestone

Completion of CITP 110 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Contact Information

Contact the Computer Information Technologies Program in the West Campus Building, Room M103, telephone number 517-267-6406 or Student Services West Campus, West Campus Building, Room M016, telephone number 517-267-5452.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
BUSN 118	Introduction to Business	3 / 3
CITD 120	SQL Concepts	3 / 3
CITF 110	Intro Computer Info Systems	3 / 3
CITP 110	Intro to Programming-Python	4 / 4
CITW 150	Internet Literacy	3 / 3

### Program of Study Required Courses, Limited Choice – *Select one*

Course Code	Course Title	Credit / Billing Hours
CITP 150	Intro to VB.NET Programming	4 / 4
CITP 180	Intro to C#.NET Programming	4 / 4
CITP 190	Intro to Programming in JAVA	4 / 4

### Minimum Total Credit Hours

20 credits / 20 billing hours

## Recommended Course Sequence

Semester I
BUSN 118
CITF 110
CITP 110 – Milestone course

Semester II
CITD 120
CITW 150
Limited Choice

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## **Computer Science A.S.**

Career Community: Science and Mathematics

Curriculum Code: 0169

Effective: Fall 2022 – Summer 2027

### **Purpose of Major**

This degree is designed for students who plan to transfer to a four-year university to pursue a Bachelor's of Science degree in Computer Science with a variety of concentrations. Students completing this degree will also satisfy Michigan Transfer Agreement (MTA) requirements for General Education and may qualify for an LCC Transfer Studies Certificate of Achievement. This degree includes a set of courses common to all Science and Math majors and all transfer institutions. Students are encouraged to work with an academic advisor and program advisor to explore transfer opportunities.

Not all courses in this pathway transfer to all colleges. Students who wish to transfer to a four-year institution should select coursework indicated for that institution.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of CPSC 230 and MATH 151 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

- A student must earn a minimum grade of 2.0 in all courses.
- PHIL 151 is strongly recommended as one of the Humanities and Fine Arts courses.
- It is highly recommended that transfer students wishing to pursue a degree in theoretical computer science take MATH 260, Linear Algebra, for one of the Program of Study Required Courses – Limited Choices selections.

### **Contact Information**

Contact the Science Department, Arts and Sciences Building, Room 3203, telephone number 517-483-1092.

## General Education – Transfer Degrees (MTA) - Recommended Courses

Select courses as indicated for specific transfer institutions and majors. These courses are preferred General Education courses listed on Transfer Articulation agreements. The recommended courses in each General Education category also meet Michigan Transfer Agreement (MTA) requirements. If no course is indicated, choose from the list of options under [General Education](#). A minimum grade of 2.0 is required for each General Education course.

- English Composition  
ENGL 121 or ENGL 131 meets this requirement.
- English Composition (Second Course) or Communications  
COMM 130, ENGL 122, or ENGL 132 meets this requirement.
- Humanities and Fine Arts.  
Program of Study Required Courses meets this requirement.
- Mathematics  
Program of Study Required Courses meets this requirement.
- Natural Sciences  
CHEM 151/CHEM 161 and BIOL 120, BIOL 127, GEOL 221, GEOL 230, or PHYS 251 meets this requirement.
- Social Sciences  
ANTH 270, CHDV 101, ECON 120, ECON 201, ECON 213, ECON 260, EDUC 204, EDUC 220, GEOG 200, POLS 120, POLS 240, POLS 260, PSYC 200, or SOCL 120 meets this requirement.

**Science and Math Career Community Courses** – *These courses are required for all Science and Math programs. They should be taken before other Program Required or Limited Choice Courses. Some courses meet General Education requirements for Michigan Transfer Agreement (MTA).*

Course Code	Course Title	Credit / Billing Hours
ACAD 100	First Year College Experience	1 / 1
ANTH 270 or	Cultural Anthropology	3 / 3
CHDV 101 or	Child Growth/Develop: 0-12 Yrs	4 / 4
ECON 120 or	Power, Authority, and Exchange	4 / 4
ECON 201 or	Principles of Economics-Micro	4 / 4
ECON 213 or	US Economics/Business History	3 / 3
ECON 260 or	Comparative Economic Systems	4 / 4
EDUC 204 or	Educational Psychology	3 / 3
EDUC 220 or	Introduction to Education	3 / 3
GEOG 200 or	World Regional Geography	4 / 4
POLS 120 or	American Political System	3 / 3
POLS 240 or	Introduction to Public Policy	3 / 3
POLS 260 or	Comparative Political Systems	3 / 3
PSYC 200 or	Introduction to Psychology	4 / 4
SOCL 120	Introduction to Sociology	4 / 4



Course Code	Course Title	Credit / Billing Hours
BIOL 120 or BIOL 127 or GEOL 221 or GEOL 230 or PHYS 251	Environmental Science Cell Biology Physical Geology Environmental Geology Physics I with Calculus	4 / 6 4 / 6 4 / 6 4 / 6 5 / 7
CHEM 151	General Chemistry Lecture I	4 / 4
CHEM 161	General Chemistry Lab I	1 / 3
COMM 130 or ENGL 122 or ENGL 132	Fundamentals Public Speaking Composition II Honors Composition II	3 / 3 4 / 4 4 / 4
ENGL 121 or ENGL 131	Composition I Honors Composition I	4 / 4 4 / 4
MATH 120 or MATH 126 or MATH 151	College Algebra Pre-calculus Calculus I	4 / 4 5 / 5 4 / 4

Notes:

ACAD 100 may be waived based on the recommendation of a Program Advisor.

For future transfer to:

- Central Michigan University, Grand Valley State University and Michigan State University choose COMM 130, and BIOL 120 or GEOL 221 or PHYS 251.
- Eastern Michigan University, University of Michigan Flint, and Western Michigan University choose BIOL 120 or GEOL 221 or PHYS 251, and ENGL 122.

**Program of Study Required Courses** - *Some courses meet General Education requirements for Michigan Transfer Agreement (MTA). A minimum of 2.0 is required to transfer to other colleges (some colleges, and some programs within colleges, require a higher grade in a course.)*

Course Code	Course Title	Credit / Billing Hours
CPSC 101	Intro to Computer Science	3 / 3
CPCS 230	Algorithms and Computing with C++	4 / 4
CPSC 231	Computing and Data Structures	4 / 4
CPSC 260	Computer Science Structures	4 / 4
MATH 151	Calculus I	4 / 4
MATH 152	Calculus II	4 / 4
MATH 253	Calculus III	4 / 4

**Program of Study Required Courses, Limited Choice – Humanities and Fine Arts -**

*Select two from two different disciplines. Courses meet General Education requirements for Michigan Transfer Agreement (MTA).*

Course Code	Course Title	Credit / Billing Hours
HIST 211	U.S. History to 1877	4 / 4
HIST 212	U.S. History: 1877 to Present	4 / 4
HUMS 214	World Civilizations from 1600	4 / 4
MUSC 240	Musical Cultures to 1750	4 / 4
MUSC 241	Musical Cultures 1750-Present	4 / 4
PHIL 151	Intro to Logic & Critical Think	4 / 4
PHIL 211	Philosophy: Ancient and Medieval	4 / 4
PHIL 212	Philosophy: Modern & Contemptry	4 / 4

**Program of Study Required Courses, Limited Choice – Social Sciences -** *Select one from a different discipline chosen for the Science and Math Career Community block of courses. Courses meet General Education requirements for Michigan Transfer Agreement (MTA). A minimum of 2.0 is required to transfer to other colleges (some colleges, and some programs within colleges, require a higher grade in a course.)*

Course Code	Course Title	Credit / Billing Hours
ECON 120	Power, Authority, and Exchange	4 / 4
GEOG 200	World Regional Geography	4 / 4
POLS 260	Comparative Political Systems	3 / 3
PSYC 200	Introduction to Psychology	4 / 4
SOCL 120	Introduction to Sociology	4 / 4

**Program of Study Required Courses, Limited Choice –** *Select a minimum of one course to meet the 60-credit minimum required for this degree. For information on preferred courses for specific concentrations identified by transfer institutions, consult with a Program Advisor.*

Course Code	Course Title	Credit / Billing Hours
CPSC 131	Numerical Methods with MATLAB	3 / 4
MATH 254	Intro to Differential Equation	4 / 4
MATH 260	Linear Algebra	4 / 4
STAT 215	Intro to Probability and Stats	4 / 4

**Minimum Total Credit Hours**

60 credits / 65 billing hours

## Recommended Course Sequence

Semester I
ACAD 100
CHEM 151
CHEM 161
ENGL 121 or ENGL 131
MATH 151 – Milestone course

Semester II
ANTH 270, CHDV 101, ECON 120, ECON 201, ECON 213, ECON 260, EDUC 204, EDUC 220, GEOG 200, POLS 120, POLS 240, POLS 260, PSYC 200 or SOCL 120
COMM 130 or ENGL 122 or 132
CPCS 101
MATH 152

Semester III
Limited Choices – Humanities and Fine Arts

Semester IV
CPSC 230 – Milestone course
MATH 253
Limited Choices – Social Sciences
Limited Choice as needed to meet degree requirements

Semester V
BIOL 120, BIOL 127, GEOL 221, GEOL 230 or PHYS 251
CPSC 231
CPSC 260
Limited Choices – Humanities and Fine Arts
Limited Choice as needed to meet degree requirements

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## Computer Security and Controls C.C.

Career Community: Computer Technology and Networking

Curriculum Code: 1818

Effective: Fall 2022 – Summer 2027

### Description

Computer Security and Controls professionals plan and conduct audits of data processing and data management systems and applications to safeguard assets, ensure the accuracy of data, and promote operational efficiency. They may interview workers and examine records to gather data by following an audit plan using dedicated computer systems and software. They analyze data collected to evaluate the effectiveness of controls and determine the accuracy of reports and efficiency and security of operations. This certificate is recommended for those who are currently auditors.

### Milestone

Completion of CITD 250 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in this course.

### Additional Information

This certification aligns with and is stackable under the Computer Networking and Cybersecurity Associate of Business (#1453) program of study. To be awarded the associate degree, a student must earn a minimum grade of 2.0 in each course.

Students may petition, on a course-by-course basis with proper documentation, to waive prerequisite(s) based on equivalent experience or course(s) taken elsewhere. Contact your advisor if you have questions or would like to submit a petition.

### Contact Information

Contact the Computer Information Technologies Program in the West Campus Building, Room M103, telephone number 517-267-6406 or Student Services West Campus, West Campus Building, Room M016, telephone number 517-267-5452.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
CITD 250	Database Concepts	3 / 3
CITF 110	Intro Computer Info Systems	3 / 3
CITF 120	Operating Systems Concepts	3 / 3
CITF 240	IT Project Management	3 / 3
CITN 120	Networking Concepts	3 / 3
CITN 220	Introduction to Networks	3 / 3
CITN 280	IT Security Foundations	3 / 3
CITP 110	Intro to Programming-Python	4 / 4

## Minimum Total Credit Hours

25 credits / 25 billing hours

## Recommended Course Sequence

Semester I
CITF 110
CITN 120
Semester II
CITF 120
CITP 110
Semester III
CITD 250 (Fall only) – Milestone course
CITN 220
Semester IV
CITF 240
CITN 280

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## Computer Software Tester C.A.

Career Community: Computer Technology and Networking

Curriculum Code: 1633

Effective: Fall 2022 – Summer 2027

### Description

Software Testing, or Software Quality Assurance, is one of many essential jobs in the computing industry. Companies need people to create software programs or applications as well as professionals to discover defects in these applications. Software testers must be knowledgeable about computers and their usage to meet the goals of the organization. They are familiar with programming and how software is put together. Knowledge of testing principles, such as test planning, test case design and implementation, test documentation, and the use of automated testing software are necessary. Soft skills are also essential to work effectively as a member of an organizational team. Students completing this certificate may use the credits towards the Computer Programmer/Analyst Associate of Business degree (0113).

### Milestone

Completion of CIP 140 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in this course.

### Contact Information

Contact the Computer Information Technologies Program in the West Campus Building, Room M103, telephone number 517-267-6406 or Student Services West Campus, West Campus Building, Room M016, telephone number 517-267-5452.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
CITF 110	Intro Computer Info Systems	3 / 3
CITF 240	IT Project Management	3 / 3
CITF 260	Systems Analysis and Design	4 / 4
CITP 110	Intro to Programming-Python	4 / 4
CITP 140	Software Testing	3 / 3
CITP 240	Advanced Software Testing	3 / 3
CITW 150	Internet Literacy	3 / 3
COMM 110	Communication in the Workplace	3 / 3

### Program of Study Required Courses, Limited Choice - Writing – *Select one*

Course Code	Course Title	Credit / Billing Hours
ENGL 124	Technical Writing	3 / 3
ENGL 127	Business Writing	3 / 3

### **Program of Study Required Courses, Limited Choice - Programming – Select one**

Course Code	Course Title	Credit / Billing Hours
CITP 150	Intro to VB.NET Programming	4 / 4
CITP 180	Intro to C#.NET Programming	4 / 4
CITP 190	Intro to Programming in JAVA	4 / 4

### **Minimum Total Credit Hours**

33 credits / 33 billing hours

### **Recommended Course Sequence**

Semester I
CITF 110
CITP 110
CITP 140 – Milestone course
COMM 110
Limited Choice - Writing

Semester II
CITF 240
CITF 260
CITP 240
CITW 150
Limited Choice - Programming

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## **Computer Support Specialist A.B.**

Career Community: Computer Technology and Networking

Curriculum Code: 0713

Effective: Fall 2022 – Summer 2027

### **Description**

Computer support specialists install, modify and make minor repairs to computer hardware and software systems and provide technical assistance and training to system users. They install or assist service personnel in installation of hardware and peripheral components, such as monitors, keyboards, printers, and disk drives on user's premises, following design or installation specifications. They may also load software packages into the computer; instruct users in use of equipment, software, and manuals; answer clients' inquiries concerning the systems operation; and diagnose system hardware, software, and operator problems. Students completing this curriculum may also be eligible to apply for certificates of completion in Microsoft Office Specialist (0841) and Computer Technology Basics (0844).

### **Milestone**

In addition to the required General Education courses in Math and English, completion of CITS 125 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Contact Information**

Contact the Computer Information Technologies Program at the West Campus Building, Room M103, telephone number 517-267-6406 or Student Services West Campus, West Campus Building, Room M016, telephone number 517-267-5452.

### **General Education – Applied Degrees, Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours
- English Composition (Second Course)/Communications or Applied Communications –  
Program of Study Required Courses will meet this requirement
- Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one*  
MGMT 234, Diversity in the Workplace, 3 credits / 3 billing hours  
SOCL 120, Introduction to Sociology, 4 credits / 4 billing hours



- Mathematics or Applied Mathematics – *Select one*  
MATH 119, Math - Applications for Living, 4 credits / 4 billing hours  
STAT 170, Introduction to Statistics, 4 credits / 4 billing hours
- Natural Sciences Lab or Applied Science and Technology Lab – *Select one*  
BIOL 120, Environmental Science, 4 credits / 6 billing hours  
CHEM 135, Chemistry in Society, 4 credits / 5 billing hours  
PHYS 120, The Art of Physics, 4 credits / 5 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
BUSN 118	Introduction to Business	3 / 3
CITA 115	Microsoft PowerPoint	3 / 3
CITA 119	Microsoft Word	3 / 3
CITA 126	Microsoft Excel	3 / 3
CITA 133	Microsoft Access Database	3 / 3
CITF 110	Intro Computer Info Systems	3 / 3
CITF 140	Information Technology Ethics	3 / 3
CITN 120	Networking Concepts	3 / 3
CITP 110	Intro to Programming-Python	4 / 4
CITS 110	Helpdesk Support Specialist	3 / 3
CITS 125	Computer Support: A+ Cert Prep	6 / 6
CITS 285	IT Professional Internship	3 / 3
CITW 150	Internet Literacy	3 / 3

### Program of Study Required Courses, Limited Choice – *Select two*

Course Code	Course Title	Credit / Billing Hours
CITA 140	Microsoft Outlook	3 / 3
CITA 219	Advanced Microsoft Word	3 / 3
CITA 226	Microsoft Excel–Advanced	3 / 3
CITD 250	Database Concepts	3 / 3
CITF 260	Systems Analysis and Design	4 / 4
CITS 225	Networking for PC Technicians	3 / 3
CITW 160	Web Development HTML & CSS	3 / 3

### Minimum Total Credit Hours

64 credits / 65 billing hours

## Recommended Course Sequence

Semester I
Gen Ed – Mathematics or Applied Mathematics
CITA 115
CITA 126
CITF 110
CITW 150

Semester II
Gen Ed – English Composition or Applied English
CITA 119
CITA 133
CITN 120
CITP 110

Semester III
Gen Ed – Humanities and Fine Arts or Social Sciences or Applied Social Sciences
CITF 140
CITS 110
CITS 125 – Milestone Course

Semester IV
Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab
BUSN 118
CITS 285
Limited Choice
Limited Choice

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## **Computer Support Technician A.A.S.**

Career Community: Computer Technology and Networking

Curriculum Code: 0743

Effective: Fall 2022 – Summer 2027

### **Description**

A computer support technician is highly knowledgeable in both computer hardware and software. This person must not only understand the operation of the computer system, but must also diagnose and repair the system when it fails, make upgrades, and perform preventive maintenance. A computer support technician also answers customers' questions relating to correct use of computers or components and may install new equipment. A successful computer support technician must understand electronics, computer hardware and software, and how they work together to make the computer operate. Computer support technicians are employed in computer sales and service shops and any place a large number of computers are found. Students completing this curriculum may also be eligible to apply for the Computer Technician Certificate of Achievement (0168). Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of CITS 125 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Contact Information**

Contact the Computer Information Technologies Program in the West Campus Building, Room M103, telephone number 517-267-6406 or Student Services West Campus, West Campus Building, Room M016, telephone number 517-267-5452.

### **General Education - Applied Degrees, Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours  
ENGL 124, Technical Writing, 3 credits / 3 billing hours
- English Composition (Second Course)/Communications or Applied Communications – Program of Study Required Courses will fulfill this requirement

- Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one*  
MGMT 234, Diversity in the Workplace, 3 credits / 3 billing hours
- Mathematics or Applied Mathematics – *Select one*  
MATH 119, Math - Applications for Living, 4 credits / 4 billing hours
- Natural Sciences Lab or Applied Science and Technology Lab – *Select one*  
BIOL 120, Environmental Science, 4 credits / 6 billing hours  
CHEM 135, Chemistry in Society, 4 credits / 5 billing hours  
PHYS 120, The Art of Physics, 4 credits / 5 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
CITF 240	IT Project Management	3 / 3
CITN 230	Linux/UNIX Operating System	3 / 3
CITN 280	IT Security Foundations	3 / 3
CITP 110	Intro to Programming-Python	4 / 4
CITS 110	Helpdesk Support Specialist	3 / 3
CITS 125	Computer Support: A+ Cert Prep	6 / 6
CITS 170	Basic Electronic for PC Repair	6 / 7
CITS 176	Computer Troubleshooting	4 / 4
CITS 225	Networking for PC Technicians	3 / 3
CITS 230	Computer Virtualization	3 / 3
CITS 285	IT Professional Internship	3 / 3

### Program of Study Required Courses, Limited Choice – *Select two*

Course Code	Course Title	Credit / Billing Hours
CITN 222	Wireless Networking & Security	3 / 3
CITN 250	Microsoft Network Server	3 / 3
CITO 100	Cloud Foundations with AWS	3 / 3
CITO 120	Cloud Architecting with AWS	3 / 3

### Minimum Total Credit Hours

61 credits / 63 billing hours

## Recommended Course Sequence

Semester I (Fall)
CITS 110
CITS 125 – Milestone course
CITS 170

Semester II (Spring)
Gen Ed – English Composition or Applied English
CITP 110
CITS 176
CITS 225

Semester III (Fall)
Gen Ed- Humanities and Fine Arts or Social Sciences or Applied Social Sciences
Gen Ed – Mathematics or Applied Mathematics
CITN 230
CITS 230
Limited Choice

Semester IV (Spring)
Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab
CITF 240
CITN 280
CITS 285
Limited Choice

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## Computer Technician C.A.

Career Community: Computer Technology and Networking

Curriculum Code: 0168

Effective: Fall 2022 – Summer 2027

### Description

This certificate provides technical knowledge and skills to repair and service computers, test computers and computer components, and diagnose causes of malfunctions. Individuals are prepared for entry-level positions. Students completing this certificate may apply the credits toward the Computer Support Technician, Associate in Applied Science degree (0743).

### Milestone

Completion of CITS 125 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in the course.

### Contact Information

Contact the Computer Information Technologies Program in the West Campus Building, Room M103, telephone number 517-267-6406 or Student Services West Campus, West Campus Building, Room M016, telephone number 517-267-5452.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
CITN 115	IoT & Automation Fundamentals	5 / 6
CITP 110	Intro to Programming-Python	4 / 4
CITS 110	Helpdesk Support Specialist	3 / 3
CITS 125	Computer Support: A+ Cert Prep	6 / 6
CITS 170	Basic Electronic for PC Repair	6 / 7
CITS 176	Computer Troubleshooting	4 / 4

### Program of Study Required Courses, Limited Choice – *Select one*

Course Code	Course Title	Credit / Billing Hours
COMM 110	Communication in the Workplace	3 / 3
ENGL 124	Technical Writing	3 / 3

### Minimum Total Credit Hours

31 credits / 33 billing hours

## Recommended Course Sequence

Semester I
CITS 110
CITS 125 – Milestone course
CITS 170

Semester II
CITN 115
CITP 110
CITS 176
Limited Choice

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## Computer Technology Basics C.C.

Career Community: Computer Technology and Networking

Curriculum Code: 0844

Effective: Fall 2022 – Summer 2027

### Description

This certificate provides the basic classes for many Computer Information Technology Associate in Business degrees. Students will learn introductory concepts of computer usage in business. This certificate can be completed entirely online. Students completing this certificate may use the credits towards the Computer Support Specialist Associate of Business Degree (0713).

### Milestone

Completion of CITF 110 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in this course.

### Contact Information

Contact the Computer Information Technologies Program at the West Campus Building, Room M103, telephone number 517-267-6406 or Student Services West Campus, West Campus Building, Room M016, telephone number 517-267-5452.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
CITF 110	Intro Computer Info Systems	3 / 3
CITF 140	Information Technology Ethics	3 / 3
CITN 120	Networking Concepts	3 / 3
CITP 110	Intro to Programming-Python	4 / 4
CITS 110	Helpdesk Support Specialist	3 / 3
CITW 150	Internet Literacy	3 / 3

### Program of Study Required Courses, Limited Choice – *Select one*

Course Code	Course Title	Credit / Billing Hours
ENGL 121	Composition I	4 / 4
ENGL 124	Technical Writing	3 / 3
ENGL 127	Business Writing	3 / 3

### Minimum Total Credit Hours

22 credits / 22 billing hours



## Recommended Course Sequence

Semester I
CITF 110 – Milestone course
CITP 110
CITS 110
Limited Choice

Semester II
CITF 140
CITN 120
CITW 150

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## **Construction Management A.A.S.**

Career Community: Building and Construction Trades

Curriculum Code: 1634

Effective: Fall 2022 – Summer 2027

### **Description**

The Construction Management Degree is designed to prepare students to work in entry-level supervisory and management positions related to construction, including site supervisors, construction and project superintendents, field supervisors, project engineers, and estimating/scheduling assistants. Construction management professionals plan, direct, or coordinate activities related to the construction and maintenance of buildings and infrastructure. They participate as members of an integrated project team in the conceptual development of a construction project and oversee its organization, scheduling, budgeting, and implementation. This curriculum incorporates elements of the Associate Constructor Level I examination body of knowledge as established by the American Institute of Construction. The curriculum provides graduates with a broad foundation of technical and management abilities with an emphasis on job entry skill development, estimating, scheduling, project management, and specialized technical skills related to one of four construction focus areas (building, heavy/civil, electrical/construction, and HVAC/mechanical construction). Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of DCTM 100 and DCTM 103 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

Students in this program choose one subspecialty to determine the courses to take each semester. Subspecialty options are Building Construction, Heavy/Civil Construction, Electrical Construction, and HVAC/Mechanical Construction.

Upon completion of a subspecialty, any additional subspecialty courses will not count toward the student's enrollment level for determining financial aid eligibility.

Students who have already completed ELTE 102, HVAC 102, METS 102, TECH 102, or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for DCTM 102. Any of these courses may also be used to fulfill the prerequisite for ARCH 113, ELTE 108, ELTE 109, HVAC 110 and the BLDT courses.

## Contact Information

Contact the Construction Management Program, West Campus Building, Room M103, telephone number 517-483-5338 or Student Services West Campus, West Campus Building, Room M016, telephone number 517-267-5452.

## General Education - Applied Degrees, Recommended Courses

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours  
ENGL 124, Technical Writing, 3 credits / 3 billing hours
- English Composition (Second Course)/Communications or Applied Communications – *Select one*  
COMM 130, Fundamentals Public Speaking, 3 credits / 3 billing hours
- Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one*  
MGMT 234, Diversity in the Workplace, 3 credits / 3 billing hours
- Mathematics or Applied Mathematics – *Select one*  
MATH 115, Technical Math II, 4 credits / 4 billing hours  
MATH 120, College Algebra, 4 credits / 4 billing hours
- Natural Science Lab or Applied Science and Technology Lab – *Select one*  
PHYS 200, Intro to Applied Physics, 4 credits / 5 billing hours  
PHYS 221, Introductory Physics I, 4 credits / 6 billing hours

## Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
ACCG 101	Accounting Info for Management	3 / 3
ARCH 113	Materials & Methods of Constr.	4 / 6
ARCH 125	Environmental Systems	4 / 4
CIVL 241	Statics/Strength of Materials	4 / 5
DCTM 100	Intro to the Built Environment	3 / 4
DCTM 102	Construction Safety	2 / 3
DCTM 103	Codes and Specifications	3 / 3
DCTM 200	Construction Management I	4 / 6
DCTM 201	Construction Management II	4 / 6
DCTM 220	BIM for Construction	4 / 6
LEGL 215	Business Law-Basic Principles	3 / 3

## Program of Study Required Courses for Building Construction Subspecialty

Course Code	Course Title	Credit / Billing Hours
BLDT 120	Structural Framing	4 / 6
BLDT 130	Building Exterior Construction	4 / 6

**Program of Study Required Courses, Limited Choice for Building Construction Subspecialty – *Select one***

Course Code	Course Title	Credit / Billing Hours
BLDT 140	Building Interior Construction	4 / 6
BLDT 150	Intro Masonry/Concrete Const	4 / 6
BLDT 180	Builder Pre-Licensure Prep	4 / 4

**Program of Study Required Courses for Electrical Construction Subspecialty**

Course Code	Course Title	Credit / Billing Hours
ELTE 108	Practical Electricity I	2 / 3
ELTE 109	Practical Electricity II	2 / 3
ELTE 141	National Electrical Code I	4 / 4

**Program of Study Required Courses, Limited Choice for Electrical Construction Subspecialty – *Select one***

Course Code	Course Title	Credit / Billing Hours
ELTE 112	Basic Wiring Installation	2 / 3
ELTE 145	Electrical Prints for Building	4 / 5

**Program of Study Required Courses for Heavy/Civil Construction Subspecialty**

Course Code	Course Title	Credit / Billing Hours
CIVL 120	Surveying	4 / 6
CIVL 135	Soils Technology	3 / 3
CIVL 141	Site Inspection	3 / 3

**Program of Study Required Courses for HVAC/Mechanical Construction Subspecialty**

Course Code	Course Title	Credit / Billing Hours
HVAC 100	Fundamentals of HVAC	3 / 3
HVAC 110	Applied Electricity I	3 / 4

**Program of Study Required Courses, Limited Choice for HVAC/Mechanical Construction Subspecialty – *Select one***

Course Code	Course Title	Credit / Billing Hours
HVAC 120	Heating I	3 / 4
HVAC 130	Air Conditioning I	3 / 4

**Minimum Total Credit Hours**

64 credits / 78 billing hours

## Recommended Course Sequence

Semester I (Fall)
Gen Ed – Mathematics or Applied Mathematics
ARCH 113
DCTM 100 – Milestone course
DCTM 102
Subspecialty Course
Semester II (Spring)
Gen Ed – English Composition or Applied English
ACCG 101
DCTM 103 – Milestone course
Subspecialty Course
Semester III (Summer)
Gen Ed - English Composition (Second Course)/Communications or Applied Communications
Gen Ed – Natural Sciences Lab or Applied Sciences and Technology Lab
Semester IV (Fall)
ARCH 125
CIVL 241
DCTM 200
LEGL 215
Semester V (Spring)
Gen Ed – Humanities and Fine Arts or Social Sciences or Applied Social Sciences
DCTM 201
DCTM 220
Subspecialty Course

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## **Construction Management C.A.**

Career Community: Building and Construction Trades

Curriculum Code: 1635

Effective: Fall 2022 – Summer 2027

### **Description**

The Construction Management Certificate of Achievement is designed to prepare students to work in entry-level supervisory and management positions related to construction, including site supervisors, construction and project superintendents, field supervisors, project engineers, and estimating/scheduling assistants. Construction management professionals plan, direct, or coordinate activities related to the construction and maintenance of buildings and infrastructure. They participate as members of an integrated project team in the conceptual development of a construction project and oversee its organization, scheduling, budgeting, and implementation. This curriculum provides students with the opportunity to add construction management competencies to another trade-or technical related certificate or degree (ARCH, BLDT, CIVL, ELTE, HVAC) or to work toward completion of the Construction Management Associate in Applied Science degree. This curriculum provides graduates with a broad foundation of technical and management abilities with an emphasis on job entry skill development, estimating, scheduling, project management, and specialized technical skills related to one of four construction focus areas (residential, heavy/civil, electrical/construction, and HVAC/mechanical construction). Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

### **Milestone**

Completion of DCTM 100 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in this course.

### **Additional Information**

Students in this program choose one subspecialty pathway to determine the courses to take each semester. Pathway options are Building Construction, Heavy/Civil Construction, Electrical Construction, and HVAC/Mechanical Construction.

Upon completion of a subspecialty, any additional subspecialty courses will not count toward the student's enrollment level for determining financial aid eligibility.

Students who have already completed ELTE 102, HVAC 102, METS 102, TECH 102, or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for DCTM 102. Any of these courses may also be used to fulfill the prerequisite for ARCH 113, ELTE 108, ELTE 109, HVAC 110, and the BLDT courses.

## Contact Information

Contact the Construction Management Program, West Campus Building, Room M103, telephone number 517-483-5338 or Student Services West Campus, West Campus Building, Room M016, telephone number 517-267-5452.

## Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
ACCG 101	Accounting Info for Management	3 / 3
ARCH 113	Materials & Methods of Constr.	4 / 6
DCTM 100	Intro to the Built Environment	3 / 4
DCTM 102	Construction Safety	2 / 3
DCTM 200	Construction Management I	4 / 6
DCTM 201	Construction Management II	4 / 6
DCTM 220	BIM for Construction	4 / 6
MGMT 234	Diversity in the Workplace	3 / 3

## Program of Study Required Courses for Building Construction Subspecialty

Course Code	Course Title	Credit / Billing Hours
BLDT 120	Structural Framing	4 / 6
DCTM 103	Codes and Specifications	3 / 3

## Program of Study Required Courses, Limited Choice for Building Construction Subspecialty – *Select one*

Course Code	Course Title	Credit / Billing Hours
BLDT 130	Building Exterior Construction	4 / 6
BLDT 140	Building Interior Construction	4 / 6
BLDT 150	Intro Masonry/Concrete Const	4 / 6

## Program of Study Required Courses for Heavy/Civil Construction Subspecialty

Course Code	Course Title	Credit / Billing Hours
CIVL 120	Surveying	4 / 6
CIVL 135	Soils Technology	3 / 3
CIVL 141	Site Inspection	3 / 3

## Program of Study Required Courses for Electrical Construction Subspecialty

Course Code	Course Title	Credit / Billing Hours
ELTE 108	Practical Electricity I	2 / 3
ELTE 109	Practical Electricity II	2 / 3
ELTE 112	Basic Wiring Installation	2 / 3
ELTE 141	National Electrical Code I	4 / 4

### Program of Study Required Courses for HVAC/Mechanical Subspecialty

Course Code	Course Title	Credit / Billing Hours
HVAC 100	Fundamentals of HVAC	3 / 3
HVAC 110	Applied Electricity I	3 / 4

### Program of Study Required Courses, Limited Choice for HVAC/Mechanical Subspecialty –

*Select One*

Course Code	Course Title	Credit / Billing Hours
HVAC 120	Heating I	3 / 4
HVAC 130	Air Conditioning I	3 / 4

### Minimum Total Credit Hours

36 credits / 48 billing hours

### Recommended Course Sequence

Semester I (Fall)
ARCH 113
DCTM 100 – Milestone course
DCTM 102
DCTM 200

Semester II (Spring)
DCTM 201
DCTM 220
Subspecialty Course(s)

Semester III (Fall)
ACCG 101
MGMT 234
Subspecialty Course(s)

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*





## Control Panel Wiring C.C.

Career Community: Electrical and Manufacturing

Curriculum Code: 1471

Effective: Fall 2022 – Summer 2027

### Description

This certificate is designed to provide students with entry level skills in reading relay ladder logic diagrams and in the layout, mounting and terminating of equipment in control panels used in industry. The program builds a basic foundation in electrical theory, the operating characteristics of electrical controls and the connection and troubleshooting of electric motors. This curriculum would be an excellent choice for students wishing to enter the job market in the panel shop of a system or controls design firm or prepare for an industrial electrical apprenticeship. Most of the course work may be applied toward a Certificate of Achievement and/or an Associate in Applied Science Degree in Electrical Technology.

### Milestone

Completion of ELTE 108 and ELTE 109 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Contact Information

Contact the Electrical Technology Program at the West Campus Building, Room M127, telephone number 517-483-1570 or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
ELTE 108	Practical Electricity I	2 / 3
ELTE 109	Practical Electricity II	2 / 3
ELTE 111	Intro to Industrial Automation	4 / 6
ELTE 131	Machine Controls I	4 / 5
ELTE 132	Control Panel Assembly	2 / 3
ELTE 150	Electric Motor Maintenance	2 / 3
TECH 102	General Industry Safety	2 / 3

### Minimum Total Credit Hours

18 credits / 26 billing hours

## Recommended Course Sequence

Semester I
ELTE 108 (First 8 weeks) – Milestone course
ELTE 109 (Second 8 weeks) – Milestone course
ELTE 111
TECH 102

Semester II
ELTE 131
ELTE 132
ELTE 150

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## **Correctional Officer C.C.**

Career Community: Public Service Careers

Curriculum Code: 0840

Effective: Fall 2022 – Summer 2027

### **Description**

This certificate option is designed to provide entry level skills for the person who wishes to enter the job market as a State Correctional Officer at a correctional facility. This curriculum meets the State of Michigan Corrections Officer Vocational Certificate requirements. Students completing this certificate may use the credits towards the Criminal Justice, Corrections Associate in Applied Science Degree (1209).

### **Milestone**

Completion of CJUS 131 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in this course.

### **Contact Information**

Contact the Public Service Careers Program at the West Campus Building, Room M127, telephone number 517-483-1570 or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
CJUS 131	Introduction to Corrections	3 / 3
CJUS 135	Legal Issues in Corrections	3 / 3
CJUS 250	Correctional Institutions	3 / 3
CJUS 251	Correctional Clients	3 / 3
CJUS 255	Human Relations/Crim Justice	3 / 3

### **Minimum Total Credit Hours**

15 credits / 15 billing hours

## Recommended Course Sequence

Semester I
CJUS 131 – Milestone course
CJUS 135
CJUS 250

Semester II
CJUS 251
CJUS 255

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## **Creative Writing A.A.**

Career Community: Communication, Journalism, and Language

Curriculum Code: 1623

Effective: Fall 2022 – Summer 2027

### **Description**

This degree is designed for students who intend to transfer to a four-year college or university to pursue a baccalaureate degree in this subject area. Students completing this curriculum will also satisfy the Michigan Transfer Agreement (MTA) between two-year and four-year institutions in Michigan and qualify for an LCC Transfer Studies Certificate of Achievement (1482).

### **Milestone**

In addition to the required General Education courses in Math and English, completion of ENGL 261 and ENGL 271 with a 2.0 or higher are key components for success in completing this program. Knowledge obtained in these courses may be the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

A student must earn a minimum grade of 2.0 in all courses.

### **Contact Information**

Contact the English Department, Arts and Sciences Building, Room 1106, telephone number 517-483-1061, or the Academic Advising Department, Gannon Building – StarZone, telephone number 517-483-1904.

### **General Education - Transfer Degrees (MTA), Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours  
ENGL 131, Honors Composition I, 4 credits / 4 billing hours
- English Composition (second course) or Communications  
Program of Study Required Courses will meet this requirement
- Humanities and Fine Arts – *Select one from a discipline other than ENGL*  
HIST 211, U.S. History to 1877, 4 credits / 4 billing hours  
HUMS 160, Mythology, 4 credits / 4 billing hours  
PHIL 101, Introduction to Philosophy, 3 credits / 3 billing hours  
RELG 150, Intro to World Religions, 4 credits / 4 billing hours
- Mathematics – *Select one*  
MATH 119, Math Applications for Living, 4 credits / 4 billing hours  
MATH 120, College Algebra, 4 credits / 4 billing hours

- Natural Sciences – *Select two, each from a different discipline, one must be a lab course*  
 ASTR 201, Introductory Astronomy, 4 credits / 5 billing hours  
 BIOL 120, Environmental Science, 4 credits / 6 billing hours  
 BIOL 125, Introductory Biology, 4 credits / 5 billing hours  
 CHEM 135, Chemistry in Society, 4 credits / 5 billing hours  
 GEOG 221, Physical Geography, 4 credits / 4 billing hours  
 GEOL 221, Physical Geology, 4 credits / 6 billing hours  
 ISCI 131, Integrated Physical Science, 4 credits / 6 billing hours  
 PHYS 120, The Art of Physics, 4 credits / 5 billing hours
- Social Sciences – *Select two, each from a different discipline*  
 ANTH 270, Cultural Anthropology, 3 credits / 3 billing hours  
 PSYC 200, Introduction to Psychology, 4 credits / 4 billing hours  
 SOCL 120, Introduction to Sociology, 4 credits / 4 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
ENGL 200	Introduction to Literature	3 / 3
ENGL 261	Creative Writing I	3 / 3
ENGL 271	Creative Writing II	3 / 3
ENGL 278	Writing the Novel	3 / 3
ENGL 279	Prose Style	3 / 3

### Program of Study Required Course, Limited Choice – *Select one*

Course Code	Course Title	Credit / Billing Hours
ENGL 122	Composition II	4 / 4
ENGL 132	Honors Composition II	4 / 4

### Elective Courses, Recommended Choices – *Select courses to reach the minimum 60 total credits required for this degree. (For the full list of options see AA and AS Degree Electives)*

Course Code	Course Title	Credit / Billing Hours
ENGL 208	Children's Literature	4 / 4
ENGL 211	World Literature I	4 / 4
ENGL 212	World Literature II	4 / 4
ENGL 220	Science Fiction	4 / 4
ENGL 240	The Film as Art	4 / 4
ENGL 255	American Lit to 1865	4 / 4
ENGL 256	American Lit 1865 to Present	4 / 4
ENGL 260	African-American Literature	4 / 4
ENGL 266	British Lit to 1800	4 / 4
ENGL 267	British Lit 1800 to Present	4 / 4
ENGL 270	Gender and Literature	4 / 4
ENGL 290	Shakespeare	4 / 4

## Minimum Total Credit Hours

60 credits / 61 billing hours

## Recommended Course Sequence

Semester I
MTA English Composition
MTA Mathematics
MTA Natural Sciences
ENGL 261 – Milestone course

Semester II
MTA Humanities and Fine Arts
MTA Natural Sciences
ENGL 271 – Milestone course
Limited Choice

Semester III
MTA Social Sciences
ENGL 200
ENGL 278
Electives as needed for total credits

Semester IV
MTA Social Sciences
ENGL 279
Electives as needed for total credits

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## **Criminal Justice A.A.**

Career Community: Public Service Careers

Curriculum Code: 0146

Effective: Fall 2022 – Summer 2027

### **Description**

This degree is designed for students who intend to transfer to a four-year college or university to pursue a baccalaureate degree in this subject area. Students completing this curriculum will also satisfy the Michigan Transfer Agreement (MTA) between two-year and four-year institutions in Michigan and qualify for an LCC Transfer Studies Certificate of Achievement (1482).

### **Milestone**

In addition to the required General Education courses in Math and English, completion of CJUS 101 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

A student must earn a minimum grade of 2.0 in all courses.

### **Contact Information**

Contact the Public Service Careers Program, West Campus Building, Room M127, telephone number 517-483-1570, or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

### **General Education - Transfer Degrees (MTA), Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours
- English Composition (second course) or Communication – *Select one*  
ENGL 122, Composition II, 4 credits / 4 billing hours
- Humanities and Fine Arts – *Select two, each from a different discipline*  
HIST 212, U.S. History: 1877 to Present, 4 credits / 4 billing hours  
PHIL 152, Introduction to Ethics, 4 credits / 4 billing hours
- Mathematics – *Select one*  
MATH 119, Math - Applications for Living, 4 credits / 4 billing hours
- Natural Sciences – *Select two, each from a different discipline, one must be a lab course*  
BIOL 120, Environmental Science, 4 credits / 6 billing hours  
PFHW 123, Human Nutrition, 3 credits / 3 billing hours



- Social Sciences – *Select one, from a discipline other than SOCL*  
PSYC 200, Introduction to Psychology, 4 credits / 4 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
CJUS 101	Intro to Criminal Justice	3 / 3
CJUS 102	Crime Causes and Conditions	3 / 3
CJUS 103	Criminal Law	3 / 3
CJUS 106	Intro to Juvenile Justice	3 / 3
CJUS 131	Introduction to Corrections	3 / 3
CJUS 201	Criminal Justice Org/Admin	3 / 3
COMM 130	Fundamentals Public Speaking	3 / 3
SOCL 120	Introduction to Sociology	4 / 4
SOCL 260	Race and Ethnicity	3 / 3

### Program of Study Required Courses – *Select one*

Course Code	Course Title	Credit / Billing Hours
CJUS 104	Theory of Patrol	3 / 3
CJUS 255	Human Relations/Crim Justice	3 / 3

### Minimum Total Credit Hours

62 credits / 64 billing hours

### Recommended Course Sequence

Semester I
MTA English Composition
CJUS 101 – Milestone course
CJUS 102
CJUS 103

Semester II
MTA English Comp (2nd course) or Communication
MTA Humanities and Fine Arts
MTA Mathematics
CJUS 106
CJUS 201

Semester III
MTA Humanities and Fine Arts
MTA Natural Sciences
CJUS 104 or 255
SOCL 120

Semester IV
MTA Natural Sciences
MTA Social Sciences
CJUS 131
COMM 130
SOCL 260

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## **Criminal Justice - Corrections A.A.S.**

Career Community: Public Service Careers

Curriculum Code: 1209

Effective: Fall 2022 – Summer 2027

### **Description**

This degree program prepares an individual for a career as a probation or parole officer, corrections officer, halfway house administrator, or jail corrections officer. This degree curriculum meets Michigan Corrections Officers Training Council standards. Students completing this curriculum may also be eligible to apply for the Corrections Office Certificate of Completion (0840). Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of CJUS 131 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Contact Information**

Contact the Public Service Careers Program at the West Campus Building, Room M127, telephone number 517-483-1570 or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

### **General Education - Applied Degrees, Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours
- English Composition (Second Course)/Communications or Applied Communications – *Select one*  
COMM 110, Communication in the Workplace, 3 credits / 3 billing hours
- Humanities and Fine Arts or Social Sciences or Applied Social Sciences  
Program of Study Requirements will meet this requirement
- Mathematics or Applied Mathematics – *Select one*  
MATH 119, Math - Applications for Living, 4 credits / 4 billing hours  
MATH 120, College Algebra, 4 credits / 4 billing hours
- Natural Sciences Lab or Applied Science and Technology Lab – *Select one*  
BIOL 120, Environmental Science, 4 credits / 6 billing hours  
BIOL 121, Biological Foundations for Physiology, 4 credits / 6 billing hours

## Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
CITF 110	Intro Computer Info Systems	3 / 3
CJUS 101	Intro to Criminal Justice	3 / 3
CJUS 106	Intro to Juvenile Justice	3 / 3
CJUS 131	Introduction to Corrections	3 / 3
CJUS 134	Probation and Parole	3 / 3
CJUS 135	Legal Issues in Corrections	3 / 3
CJUS 250	Correctional Institutions	3 / 3
CJUS 251	Correctional Clients	3 / 3
CJUS 255	Human Relations/Crim Justice	3 / 3
LEGL 160	Critical Thinking in Law	3 / 3
PSYC 200	Introduction to Psychology	4 / 4

## Program of Study Required Courses, Limited Choice – *Select 3-4 for a minimum of 12 credits*

Course Code	Course Title	Credit / Billing Hours
CJUS 102	Crime Causes and Conditions	3 / 3
CJUS 103	Criminal Law	3 / 3
CJUS 126	Juvenile Offenders/Families	3 / 3
CJUS 130	Local Detention	3 / 3
CJUS 204	Criminal Investigation	4 / 4
CJUS 245	Report Writing/Crim Justice	3 / 3
CJUS 272	Local Corrections Academy I	5 / 5
CJUS 273	Local Corrections Academy II	3 / 5
SOCL 120	Introduction to Sociology	4 / 4
SOCL 255	Contemporary Social Problems	3 / 3

## Minimum Total Credit Hours

61 credits / 63 billing hours

## Recommended Course Sequence

Semester I
Gen Ed – English Composition or Applied English
CJUS 101
CJUS 131 – Milestone course
CJUS 135

Semester II
Gen Ed – Mathematics or Applied Mathematics
CJUS 106
CJUS 251
CJUS 255

Semester III
CITF 110
CJUS 134
CJUS 250
LEGL 160
Limited Choice
Limited Choice

Semester IV
Gen Ed – English Composition (Second Course)/ Communications or Applied Communications
Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab
PSYC 200
Limited Choice
Limited Choice

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## **Criminal Justice - Digital Evidence Specialist A.A.S.**

Career Community: Public Service Careers

Curriculum Code: 1803

Effective: Fall 2022 – Summer 2027

### **Description**

We live in a technology driven society whereby computers aid in many if not all of our daily activities. Today's modern-day criminal uses technology to support criminal activity such as cell phones, tablets, GPS and computers. Police Officers are responsible for keeping the peace within a community using all the tools available to them. This career is perfectly suited for individuals that seek adventure and the satisfaction of helping the community using digital technology to solve crimes. Police Officers are problem solvers, emergency responders and natural investigators. This degree program prepares individuals for a career as a Digital Evidence Specialist, Law Enforcement Officer, and other criminal justice related careers such as in probation and parole. It also prepares students for possible entry into the Police Academy Program. Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of CJUS 207 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Contact Information**

Contact the Public Service Careers Program at the West Campus Building, Room M127, telephone number 517-483-1570 or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

### **General Education - Applied Degrees, Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours
- English Composition (Second Course)/Communications or Applied Communications – *Select one*  
COMM 110, Communication in the Workplace, 3 credits / 3 billing hours  
COMM 130, Fundamentals Public Speaking, 3 credits / 3 billing hours
- Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one*  
Program of Study Required Courses will meet this requirement

- Mathematics or Applied Mathematics – *Select one*  
MATH 119, Math – Applications for Living, 4 credits / 4 billing hours
- Natural Sciences Lab or Applied Science and Technology Lab – *Select one*  
BIOL 120, Environmental Science, 4 credits / 6 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
CITF 110	Intro Computer Info Systems	3 / 3
CITN 120	Networking Concepts	3 / 3
CITS 125	Computer Support A+ Cert Prep	6 / 6
CITS 225	Networking for PC Technicians	3 / 3
CJUS 101	Intro to Criminal Justice	3 / 3
CJUS 102	Crime Causes and Conditions	3 / 3
CJUS 103	Criminal Law	3 / 3
CJUS 104	Theory of Patrol	3 / 3
CJUS 203	Criminal Procedure	3 / 3
CJUS 204	Criminal Investigation	4 / 4
CJUS 207	Digital Evidence/1 <sup>st</sup> Responder	3 / 3
CJUS 210	Intro to Forensic Science	3 / 3
CJUS 245	Report Writing/Crim Justice	3 / 3
MGMT 234	Diversity in the Workplace	3 / 3

### Minimum Total Credit Hours

61 credits / 63 billing hours

### Recommended Course Sequence

Semester I
Gen Ed – English Composition or Applied English
Gen Ed – English Composition (Second Course)/Communications or Applied Communications
CITF 110
CJUS 101
CJUS 102

Semester II
Gen Ed – Mathematics or Applied Mathematics
CITN 120
CJUS 103
CJUS 207 – Milestone course
MGMT 234

Semester III
CITS 125
CJUS 104
CJUS 203
CJUS 245

Semester IV
Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab
CITS 225
CJUS 204
CJUS 210

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## Criminal Justice - Digital Evidence Specialist C.C.

Career Community: Public Service Careers

Curriculum Code: 1802

Effective: Fall 2022 – Summer 2027

### Description

We live in a technology driven society whereby computers aid in many if not all of our daily activities. Today's modern-day criminal uses technology to support criminal activity with the use of cell phones, tablets, GPS, and computers. Police Officers are responsible for keeping the peace within a community using all the tools available to them as well. This career is perfectly suited for individuals that seek adventure and the satisfaction of helping the community by utilizing digital technology to solve crimes. This Certificate of Completion is preparation on the road toward a future career as a Digital Forensic Analyst working with Law Enforcement Officers and other criminal justice related careers. Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

### Milestone

Completion of CJUS 207 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in this course.

### Contact Information

Contact the Public Service Careers Program at the West Campus Building, Room M127, telephone number 517-483-1570 or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
CITF 110	Intro Computer Info Systems	3 / 3
CITN 120	Networking Concepts	3 / 3
CITS 125	Computer Support A+ Cert Prep	6 / 6
CITS 225	Networking for PC Technicians	3 / 3
CJUS 207	Digital Evidence/1 <sup>st</sup> Responder	3 / 3
CJUS 210	Intro to Forensic Science	3 / 3

### Minimum Total Credit Hours

21 credits / 21 billing hours

## Recommended Course Sequence

Semester I
CITF 110
Semester II
CITN 120
CJUS 207 – Milestone course
Semester III
CITS 125
Semester IV
CITS 225
CJUS 210

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## **Criminal Justice - Juvenile Specialization A.A.S.**

Career Community: Public Service Careers

Curriculum Code: 1475

Effective: Fall 2022 – Summer 2027

### **Description**

This degree program prepares an individual for a career as a probation officer, juvenile detention, residential or community site worker/professional. To fulfill requirements for this degree, students may choose to also complete the Juvenile Care Worker Certificate of Achievement option. Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of CJUS 106 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Contact Information**

Contact the Public Service Careers Program at the West Campus Building, Room M127, telephone number 517-483-1570 or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

### **General Education - Applied Degrees, Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours
- English Composition (Second Course)/Communications or Applied Communications – *Select one*  
COMM 130, Fundamentals Public Speaking, 3 credits / 3 billing hours
- Humanities and Fine Arts or Applied Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one*  
Program of Study Required Courses will meet this requirement
- Mathematics or Applied Mathematics – *Select one*  
MATH 119, Math - Applications for Living, 4 credits / 4 billing hours  
MATH 120, College Algebra, 4 credits / 4 billing hours

- Natural Sciences Lab or Applied Science and Technology Lab – *Select one*  
 BIOL 120, Environmental Science, 4 credits / 6 billing hours  
 BIOL 121, Biological Foundation for Physiology, 4 credits / 6 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
CJUS 101	Intro to Criminal Justice	3 / 3
CJUS 103	Criminal Law	3 / 3
CJUS 106	Intro to Juvenile Justice	3 / 3
CJUS 126	Juvenile Offenders/Families	3 / 3
CJUS 133	Juvenile Residential Services	3 / 3
CJUS 245	Report Writing/Crim Justice	3 / 3
CJUS 247	Juvenile Justice: Special Pops	3 / 3
CJUS 255	Human Relations/Crim Justice	3 / 3
CJUS 286	Juvenile Internship I	3 / 3
CJUS 287	Juvenile Internship II	3 / 3
PSYC 200	Introduction to Psychology	4 / 4
SOWK 101	Introduction to Social Work	3 / 3

### Program of Study Required Courses, Limited Choice – *Select three*

Course Code	Course Title	Credit / Billing Hours
CJUS 102	Crime Causes and Conditions	3 / 3
CJUS 134	Probation and Parole	3 / 3
HUSE 110	Child Abuse and Neglect	3 / 3
HUSE 242	The Family: Addiction/Violence	3 / 3
PSYC 202	Psychology of Personality	3 / 3
PSYC 221	Child Psychology	3 / 3
PSYC 222	Adolescent Psychology	3 / 3

### Minimum Total Credit Hours

61 credits / 63 billing hours

### Recommended Course Sequence

Semester I
Gen Ed – English Composition or Applied English
Gen Ed – Mathematics or Applied Mathematics
CJUS 106 – Milestone course
CJUS 126
PSYC 200

Semester II
Gen Ed – English Comp (Second Course)/ Communications or Applied Communications
Gen Ed – Natural Sciences or Applied Science and Technology Lab
CJUS 101
CJUS 133

Semester III
CJUS 103
CJUS 255
CJUS 286
SOWK 101
Limited Choice

Semester IV
CJUS 245
CJUS 247
CJUS 287
Limited Choice
Limited Choice

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## **Criminal Justice - Law Enforcement A.A.S.**

Career Community: Public Service Careers

Curriculum Code: 1210

Effective: Fall 2022 – Summer 2027

### **Description**

This degree program prepares individuals for a career as a law enforcement officer. It also prepares students for possible entry into the Police Academy Program. Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of CJUS 101 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

Students who successfully complete LCC's Mid-Michigan Police Academy may substitute the Academy courses; CJUS 270, CJUS 271, PFFT 114 and PFHW 100; for the entire fourth semester of this guided pathway. Please see an advisor in the Public Service Careers Department office for more information.

### **Contact Information**

Contact the Public Service Careers Program at the West Campus Building, Room M127, telephone number 517-483-1570 or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

### **General Education - Applied Degrees, Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours
- English Composition (Second Course)/Communications or Applied Communications – *Select one*  
COMM 110, Communication in the Workplace, 3 credits / 3 billing hours  
COMM 130, Fundamentals Public Speaking, 3 credits / 3 billing hours
- Humanities and Fine Arts or Social Sciences or Applied Social Sciences–  
Program of Study Required Courses will meet this requirement
- Mathematics or Applied Mathematics – *Select one*  
MATH 119, Math - Applications for Living, 4 credits / 4 billing hours

- Natural Sciences Lab or Applied Science and Technology Lab – *Select one*  
BIOL 120, Environmental Science, 4 credits / 6 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
CITF 110	Intro Computer Info Systems	3 / 3
CJUS 101	Intro to Criminal Justice	3 / 3
CJUS 102	Crime Causes and Conditions	3 / 3
CJUS 103	Criminal Law	3 / 3
CJUS 104	Theory of Patrol	3 / 3
CJUS 106	Intro to Juvenile Justice	3 / 3
CJUS 131	Introduction to Corrections	3 / 3
CJUS 201	Criminal Justice Org/Admin	3 / 3
CJUS 203	Criminal Procedure	3 / 3
CJUS 204	Criminal Investigation	4 / 4
CJUS 205	Policing into the 21 <sup>st</sup> Century	3 / 3
CJUS 207	Digital Evidence/1 <sup>st</sup> Responder	3 / 3
CJUS 210	Intro to Forensic Science	3 / 3
CJUS 245	Report Writing/Crim Justice	3 / 3
MGMT 234	Diversity in the Workplace	3 / 3

### Minimum Total Credit Hours

61 credits / 63 billing hours

### Recommended Course Sequence

Semester I
Gen Ed – English Composition or Applied English
Gen Ed – English Composition (Second Course)/Communications or Applied Communications
CITF 110
CJUS 101 – Milestone course
CJUS 102
Semester II
Gen Ed – Mathematics or Applied Mathematics
CJUS 103
CJUS 106
CJUS 205
MGMT 234
Semester III
Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab
CJUS 104
CJUS 203
CJUS 210
CJUS 245

Semester IV
CJUS 131
CJUS 201
CJUS 204
CJUS 207

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## **Customer Energy Specialist A.A.S.**

Career Community: Electrical and Manufacturing

Curriculum Code: 1022

Effective: Fall 2022 – Summer 2027

### **Description**

This curriculum is designed to give students the technical knowledge and customer relations skills to determine customer energy needs in the negotiation, design, installation, and application of utility facilities. They negotiate barriers in order to supply energy from the road or nearest energy supply center to the outside of a building under construction. Customer energy specialists are employed by utility companies, governmental agencies, heating and cooling contractors, the construction industry, and engineering and architectural firms. Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of BUSN 118, ELTE 108, and ELTE 109 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

Students who have already completed DCTM 102, ELTE 102, HVAC 102, METS 102 or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for TECH 102. Any of these classes may also be used to fulfill the prerequisite for ELTE 108, ELTE 109 and ELTE 111.

### **Contact Information**

Contact the Electrical Technology Program at the West Campus Building, Room M127, telephone number 517-483-1570 or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

### **General Education - Applied Degrees, Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*  
ENGL 124, Technical Writing, 3 credits / 3 billing hours
- English Composition (Second Course)/Communications or Applied Communications – *Select one*  
COMM 110, Communication in the Workplace, 3 credits / 3 billing hours

- Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one*  
MGMT 234, Diversity in the Workplace, 3 credits / 3 billing hours
- Mathematics or Applied Mathematics – *Select one*  
MATH 115, Technical Math II, 4 credits / 4 billing hours
- Natural Sciences Lab or Applied Science and Technology Lab – *Select one*  
BIOL 120, Environmental Science, 4 credits / 6 billing hours  
PHYS 120, The Art of Physics, 4 credits / 5 billing hours  
PHYS 200, Intro to Applied Physics, 4 credits / 5 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
ACCG 101	Accounting Info for Management	3 / 3
BUSN 118	Introduction to Business	3 / 3
CITA 110	Intro to Microsoft Office	3 / 3
DCTM 101	Drafting/Intro to CAD	3 / 4
ELTE 108	Practical Electricity I	2 / 3
ELTE 109	Practical Electricity II	2 / 3
ENGL 121	Composition I	4 / 4
LEGL 215	Business Law-Basic Principles	3 / 3
MGMT 150	Managing Customer Relations	3 / 3
MKTG 200	Principles of Marketing	3 / 3
TECH 102	General Industry Safety	2 / 3

### Program of Study Required Courses, Limited Choice - *Select 3 or 4 courses, minimum of twelve credits*

Course Code	Course Title	Credit / Billing Hours
CIVL 120	Surveying	4 / 6
ELTE 111	Intro to Industrial Automation	4 / 6
ELTE 141	National Electrical Code I	4 / 4
GSCI 100	Intro to Geospatial Tech	3 / 3
GSCI 210	Global Positioning Systems	3 / 4
METD 100	Basic Mechanical Drafting	3 / 4

### Minimum Total Credit Hours

60 credits / 68 billing hours

## Recommended Course Sequence

Semester I
Gen Ed – English Composition or Applied English
BUSN 118 – Milestone course
CITA 110
TECH 102
Limited Choice

Semester II
Gen Ed – Mathematics or Applied Mathematics
ACCG 101
ELTE 108 (First 8 weeks) – Milestone course
ELTE 109 (Second 8 weeks) – Milestone course
ENGL 121

Semester III
Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab
DCTM 101
LEGL 215
MGMT 150
MKTG 200

Semester IV
Gen Ed – English Composition (Second Course)/ Communications or Applied Communications
Gen Ed – Humanities and Fine Arts or Social Sciences or Applied Social Sciences
Limited Choice
Limited Choice

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## Customer Energy Specialist C.A.

Career Community: Electrical and Manufacturing

Curriculum Code: 0893

Effective: Fall 2022 – Summer 2027

### Description

This certificate curriculum provides entry-level technical knowledge and customer relations skills to determine customer energy needs in the negotiation, design, installation, and application of utility facilities. Course work will apply toward completion of the Customer Energy Specialist Associate Degree.

### Milestone

Completion of BUSN 118 and MGMT 150 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Additional Information

Students who have already completed DCTM 102, ELTE 102, HVAC 102, METS 102 or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for TECH 102. Any of these classes may also be used to fulfill the prerequisite for ELTE 108 and 109.

### Contact Information

Contact the Electrical Technology Program at the West Campus Building, Room M127, telephone number 517-483-1570 or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
ACCG 101	Accounting Info for Management	3 / 3
BUSN 118	Introduction to Business	3 / 3
CITA 110	Intro to Microsoft Office	3 / 3
DCTM 101	Drafting/Intro to CAD	3 / 4
ELTE 108	Practical Electricity I	2 / 3
ELTE 109	Practical Electricity II	2 / 3
ENGL 124	Technical Writing	3 / 3
LEGL 215	Business Law-Basic Principles	3 / 3
MGMT 150	Managing Customer Relations	3 / 3
MKTG 200	Principles of Marketing	3 / 3
TECH 102	General Industry Safety	2 / 3

**Program of Study Required Courses, Limited Choice – Select one**

Course Code	Course Title	Credit / Billing Hours
PHYS 120	The Art of Physics	4 / 5
PHYS 200	Intro To Applied Physics	4 / 5

**Minimum Total Credit Hours**

34 credits / 39 billing hours

**Recommended Course Sequence**

Semester I
BUSN 118 – Milestone course
ELTE 108 (First 8 weeks)
ELTE 109 (Second 8 weeks)
TECH 102

Semester II
ACCG 101
CITA 110
ENGL 124
MGMT 150 – Milestone course

Semester III
DCTM 101
LEGL 215
MKTG 200
Limited Choice

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## **Cybersecurity A.A.S.**

Career Community: Computer Technology and Networking

Curriculum Code: 1832

Effective: Fall 2022 – Summer 2027

### **Description**

This program is designed to provide the knowledge and skills needed to analyze security vulnerabilities, create a comprehensive incident-response plan, and implement the equipment, policies and procedures that protect a network and its related resources from unauthorized intrusion, information damage, or theft. Behaving ethically, writing policies and procedures, security operating systems, installing, and administering contemporary intrusion detection systems, and firewalls, implementing network defenses and countermeasures, responding to intrusions, and utilizing system-wide, multi-layered, compliance-based approaches are emphasized. Students completing this curriculum may also be eligible to apply for certificates of completion in Cybersecurity Foundations Certificate (xxxx). Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of CITN 280 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

To be awarded this degree, students must earn a minimum grade of 2.0 in each course.

### **Contact Information**

Contact the Computer Information Technologies Program in the West Campus Building, Room M103, telephone number 517-267-6406 or Student Services West Campus, West Campus Building, Room M016, telephone number 517-267-5452.

### **General Education – Applied Degrees, Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*  
ENGL 127, Business Writing, 3 credits / 3 billing hours

- English Composition (second course)/Communications or Applied Communications – *Select one*  
CITS 110, Help Desk Support Specialist, 3 credits / 3 billing hours  
COMM 110, Communication in the Workplace, 3 credits / 3 billing hours  
COMM 120, Dynamics of Communication, 3 credits / 3 billing hours  
COMM 130, Fundamentals Public Speaking, 3 credits / 3 billing hours
- Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one*  
MGMT 234, Diversity in the Workplace, 3 credits / 3 billing hours
- Mathematics or Applied Mathematics – *Select one*  
STAT 170, Introduction to Statistics, 4 credits / 4 billing hours
- Natural Sciences Lab or Applied Science and Technology Lab – *Select one*  
ISCI 131, Integrated Physical Science, 4 credits / 6 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
CITC 282	Ethical Hacking	3 / 3
CITC 285	System Defense	3 / 3
CITC 287	Cybersecurity Incident Response	3 / 3
CITC 290	Cybersecurity Risk Management	4 / 4
CITF 140	Information Technology Ethics	3 / 3
CITF 240	IT Project Management	3 / 3
CITN 230	Linux/UNIX Operating System	3 / 3
CITN 250	Microsoft Network Server	3 / 3
CITN 280	IT Security Foundations	3 / 3
CITP 110	Intro to Programming – Python	4 / 4
CITS 125	Computer Support: A+ Cert Prep	6 / 6
CITS 225	Networking for PC Technicians	3 / 3
CITS 230	Computer Virtualization	3 / 3

### Program of Study Required Courses, Limited Choice – *Select one*

Course Code	Course Title	Credit / Billing Hours
CITN 115	IoT & Automation Fundamentals	5 / 6
CITN 222	Wireless Networking & Security	3 / 3
CITS 285	IT Professional Internship	3 / 3

### Minimum Total Credit Hours

64 credits / 66 billing hours

## Recommended Course Sequence

Semester I
Gen Ed – English Composition or Applied English
Gen Ed – Mathematics or Applied Mathematics
CITP 110
CITS 125

Semester II
Gen Ed – English Composition (Second Course)/Communications or Applied Communications
CITF 140
CITN 250
CITS 225
CITS 230

Semester III
Gen Ed - Natural Sciences Lab or Applied Science and Technology Lab
CITF 240
CITN 230
CITN 280 – Milestone course
Limited Choice

Semester IV
Gen Ed - Humanities and Fine Arts or Social Sciences or Applied Social Sciences
CITC 282
CITC 285
CITC 287
CITC 290

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## Cybersecurity Foundations C.C.

Career Community: Computer Technology and Networking

Curriculum Code: 1833

Effective: Fall 2022 – Summer 2027

### Description

The Certificate of Completion (CC) in Cybersecurity Foundations focuses on the necessary skills required to secure, protect, and identify vulnerabilities in a network, including various operating systems and network devices. Emphasis is placed on developing the theoretical, legal, ethical, and practical skills needed to maintain security on mission-critical networking and server systems. The program is designed to provide applied skills necessary for government and industry employees. The program covers a variety of information security technologies and structured languages. The Cybersecurity program also focuses on the high-demand skills needed in business, industry, and government, as well as for internationally recognized IT certifications.

### Milestone

Completion of CITN 280 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in this course.

### Additional Information

To be awarded this Cybersecurity Foundations Certificate of Completion, a student must earn a minimum grade of 2.0 in each course. This certificate also aligns with and is stackable under the Computer Networking and Cybersecurity A.B. (#1453) program of study.

### Contact Information

Contact the Computer Information Technologies Program in the West Campus Building, Room M103, telephone number 517-267-6406 or Student Services West Campus, West Campus Building, Room M016, telephone number 517-267-5452.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
CITN 230	Linux/UNIX Operating System	3 / 3
CITN 280	IT Security Foundations	3 / 3
CITP 110	Intro to Programming - Python	4 / 4
CITS 125	Computer Support: A+ Cert Prep	6 / 6
CITS 225	Networking for PC Technicians	3 / 3

### Minimum Total Credit Hours

19 credits / 19 billing hours

## Recommended Course Sequence

Semester I
CITP 110
CITS 125
Semester II
CITS 225
Semester III
CITN 230
CITN 280 – Milestone course

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## **Dental Hygiene A.A.S.**

Career Community: Health and Human Service Careers

Curriculum Code: 0279

Effective: Fall 2022 – Summer 2024

### **Description**

Dental hygienists are licensed preventive oral health care professionals. They provide educational, clinical, and therapeutic services to patients in dental offices, schools, hospitals, long-term care facilities, and other public health programs. Clinical skills include performing patient assessments; taking health histories; examining head, neck, and oral tissues for disease; checking blood pressures; exposing and processing dental x-ray pictures; applying decay-preventing agents to the teeth; polishing fillings; periodontal debridement; and polishing teeth. Upon graduation from this program which is accredited by the Commission on Dental Accreditation of the American Dental Association (CODA), 211 East Chicago Avenue, Suite 1900 Chicago, Illinois 60611, students are eligible to take the written and clinical exams necessary for licensure. In addition, students are eligible to take the Commission on Dental Competency Assessments (CDCA) exams for local anesthesia and nitrous oxide administration. Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of BIOL 145, or BIOL 201 and 202, BIOL 203, and CHEM 120 with a 2.5 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

This is a selective admission program. In order to be considered as a candidate for this program, students must meet basic admission requirements beyond those required for admission to the college. Courses listed below in Semesters I, II and III must be completed or in progress by the May 1st Dental Hygiene Program admission application deadline for a Fall start date. Once admitted, a student may not begin a new semester until they have successfully completed all DENT courses listed in the previous semester with a minimum grade of 2.5.

### **Contact Information**

The admission and/or graduation requirements for this program may change each academic year. The program requirements below apply only to those students who have been admitted to the program for the 2022/2023 academic year. For the most recent and complete information, interested students should visit the Dental Hygiene Program, Health and Human Services Building, Room 108, telephone number 517-483-1410, or the Academic Advising Department, Gannon Building – StarZone, telephone number 517-483-1904.

## General Education – Applied Degrees Courses

- English Composition or Applied English  
Program of Study Required Courses for Admission will meet this requirement.
- English Composition (second course)/Communications or Applied Communications  
Program of Study Required Courses for Admission will meet this requirement.
- Humanities and Fine Arts or Social Sciences or Applied Social Sciences  
Program of Study Required Courses for Admission will meet this requirement.
- Mathematics or Applied Mathematics  
Program of Study Required Courses for Admission will meet this requirement.
- Natural Sciences Lab or Applied Science and Technology Lab  
Program of Study Required Courses for Admission will meet this requirement.

**Program of Study Required Courses for Admission, Limited Choice** – *Select one. Minimum 2.5 grade required. This selection also satisfies the General Education Natural Sciences Lab or Applied Science and Technology Lab requirement.*

Course Code	Course Title	Credit / Billing Hours
BIOL 145	Intro Anatomy and Physiology	4 / 6
BIOL 201 and 202	Human Anatomy and Human Physiology	8 / 11 (total)

**Program of Study Required Courses for Admission, Limited Choice** – *Select one. Minimum 2.0 grade required. ENGL 121 or 122 recommended for transferability. This selection also satisfies the General Education English Composition requirement.*

Course Code	Course Title	Credit / Billing Hours
ENGL 121	Composition I	4 / 4
ENGL 122	Composition II	4 / 4
ENGL 131	Honors Composition I	4 / 4
ENGL 132	Honors Composition II	4 / 4

**Program of Study Required Courses for Admission** – *Minimum 2.5 grade required for BIOL 203 and CHEM 120. Minimum 2.0 grade required for PSYC 200, SOCL 120 and the MATH course. MATH 119 (or any course from the General Education Mathematics College Algebra category) also satisfies the General Education Mathematics or Applied Mathematics requirement. SOCL 120 also satisfies the General Education Humanities and Fine Arts or Social Sciences or Applied Social Sciences requirement.*

Course Code	Course Title	Credit / Billing Hours
BIOL 203	Microbiology	3 / 3
CHEM 120	Gen Organic & Biological Chem	4 / 4
MATH 119	Math - Applications for Living	4 / 4
PSYC 200	Introduction to Psychology	4 / 4
SOCL 120	Introduction to Sociology	4 / 4

**Program of Study Required Courses for Admission, Limited Choice – Select one.**

Minimum 2.0 grade required. This selection also satisfies the General Education English Composition (second course)/Communications or Applied Communications requirement.

Course Code	Course Title	Credit / Billing Hours
COMM 110	Communication in the Workplace	3 / 3
COMM 120	Dynamics of Communication	3 / 3
COMM 130	Fundamentals Public Speaking	3 / 3
COMM 240	Interpersonal Communication	3 / 3

**Recommended Courses for Admission – If taken, a minimum 2.0 grade is needed. STAT 170 or STAT 215 is recommended. Neither STAT 170 nor STAT 215 will fulfill the Dental Hygiene Program requirement of MATH 119 or higher.**

Course Code	Course Title	Credit / Billing Hours
BIOL 204	Microbiology Laboratory	1 / 3
STAT 170	Introduction to Statistics	4 / 4
STAT 215	Intro to Probability and Stats	4 / 4

**Minimum Total Credit Hours for Admission**

30 credits / 32 billing hours

**Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
DENT 140	Oral Histology & Embryology	1.5 / 1.5
DENT 142	PreClinical Dental Hygiene	3 / 3
DENT 144	PreClinic Dental Hyg Practice	2 / 8
DENT 146	Head, Neck & Oral Anatomy	3.5 / 5.5
DENT 148	Dental Radiography	3 / 5
DENT 152	Dental Hygiene I	2 / 2
DENT 154	Clinical Dental Hygiene I	2 / 8
DENT 156	Nutrition	2 / 2
DENT 158	Dental Pharmacology	3 / 3
DENT 161	Principles of Periodontics	3 / 3
DENT 174	Clinical Dental Hygiene II	1 / 4
DENT 176	Dental Materials & Methods	3 / 5
DENT 240	Anxiety & Pain Control Mgmt	2.5 / 4
DENT 242	Dental Hygiene III	2 / 2
DENT 244	Clinical Dental Hygiene III	3 / 12
DENT 247	Oral Pathology	3 / 3
DENT 248	Dental Public Health & Educ	3 / 3
DENT 252	Dental Hygiene IV	2 / 2
DENT 254	Clinical Dental Hygiene IV	3 / 12
DENT 256	Community Oral Health	1.5 / 1.5

## Program of Study Recommended Course

Course Code	Course Title	Credit / Billing Hours
DENT 270	Dental Hygiene Board Review	2 / 2

## Minimum Total Credit Hours

79 credits / 121.5 billing hours

## Recommended Course Sequence

Semester I
BIOL 145 or (BIOL 201 and 202) – Milestone course(s)
COMM 110, 120, 130, or 240
ENGL 121, 122, 131, or 132

Semester II
BIOL 203 – Milestone course
CHEM 120 – Milestone course
MATH 119 (or any General Education Mathematics College Algebra course)
PSYC 200
SOCL 120

Semester III
BIOL 204 (Recommended)
STAT 170 or 215 (Recommended)

Semester IV (Fall)
DENT 140
DENT 142
DENT 144
DENT 146
DENT 148

Semester V (Spring)
DENT 152
DENT 154
DENT 156
DENT 158
DENT 161

Semester VI (Summer)
DENT 174
DENT 176

Semester VII (Fall)
DENT 240
DENT 242
DENT 244
DENT 247
DENT 248

Semester VIII (Spring)
DENT 252
DENT 254
DENT 256
DENT 270 (Recommended)

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## Digital Media: Audio C.C.

Career Community: Art, Design, and Media

Curriculum Code: 1457

Effective: Fall 2022 – Summer 2027

### Description

Audio Production is a focused course of study in Desktop Audio Production issues and techniques. All courses in this curriculum can be applied to the Digital Media Specialist Associate in Applied Science degree.

### Milestone

Completion of DMAC 120 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in this course.

### Contact Information

Contact the Communication, Media and the Arts Department, Gannon Building, Room 1222, telephone number 517-483-1546 or the Academic Advising Department, Gannon Building – StarZone, telephone number 517-483-1904.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
DMAC 120	Digital Audio Production I	4 / 4
DMAC 121	Digital Audio Production II	4 / 4
DMAC 122	Audio Recording I	4 / 4
DMAC 222	Audio Recording II	4 / 4

### Minimum Total Credit Hours

16 credits / 16 billing hours

### Recommended Course Sequence

Semester I
DMAC 120
Semester II
DMAC 121
Semester III
DMAC 122
Semester IV
DMAC 222



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## Digital Media: Audio Recording/Production C.A.

Career Community: Art, Design, and Media

Curriculum Code: 1448

Effective: Fall 2022 – Summer 2027

### Description

Audio Recording/Production is a focused course of study that prepares students for professional careers in digital audio production, post-production and distribution industries. This certificate prepares individuals to function as studio and location recording engineers and audio editors.

### Milestone

Completion of DMAC 120, DMAC 130, and DMAC 140 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Contact Information

Contact the Communication, Media and the Arts Department, Gannon Building, Room 1222, telephone number 517-483-1546 or the Academic Advising Department, Gannon Building – StarZone, telephone number 517-483-1904.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
DMAC 120	Digital Audio Production I	4 / 4
DMAC 121	Digital Audio Production II	4 / 4
DMAC 122	Audio Recording I	4 / 4
DMAC 130	Digital Video Production	4 / 4
DMAC 132	Video Post-Production I	4 / 4
DMAC 140	Pre-Production Design	3 / 3
DMAC 222	Audio Recording II	4 / 4
DMAC 240	Employment Issues in Media	2 / 2
DMAC 245	Workshop: Audio	2 / 2

### Minimum Total Credit Hours

31 credits / 31 billing hours

## Recommended Course Sequence

Semester I
DMAC 120 – Milestone course
DMAC 130 – Milestone course
DMAC 140 – Milestone course

Semester II
DMAC 121
DMAC 132

Semester III
DMAC 122
DMAC 240

Semester IV
DMAC 222
DMAC 245

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## Digital Media: Cinematography C.C.

Career Community: Art, Design, and Media

Curriculum Code: 1450

Effective: Fall 2022 – Summer 2027

### Description

Cinematography is a focused course of study in the Digital, Media, Audio and Cinema program that prepares students for professional careers in digital/cinema production, particularly as it relates to the duties and skills of a cinematographer. All courses in this curriculum may be applied to the Digital Media Specialist Associate in Applied Science degree.

### Milestone

Completion of DMAC 120, DMAC 130, and DMAC 140 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Contact Information

Contact the Communication, Media and the Arts Department, Gannon Building, Room 1222, telephone number 517-483-1546 or the Academic Advising Department, Gannon Building – StarZone, telephone number 517-483-1904.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
DMAC 120	Digital Audio Production I	4 / 4
DMAC 130	Digital Video Production	4 / 4
DMAC 131	Digital Cinematography I	4 / 4
DMAC 140	Pre-Production Design	3 / 3
DMAC 231	Digital Cinematography II	4 / 4
DMAC 234	Studio Production Techniques	4 / 4
DMAC 246	Workshop: Video	2 / 2

### Minimum Total Credit Hours

25 credits / 25 billing hours

### Recommended Course Sequence

Semester I
DMAC 120 – Milestone course
DMAC 130 – Milestone course
DMAC 140 – Milestone course
Semester II
DMAC 131
DMAC 234

Semester III - Summer
DMAC 231

Semester IV
DMAC 246

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## Digital Media Specialist A.A.S.

Career Community: Art, Design, and Media

Curriculum Code: 1458

Effective: Fall 2022 – Summer 2027

### Description

This degree is an integrated curriculum that prepares individuals for careers in the fields of digital media, video production and audio production. Students will apply technical knowledge and skills to all facets of production including pre-production, production, and post-production. This curriculum prepares students to function as camera operators, video and sound editors, lighting technicians, and grips. Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

### Milestone

In addition to the required General Education courses in Math and English, completion of DMAC 120, DMAC 130, and DMAC 140 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Contact Information

Contact the Communication, Media and the Arts Department, Gannon Building, Room 1222, telephone number 517-483-1546 or the Academic Advising Department, Gannon Building – StarZone, telephone number 517-483-1904.

### General Education – Applied Degrees, Recommended Courses

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours
- English Composition (second course)/Communications or Applied Communications – *Select one*  
COMM 110, Communication in the Workplace, 3 credits / 3 billing hours
- Humanities and Fine Arts or Social Sciences or Applied Social Sciences  
Program of Study Required Courses meets this requirement
- Mathematics or Applied Mathematics – *Select one*  
MATH 118, The Art of Geometry, 3 credits / 4 billing hours
- Natural Sciences Lab or Applied Science and Technology Lab – *Select one*  
ISCI 121, Integrated Sci for Education I, 4 credits / 6 billing hours  
PHYS 120, The Art of Physics, 4 credits / 5 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
DMAC 120	Digital Audio Production I	4 / 4
DMAC 130	Digital Video Production	4 / 4
DMAC 140	Pre-Production Design	3 / 3
DMAC 141	Ethics and Impact of the Media	3 / 3
DMAC 234	Studio Production Techniques	4 / 4
DMAC 240	Employment Issues in Media	2 / 2
DMAC 260	World Cinema	4 / 4
DMAC 295	Media/Cinema Portfolio	2 / 2
DMAC 296	Media/Cinema Internship	3 / 3

### Program of Study Required Courses, Limited Choice – *Select three*

Course Code	Course Title	Credit / Billing Hours
DMAC 121	Digital Audio Production II	4 / 4
DMAC 122	Audio Recording I	4 / 4
DMAC 131	Digital Cinematography I	4 / 4
DMAC 132	Video Post-Production I	4 / 4
DMAC 232	Video Post-Production II	4 / 4

### Program of Study Required Courses, Limited Choice – *Select one*

Course Code	Course Title	Credit / Billing Hours
DMAC 222	Audio Recording II	4 / 4
DMAC 231	Digital Cinematography II (summer only)	4 / 4

### Program of Study Required Courses, Limited Choice – *Must total 4 credits*

Course Code	Course Title	Credit / Billing Hours
DMAC 245*	Workshop: Audio	2 / 2
DMAC 246*	Workshop: Video	2 / 2

\*Workshop courses may be repeated for a total of 4 credits toward this degree

### Minimum Total Credit Hours

63 credits / 65 billing hours

### Recommended Course Sequence

Semester I
Gen Ed - English Composition or Applied English
Gen Ed - English (second course) / Communications or Applied Communications
DMAC 120 – Milestone course
DMAC 130 – Milestone course
DMAC 140 – Milestone course

Semester II
Gen Ed - Mathematics or Applied Mathematics
DMAC 141
DMAC 240
Limited Choice
Limited Choice
Limited Choice

Semester III (Summer)
Limited Choice if choosing DMAC 231

Semester IV
Gen Ed - Natural Sciences Lab or Applied Science and Technology Lab
Limited Choice if choosing DMAC 222
Limited Choice
Limited Choice

Semester V
DMAC 234
DMAC 260
DMAC 295
DMAC 296

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## Digital Media: Transfer A.A.S.

Career Community: Art, Design, and Media

Curriculum Code: 1452

Effective: Fall 2022 – Summer 2027

### Description

This degree focuses on providing individuals with the foundational knowledge needed to obtain advanced training in digital media, audio, and video. The curriculum provides graduates with a broad foundation of technical abilities with an emphasis on job entry skill development in audio production, video production, and post production, as well as media distribution. This curriculum is also designed for students wishing to transfer into a four-year program. Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

### Milestone

In addition to the required General Education courses in Math and English, completion of DMAC 120, DMAC 130, and DMAC 140 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Additional Information

This degree is designed for students who intend to transfer to a four-year college or university to pursue a baccalaureate degree in this subject area. Students completing this curriculum will also satisfy the Michigan Transfer Agreement (MTA) between two-year and four-year institutions in Michigan and qualify for an LCC Transfer Studies Certificate of Achievement (1482).

### Contact Information

Contact the Communication, Media and the Arts Department, Gannon Building, Room 1222, telephone number 517-483-1546 or the Academic Advising Department, Gannon Building – StarZone, telephone number 517-483-1904.

### General Education – Transfer Degrees (MTA), Recommended Courses

(For the full list of options, see [General Education](#))

- English Composition – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours  
ENGL 131, Honors Composition II, 4 credits / 4 billing hours
- English Composition (second course) or Communications – *Select one*  
ENGL 122, Composition II, 4 credits / 4 billing hours  
ENGL 132, Honors Composition II, 4 credits / 4 billing hours

- Humanities and Fine Arts – *Select one from a discipline other than DMAC*  
 ARTS 102, Design & Communication, 3 credits / 4 billing hours  
 HUMS 160, Mythology, 4 credits / 4 billing hours  
 MUSC 241, Musical Cultures 1750-Present, 4 credits / 4 billing hours  
 PHIL 151, Intro to Logic & Critical Think, 4 credits / 4 billing hours  
 PHIL 152, Introduction to Ethics, 4 credits / 4 billing hours
- Mathematics – *Select one*  
 MATH 120, College Algebra, 4 credits / 4 billing hours
- Natural Sciences – *Select two, each from a different discipline, one must be a lab course*  
 ASTR 201, Introductory Astronomy, 4 credits / 5 billing hours  
 BIOL 120, Environmental Science, 4 credits / 6 billing hours  
 BIOL 125, Introductory Biology, 4 credits / 5 billing hours  
 CHEM 135, Chemistry in Society, 4 credits / 5 billing hours  
 GEOG 221, Physical Geography, 4 credits / 4 billing hours  
 GEOL 230, Environmental Geology, 4 credits / 6 billing hours  
 ISCI 131, Integrated Physical Science, 4 credits / 6 billing hours  
 PFWW 123, Human Nutrition, 3 credits / 3 billing hours
- Social Sciences – *Select two, each from a different discipline*  
 PSYC 200, Introduction to Psychology, 4 credits / 4 billing hours  
 SOCL 120, Introduction to Sociology, 4 credits / 4 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
DMAC 120	Digital Audio Production I	4 / 4
DMAC 130	Digital Video Production	4 / 4
DMAC 140	Pre-Production Design	3 / 3
DMAC 141	Ethics and Impact of the Media	3 / 3
DMAC 260	World Cinema	4 / 4

### Program of Study Required Courses, Limited Choice – *Select three*

Course Code	Course Title	Credit / Billing Hours
DMAC 121	Digital Audio Production II	4 / 4
DMAC 122	Audio Recording I	4 / 4
DMAC 131	Digital Cinematography I	4 / 4
DMAC 132	Video Post-Production I	4 / 4
DMAC 222	Audio Recording II	4 / 4
DMAC 231	Digital Cinematography II	4 / 4
DMAC 232	Video Post-Production II	4 / 4
DMAC 234	Studio Production Techniques	4 / 4

## Minimum Total Credit Hours

60 credits / 61 billing hours

## Recommended Course Sequence

Semester I
MTA English Composition
MTA Social Sciences
DMAC 120 – Milestone course
DMAC 130 – Milestone course

Semester II
MTA English Composition (second course) or Communications
MTA Mathematics
DMAC 140 – Milestone course
DMAC 260

Semester III
MTA Humanities and Fine Arts
MTA Natural Sciences
DMAC 141
Limited Choice

Semester IV
MTA Natural Sciences
MTA Social Sciences
Limited Choice
Limited Choice

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## Digital Media: Video/Cinema C.A.

Career Community: Art, Design, and Media

Curriculum Code: 1454

Effective: Fall 2022 – Summer 2027

### Description

Video/Cinema is a focused course of study in the Digital, Media, Audio and Cinema program that prepares students for professional careers in digital video/cinema production and post-production industries. All courses in this curriculum can be applied to the Digital Media Specialist Associate in Applied Science degree.

### Milestone

Completion of DMAC 120, DMAC 130, and DMAC 140 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Contact Information

Contact the Communication, Media and the Arts Department, Gannon Building, Room 1222, telephone number 517- 483-1546, or the Academic Advising Department, Gannon Building – StarZone, telephone number 517- 483-1904.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
DMAC 120	Digital Audio Production I	4 / 4
DMAC 130	Digital Video Production	4 / 4
DMAC 131	Digital Cinematography I	4 / 4
DMAC 132	Video Post-Production I	4 / 4
DMAC 140	Pre-Production Design	3 / 3
DMAC 234	Studio Production Techniques	4 / 4
DMAC 240	Employment Issues in Media	2 / 2
DMAC 246	Workshop: Video	2 / 2

### Program of Study Required Courses, Limited Choice – *Select one*

Course Code	Course Title	Credit / Billing Hours
DMAC 231	Digital Cinematography II	4 / 4
DMAC 232	Video Post-Production II	4 / 4

### Minimum Total Credit Hours

31 credits / 31 billing hours

## Recommended Course Sequence

Semester I
DMAC 120 – Milestone course
DMAC 130 – Milestone course
DMAC 140 – Milestone course

Semester II
DMAC 131
DMAC 132
DMAC 234

Semester III
DMAC 240
DMAC 246
Limited Choice

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## **E-Business A.B.**

Career Community: Computer Technology and Networking

Curriculum Code: 0839

Effective: Fall 2022 – Summer 2027

Revised: 6/28/22

### **Description**

E-business is the use of Internet technology to conduct business transactions. Students will learn to apply technical and behavioral skills to the various progressive possibilities of e-business as it relates to current business practices. This degree can be completed entirely online. Graduates are prepared to work in a variety of manufacturing, wholesaling, and retailing environments, or government environment. Students completing this curriculum may also be eligible to apply for a certificate in E-Business (0845). Not all courses in the program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of CITW 160 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Contact Information**

Contact the Computer Information Technologies Program at the West Campus Building, Room M103, telephone number 517-267-6406 or Student Services West Campus, West Campus Building, Room M016, telephone number 517-267-5452.

### **General Education - Applied Degrees, Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*  
ENGL 124, Technical Writing, 3 credits / 3 billing hours
- English Composition (Second Course)/Communications or Applied Communications – *Select one*  
COMM 130, Fundamentals Public Speaking, 3 credits / 3 billing hours
- Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one*  
ARTS 102, Design & Communication, 3 credits / 4 billing hours  
MGMT 234, Diversity in the Workplace, 3 credits / 3 billing hours
- Mathematics or Applied Mathematics – *Select one*  
MATH 117, Math for Business, 4 credits / 4 billing hours  
MATH 119, Math - Applications for Living, 4 credits / 4 billing hours

- Natural Sciences Lab or Applied Science and Technology Lab – *Select one*  
 BIOL 120, Environmental Science, 4 credits / 6 billing hours  
 CHEM 135, Chemistry in Society, 4 credits / 5 billing hours  
 PHYS 120, The Art of Physics, 4 credits / 5 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
BUSN 118	Introduction to Business	3 / 3
CITP 110	Intro to Programming-Python	4 / 4
CITW 150	Internet Literacy	3 / 3
CITW 160	Web Development HTML & CSS	3 / 3
CITW 175	Web Site Management	3 / 3
CITW 185	Web Development PHP & MySQL	4 / 4
MKTG 119	Mktg/Manage Your Profess Image	3 / 3
MKTG 200	Principles of Marketing	3 / 3
MKTG 210	Marketing on the Internet	3 / 3

### Program of Study Required Courses, Limited Choice – *Select two or three courses, 8 credits minimum*

Course Code	Course Title	Credit / Billing Hours
ACCG 210	Principles of Financial Accg	4 / 4
BUSN 260	Starting a Business	4 / 4
ECON 201	Principles of Economics-Micro	4 / 4
MGMT 150	Managing Customer Relations	3 / 3
MGMT 200	Creative Thinking for Business	3 / 3
MKTG 120	Sales	3 / 3
MKTG 140	Introduction to Advertising	3 / 3
MKTG 204	Marketing Research	3 / 3

### Program of Study Required Courses, Limited Choice – *Select three or four courses, 9 credits minimum*

Course Code	Course Title	Credit / Billing Hours
CITD 120	SQL Concepts	3 / 3
CITF 140	Information Technology Ethics	3 / 3
CITP 130	Intro to Mobile App Devel	3 / 3
CITP 180	Intro to C#.NET Programming	4 / 4
CITP 190	Intro to Programming in JAVA	4 / 4
CITP 220	Game Design & Development	2 / 4
CITW 165	Web Development JavaScript	3 / 3
CITW 180	Web Development ASP.NET	4 / 4

### Minimum Total Credit Hours

63 credits / 64 billing hours

## Recommended Course Sequence

Semester I
Gen Ed – English Composition or Applied English
BUSN 118
CITP 110
CITW 150
CITW 160 – Milestone course

Semester II
Gen Ed – Mathematics or Applied Mathematics
Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab
CITW 175
MKTG 200
MKTG 210

Semester III
Gen Ed – English Composition (Second Course)/Communications or Applied Communications
CITW 185
MKTG 119
Limited Choice
Limited Choice

Semester IV
Gen Ed - Humanities and Fine Arts or Social Sciences or Applied Social Sciences
Limited Choice
Limited Choice
Limited Choice

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*





## E-Business C.A.

Career Community: Computer Technology and Networking

Curriculum Code: 0845

Effective: Fall 2022 – Summer 2027

### Description

This certificate provides students with the opportunity to develop technical and marketing knowledge necessary to use the Internet as a business tool. Students will learn how to use business, marketing, and web related resources. This certificate can be completed entirely online. All of the course work in this certificate may be applied toward the E-Business Associate of Business Degree (0839).

### Milestone

Completion of CITW 160 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in this course.

### Contact Information

Contact the Computer Information Technologies Program at the West Campus Building, Room M103, telephone number 517-267-6406 or Student Services West Campus, West Campus Building, Room M016, telephone number 517-267-5452.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
BUSN 118	Introduction to Business	3 / 3
CITW 150	Internet Literacy	3 / 3
CITW 160	Web Development HTML & CSS	3 / 3
CITW 175	Web Site Management	3 / 3
MKTG 120	Sales	3 / 3
MKTG 200	Principles of Marketing	3 / 3
MKTG 210	Marketing on the Internet	3 / 3

### Program of Study Required Courses, Limited Choice – *Select two courses, minimum of 5 credits*

Course Code	Course Title	Credit / Billing Hours
ARTS 102	Design & Communication	3 / 4
CITF 140	Information Technology Ethics	3 / 3
CITP 110	Intro to Programming-Python	4 / 4
CITP 130	Intro to Mobile App Devel	3 / 3
CITP 180	Intro to C#.NET Programming	4 / 4
CITP 220	Game Design & Development	2 / 4
CITW 165	Web Development JavaScript	3 / 3
CITW 185	Web Development PHP & MySQL	4 / 4

**Program of Study Required Courses, Limited Choice**– *Select two courses, minimum of 6 credits*

Course Code	Course Title	Credit / Billing Hours
BUSN 260	Starting a Business	4 / 4
ENGL 124	Technical Writing	3 / 3
MGMT 200	Creative Thinking for Business	3 / 3
MKTG 119	Mktg/Manage Your Profess Image	3 / 3
MKTG 120	Sales	3 / 3
MKTG 140	Introduction to Advertising	3 / 3
MKTG 204	Marketing Research	3 / 3

**Minimum Total Credit Hours**

32 credits / 33 billing hours

**Recommended Course Sequence**

Semester I
BUSN 118
CITW 150
CITW 160 – Milestone course
MKTG 200
Limited Choice
Limited Choice

Semester II
CITW 175
MKTG 120
MKTG 210
Limited Choice
Limited Choice

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## **Economics A.A.**

Career Community: Business

Curriculum Code: 0230

Effective: Fall 2022 – Summer 2027

### **Description**

This degree is designed for students who intend to transfer to a four-year college or university to pursue a baccalaureate degree in this subject area. Students completing this curriculum will also satisfy the Michigan Transfer Agreement (MTA) between two-year and four-year institutions in Michigan and qualify for an LCC Transfer Studies Certificate of Achievement (1482).

### **Milestone**

In addition to the required General Education courses in Math and English, completion of ECON 201 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

A student must earn a minimum grade of 2.0 in all courses.

### **Contact Information**

Contact the Business and Economics Department, Gannon Building, Room 1222, telephone number 517-483-1546, or the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

### **General Education – Transfer Degrees (MTA), Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours  
ENGL 131, Honors Composition I, 4 credits / 4 billing hours
- English Composition (second course) or Communications – *Select one*  
ENGL 122, Composition II, 4 credits / 4 billing hours  
ENGL 132, Honors Composition II, 4 credits / 4 billing hours
- Humanities and Fine Arts – *Select two, each from a different discipline*  
HIST 211, U.S. History to 1877, 4 credits / 4 billing hours  
HIST 212, U.S. History: 1877 to Present, 4 credits / 4 billing hours  
PHIL 151, Intro to Logic & Critical Think, 4 credits / 4 billing hours  
PHIL 152, Introduction to Ethics, 4 credits / 4 billing hours

- Mathematics  
Program of Study Required Courses will fulfill this requirement
- Natural Sciences – *Select two, each from a different discipline, one must be a lab course*  
 ASTR 201, Introductory Astronomy, 4 credits / 5 billing hours  
 BIOL 120, Environmental Science, 4 credits / 6 billing hours  
 CHEM 135, Chemistry in Society, 4 credits / 5 billing hours  
 GEOG 221, Physical Geography, 4 credits / 4 billing hours  
 GEOL 230, Environmental Geology, 4 credits / 6 billing hours  
 ISCI 131, Integrated Physical Science, 4 credits / 6 billing hours  
 PFHW 123, Human Nutrition, 3 credits / 3 billing hours  
 PHYS 120, The Art of Physics, 4 credits / 5 billing hours
- Social Sciences – *Select one from a discipline other than ECON*  
 POLS 120, American Political System, 4 credits / 4 billing hours  
 PSYC 200, Introduction to Psychology, 4 credits / 4 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
ACCG 210	Principles of Financial Accg	4 / 4
ECON 120	Power, Authority and Exchange	4 / 4
ECON 201	Principles of Economics-Micro	4 / 4
ECON 202	Principles of Economics-Macro	4 / 4
ECON 213	U.S. Economic/Business History	3 / 3
ECON 260	Comparative Economic Systems	3 / 3
MATH 120	College Algebra	4 / 4
STAT 215	Intro to Probability and Stats	4 / 4

### Program of Study Required Courses, Limited Choice – *Select one*

Course Code	Course Title	Credit / Billing Hours
MATH 126	Precalculus	5 / 5
MATH 141	Calculus with Applications	4 / 4

### Program of Study Required Courses, Limited Choice – *Select one*

Course Code	Course Title	Credit / Billing Hours
INSU 105	Prin of Prop and Liability Ins	3 / 3
POLS 201	Intro to Political Science	3 / 3
POLS 205	Government Internship	3 / 3
POLS 240	Introduction to Public Policy	3 / 3

### Minimum Total Credit Hours

64 credits / 64 billing hours

## Recommended Course Sequence

Semester I
MTA English Composition
MTA Social Sciences
ACCG 210
ECON 120

Semester II
MTA English Comp (2nd course) or Communications
MTA Humanities and Fine Arts
MTA Natural Sciences
MATH 120

Semester III
MTA Humanities and Fine Arts
MTA Natural Sciences
ECON 201 – Milestone course
ECON 213
MATH 126 or 141

Semester IV
ECON 202
ECON 260
STAT 215
Limited Choice

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## Education A.A.

Career Community: Education

Curriculum Code: 1624

Effective: Fall 2022 – Summer 2027

### Description

This degree is designed for students who intend to transfer to a four-year college or university to pursue a baccalaureate degree in this subject area. Students completing this curriculum will also satisfy the Michigan Transfer Agreement (MTA) between two-year and four-year institutions in Michigan and qualify for an LCC Transfer Studies Certificate of Achievement (1482).

### Milestone

In addition to the required General Education courses in Math and English, completion of EDUC 220 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in this course.

### Additional Information

CHDV courses need a 2.5 exit grade, all other courses require a 2.0. Some transfer universities require a 3.0 or higher in EDUC courses.

This pathway represents a standardized selection of classes. See Education Advisor for possible amendments to the sequence of courses.

### Contact Information

Contact the Social Science and Humanities Department, Arts and Sciences Building, Room 2203, telephone number 517-483-1061, or the Academic Advising Department, Gannon Building – StarZone, telephone number 517-483-1904.

### General Education - Transfer Degrees (MTA), Recommended Courses

(For the full list of options, see [General Education](#))

- English Composition – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours  
ENGL 131, Honors Composition I, 4 credits / 4 billing hours
- English Composition (second course) or Communication – *Select one*  
ENGL 122, Composition II, 4 credits / 4 billing hours  
ENGL 132, Honors Composition II, 4 credits / 4 billing hours

- Humanities and Fine Arts – *Select one from a discipline other than HIST. ENGL 208 is highly recommended.*  
 ENGL 208, Children's Literature, 4 credits / 4 billing hours  
 HUMS 120, Masterpieces of Art & Music, 4 credits / 4 billing hours  
 HUMS 213, World Civilizations to 1600, 4 credits / 4 billing hours  
 HUMS 214, World Civilizations from 1600, 4 credits / 4 billing hours
- Mathematics – *Select one*  
 MATH 120, College Algebra, 4 credits / 4 billing hours
- Natural Sciences – *Select one from a discipline other than ISCI. BIOL 125 is recommended for Central Michigan University and Ferris State University.*  
 BIOL 120, Environmental Science, 4 credits / 6 billing hours  
 BIOL 125, Introductory Biology, 4 credits / 5 billing hours  
 GEOL 221, Physical Geology, 4 credits / 6 billing hours  
 PFHW 123, Human Nutrition, 3 credits / 3 billing hours  
 PHYS 120, The Art of Physics, 4 credits / 5 billing hours
- Social Science – *Select one from a discipline other than EDUC. GEOG 200 is highly recommended. POLS 120 is recommended for Central Michigan University and Ferris State University.*  
 ANTH 270, Cultural Anthropology, 3 credits / 3 billing hours  
 GEOG 200, World Regional Geography, 4 credits / 4 billing hours  
 POLS 120, American Political System, 4 credits / 4 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
EDUC 204	Educational Psychology	3 / 3
EDUC 220	Introduction to Education	3 / 3
ISCI 121	Integrated Sci for Education I	4 / 6

### Program of Study Required Course, Limited Choice – *Select one*

Course Code	Course Title	Credit / Billing Hours
HIST 211	U.S. History to 1877	4 / 4
HIST 212	U.S. History: 1877 to Present	4 / 4

Notes:

HIST 211 is recommended for Ferris State University.

HIST 212 is recommended for Central Michigan University.

### Program of Study Required Courses, Limited Choice - Education – *Select two*

Course Code	Course Title	Credit / Billing Hours
EDUC 226	Reading in Elementary School	3 / 3
EDUC 228	Technology In Education	3 / 3
EDUC 230	Intro to Spec Education	3 / 3
EDUC 280	Teacher Education Practicum	3 / 3

Notes:

EDUC 230 is recommended for transfer to Ferris State University.

EDUC 280 is recommended for transfer to Central Michigan University.

### Elective Courses, Recommended Choices – *Select courses to reach the minimum 60 total credits required for this degree. (For the full list of options, see [AA and AS Degree Electives](#))*

Course Code	Course Title	Credit / Billing Hours
COMM 120	Dynamics of Communication	3 / 3
COMM 130	Fundamentals Public Speaking	3 / 3
ECON 201	Principles of Economics-Micro	4 / 4
GEOG 221	Physical Geography	4 / 4
HIST 220	Michigan History	4 / 4
ISCI 122	Integrated Science in Education II	4 / 6
LING 230	Introduction to Linguistics	3 / 3
MATH 201	Math for Elementary Teachers I	4 / 4
MATH 202	Math for Elementary Teacher II	4 / 4
PSYC 200	Introduction to Psychology	4 / 4

Notes:

Central Michigan University recommends COMM 120, HIST 220, and MATH 120.

Ferris State University recommends COMM 130, HIST 220, LING 230, and MATH 201.

### Minimum Total Credit Hours

60 credits / 62 billing hours

### Recommended Course Sequence

Semester I
MTA English Composition
MTA Mathematics
EDUC 220 – Milestone course
ISCI 121
Semester II
MTA English Comp (2nd course) or Communication
MTA Natural Sciences
MTA Social Science
Limited Choice - Education



Semester III
EDUC 204
HIST 211 or HIST 212
Electives as needed for total credits

Semester IV
MTA Humanities and Fine Arts
Limited Choice - Education
Electives as needed for total credits

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## EKG Technician C.C.

Career Community: Health and Human Service Careers

Curriculum Code: 1442

Effective: Fall 2022 – Summer 2023

### Description

This certificate is designed to prepare an individual to safely and skillfully work as an EKG technician, also known as a cardiology technician at certain facilities. An EKG technician works primarily in a hospital but could also work in an outpatient clinic or cardiology practice. Completers of this curriculum meet the requirements to take any one of the various exams for EKG certification.

### Additional Information

Students must complete all courses with a minimum grade of 2.5 to receive this certificate.

Students wishing to pursue an associate degree, should declare the Allied Health A.A.S. major. Courses in this program of study may be applied toward that degree.

### Contact Information

Contact the Community Health Services Education Programs, Health and Human Services Building, Room 108, telephone number 517-483-1410, or the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
CHSE 120	Medical Terminology	4 / 4
CHSE 136	EKG Technician	3.5 / 4

### Minimum Total Credit Hours

7.5 credits / 8 billing hours

### Recommended Course Sequence

Semester I
CHSE 120
Semester II
CHSE 136

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## **Electrical Apprenticeship C.A.**

Career Community: Electrical and Manufacturing

Curriculum Code: 1570

Effective: Fall 2022 – Summer 2027

### **Description**

This curriculum must be taken while working for an electrical contractor or other licensed employer as a registered apprentice. It is designed to provide electrical apprentices with a background in applied electrical theory and the basic skills necessary to a practicing electrician. This certificate fulfills all related trade instruction required for a United States Department of Labor, Office of Apprenticeship registered apprenticeship program in compliance with State of Michigan requirements for apprentice electricians.

### **Milestone**

Completion of ELTE 108 and ELTE 109 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

Students interested in pursuing an Associate in Applied Science Degree in Electrical Technology should see a program advisor for course substitutions that would more readily transfer to that degree. Students who have previously taken electrical courses should also see an advisor for possible course substitutions.

Students who have already completed DCTM 102, ELTE 102, HVAC 102, METS 102 or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for TECH 102. Any of these classes may also be used to fulfill the prerequisite for ELTE 108 and ELTE 109.

Students may substitute ELTE 129 and ELTE 130 for ELTE 131.

Students who plan to pursue the Electrical Technology, Associate in Applied Science Degree (0134) should substitute ELTE 121 for ELTA 106 and ELTA 120; and ELTE 123 for ELTA 155 and ELTE 150.

### **Contact Information**

Contact the Electrical Technology Program at the West Campus Building, Room M127, telephone number 517-483-1570 or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

## Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
ELTA 105	Elect. Industry Orientation	.5 / .5
ELTA 106	Basic Electrical Calculations	2 / 2
ELTA 120	AC Fundamentals - Electrician	2 / 3
ELTA 155	Transformer Fundamentals	2 / 3
ELTA 160	PLC Overview for Electricians	1 / 2
ELTA 180	Introduction to Fire Alarms	1 / 1
ELTE 108	Practical Electricity I	2 / 3
ELTE 109	Practical Electricity II	2 / 3
ELTE 131	Machine Controls I	4 / 5
ELTE 141	National Electrical Code I	4 / 4
ELTE 145	Electrical Prints for Building	4 / 5
ELTE 150	Electric Motor Maintenance	2 / 3
TECH 102	General Industry Safety	2 / 3

## Program of Study Required Courses, Limited Choice – *Select one*

Course Code	Course Title	Credit / Billing Hours
ELTE 112	Basic Wiring Installation	2 / 3
ELTE 132	Control Panel Assembly	2 / 3
ELTE 142	National Electrical Code II	4 / 4
ELTE 232	Machine Controls II	4 / 6

## Minimum Total Credit Hours

30.5 credits / 40.5 billing hours

## Recommended Course Sequence

Semester I (Fall)
ELTE 108 (First 8 weeks) – Milestone course
ELTE 109 (Second 8 weeks) – Milestone course
TECH 102
Semester II (Spring)
ELTA 105
ELTE 141
Semester III (Fall)
ELTA 106
ELTE 150

Semester IV (Spring)
ELTA 120 (First 8 weeks)
ELTA 155 (Second 8 weeks)
Semester V (Fall)
ELTE 145
Semester VI (Spring)
ELTE 131
Semester VII (Fall)
ELTA 160
ELTA 180
Semester VIII (Spring)
Limited Choice

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## Electrical Machine Controls C.C.

Career Community: Electrical and Manufacturing

Curriculum Code: 0966

Effective: Fall 2022 – Summer 2027

### Description

This certificate is designed to provide students with entry level skills in the understanding of basic electrical theory, basic electrical operating characteristics of industrial machinery, and basic operation of programmable logic controllers. This curriculum would be an excellent choice for students wishing to enter an industrial electrical apprenticeship or for students in other industrial trades who wish to have a basic understanding of electrical control of industrial machines. All of the course work may be applied toward the Electrical Technology, Associate in Applied Science Degree.

### Milestone

Completion of ELTE 108 and ELTE 109 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Additional Information

Students who have already completed DCTM 102, ELTE 102, HVAC 102, METS 102 or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for TECH 102. Any of these courses may also be used to fulfill the prerequisite for ELTE 108 and ELTE 109.

Students may substitute ELTE 131 for ELTE 129 and ELTE 130 but ELTE 131 must be completed prior to taking ELTE 232 or ELTE 260.

### Contact Information

Contact the Electrical Technology Program at the West Campus Building, Room M127, telephone number 517-483-1570 or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
ELTE 108	Practical Electricity I	2 / 3
ELTE 109	Practical Electricity II	2 / 3
ELTE 111	Intro to Industrial Automation	4 / 6
ELTE 129	Machine Controls I – A	2 / 2.5
ELTE 130	Machine Controls I – B	2 / 2.5
ELTE 132	Control Panel Assembly	2 / 3
ELTE 232	Machine Controls II	4 / 6
ELTE 260	Programmable Controllers I	4 / 6
METS 160	Introduction to Robotics	3 / 4.5
TECH 102	General Industry Safety	2 / 3

## Minimum Total Credit Hours

27 credits / 39.5 billing hours

## Recommended Course Sequence

Semester I
ELTE 108 (First 8 weeks) – Milestone course
ELTE 111
ELTE 129 (Second 8 weeks)
METS 160
TECH 102

Semester II
ELTE 109 (Second 8 weeks) – Milestone course
ELTE 130 (First 8 weeks)
ELTE 132
ELTE 232
ELTE 260

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## **Electrical Technology A.A.S.**

Career Community: Electrical and Manufacturing

Curriculum Code: 0134

Effective: Fall 2022 – Summer 2027

### **Description**

Students in this program select one of three subspecialties; Construction, Automation and Control, or Power Generation. Construction electricians install electrical wiring and systems in homes, offices, stores or industrial plants. Automation and machine control designers are responsible for designing control systems that operate automated work cells in manufacturing facilities. Industrial electricians work in industry maintaining and troubleshooting power and control circuits on machinery. Power Generation technicians operate and maintain engine or turbine-driven generators in stand-alone or integrated facilities. All subspecialties require mechanical aptitude, logical thinking and problem-solving skills. Employment opportunities vary with each specialty.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of ELTE 108 and ELTE 109 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

- Students in this program choose one subspecialty pathway: 1) Construction, 2) Automation and Control, or 3) Power Generation, to determine the courses to take each semester.
- Upon completion of a subspecialty, any additional subspecialty courses will not count toward the student's enrollment level for determining financial aid eligibility.
- Students who have already completed DCTM 102, ELTE 102, HVAC 102, METS 102 or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for TECH 102. Any of these courses may also be used to fulfill the prerequisite for ELTE 108, ELTE 109, ELTE 111 and ELTE 121.
- Students may substitute ELTE 131 where ELTE 129 and ELTE 130 are required. Conversely, ELTE 129 and ELTE 130 may be substituted where ELTE 131 is required.

### **Contact Information**

Contact the Electrical Technology Program at the West Campus Building, Room M127, telephone number 517-483-1570 or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.



## General Education - Applied Degrees, Recommended Courses

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours  
ENGL 124, Technical Writing, 3 credits / 3 billing hours  
ENGL 127, Business Writing, 3 credits / 3 billing hours
- English Composition (Second Course)/Communications or Applied Communications – *Select one*  
COMM 110, Communication in the Workplace, 3 credits / 3 billing hours  
COMM 120, Dynamics of Communication, 3 credits / 3 billing hours  
COMM 130, Fundamentals Public Speaking, 3 credits / 3 billing hours
- Humanities and Fine Arts or Social Sciences or Applied Social Sciences– *Select one*  
GEOG 200, World Regional Geography, 4 credits / 4 billing hours  
MGMT 234, Diversity in the Workplace, 3 credits / 3 billing hours  
SOCL 120, Introduction to Sociology, 4 credits / 4 billing hours
- Mathematics or Applied Mathematics – *Select one*  
Program of Study Required Courses will fulfill this requirement.
- Natural Sciences Lab or Applied Science and Technology Lab – *Select one*  
BIOL 120, Environmental Science, 4 credits / 6 billing hours  
CHEM 151 and CHEM 161, General Chemistry I and Lab I, total 5 credits / 7 billing hours  
METM 190, Metallurgy and Heat Treatment, 4 credits / 6 billing hours  
PHYS 120, The Art of Physics, 4 credits / 5 billing hours

## Construction Subspecialty Pathway

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
BLDT 120	Structural Framing	4 / 6
CITN 115	IoT & Automation Fundamentals	5 / 6
DCTM 101	Drafting/Intro to CAD	3 / 4
ELTA 105	Elect. Industry Orientation	.5 / .5
ELTA 160	PLC Overview for Electricians	1 / 2
ELTA 180	Introduction to Fire Alarms	1 / 1
ELTE 108	Practical Electricity I	2 / 3
ELTE 109	Practical Electricity II	2 / 3
ELTE 111	Intro to Industrial Automation	4 / 6
ELTE 112	Basic Wiring Installation	2 / 3
ELTE 121	Electrical Mathematics	5 / 6
ELTE 123	Motors and Transformers	5 / 7
ELTE 131	Machine Controls I	4 / 5

Course Code	Course Title	Credit / Billing Hours
ELTE 141	National Electrical Code I	4 / 4
ELTE 142	National Electrical Code II	4 / 4
ELTE 145	Electrical Prints for Building	4 / 5
ELTE 150	Electric Motor Maintenance	2 / 3
TECH 102	General Industry Safety	2 / 3

### Minimum Total Credit Hours

67.5 credits / 85.5 billing hours

### Recommended Course Sequence

Semester I
Gen Ed – English Composition or Applied English
CITN 115
ELTE 108 (First 8 weeks) – Milestone course
ELTE 109 (Second 8 weeks) – Milestone course
ELTE 111
TECH 102

Semester II
DCTM 101
ELTA 105
ELTE 112
ELTE 121
ELTE 131
ELTE 141

Semester III
BLDT 120
ELTA 160
ELTA 180
ELTE 123
ELTE 145

Semester IV
Gen Ed – English Composition (Second Course)/ Communications or Applied Communications
Gen Ed - Humanities and Fine Arts or Social Sciences or Applied Social Sciences
Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab
ELTE 142
ELTE 150

## Automation and Control Subspecialty Pathway

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
ELTE 108	Practical Electricity I	2 / 3
ELTE 109	Practical Electricity II	2 / 3
ELTE 111	Intro to Industrial Automation	4 / 6
ELTE 121	Electrical Mathematics	5 / 6
ELTE 122	Industrial Control Electronics	5 / 7
ELTE 123	Motors and Transformers	5 / 7
ELTE 129	Machine Controls I – A	2 / 2.5
ELTE 130	Machine Controls I – B	2 / 2.5
ELTE 132	Control Panel Assembly	2 / 3
ELTE 232	Machine Controls II	4 / 6
ELTE 260	Programmable Controllers I	4 / 6
ELTE 261	Programmable Controllers II	6 / 8
METS 115	Intro to Mechanical Systems	4 / 6
METS 160	Introduction to Robotics	3 / 4.5
TECH 102	General Industry Safety	2 / 3

### Program of Study Required Courses, Limited Choice – *Select one or two for a minimum of 5 credits*

Course Code	Course Title	Credit / Billing Hours
ELTE 141	National Electrical Code I	4 / 4
ELTE 150	Electric Motor Maintenance	2 / 3
ELTE 262	Programmable Controllers III	5 / 8

### Minimum Total Credit Hours

70 credits / 95.5 billing hours

### Recommended Course Sequence

Semester I
Gen Ed – English Composition or Applied English
ELTE 108 (First 8 weeks) – Milestone course
ELTE 111
ELTE 129 (Second 8 weeks)
METS 160
TECH 102

Semester II
ELTE 109 (Second 8 weeks) – Milestone course
ELTE 121
ELTE 130 (First 8 weeks)
ELTE 132
ELTE 232
ELTE 260

Semester III
Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab
ELTE 123
ELTE 261
METS 115

Semester IV
Gen Ed – English Composition (Second Course)/ Communications or Applied Communications
Gen Ed – Humanities and Fine Arts or Social Sciences or Applied Social Sciences
ELTE 122
Limited Choice

## Power Generation Subspecialty Pathway

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
ELTE 108	Practical Electricity I	2 / 3
ELTE 109	Practical Electricity II	2 / 3
ELTE 111	Intro to Industrial Automation	4 / 6
ELTE 121	Electrical Mathematics	5 / 6
ELTE 123	Motors and Transformers	5 / 7
ELTE 131	Machine Controls I	4 / 5
ELTE 132	Control Panel Assembly	2 / 3
ELTE 136	Digital Basics	2 / 3
ELTE 150	Electric Motor Maintenance	2 / 3
ELTE 154	Utility Prints and Diagrams	3 / 3
ELTE 173	Energy Industry Fundamentals I	2 / 2
ELTE 174	Energy Industry Fundamentals II	2 / 2
ELTE 251	Energy Generation & Control I	4 / 5
ELTE 252	Energy Generation & Control II	4 / 5
ELTE 255	Power Instrumentation	4 / 5
ELTE 260	Programmable Controllers I	4 / 6
ELTE 261	Programmable Controllers II	6 / 8
TECH 102	General Industry Safety	2 / 3

## Minimum Total Credit Hours

72 credits / 92 billing hours

## Recommended Course Sequence

Semester I
Gen Ed – English Composition or Applied English
ELTE 108 (First 8 weeks) – Milestone course
ELTE 109 (Second 8 weeks) – Milestone course
ELTE 111
ELTE 173 (First 8 weeks)
ELTE 174 (Second 8 weeks)
TECH 102

Semester II
Gen Ed – English Composition (Second Course)/ Communications or Applied Communications
ELTE 121
ELTE 131
ELTE 132
ELTE 150
ELTE 154

Semester III
Gen Ed – Humanities and Fine Arts or Social Sciences or Applied Social Sciences
ELTE 123
ELTE 136
ELTE 251
ELTE 260

Semester IV
Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab
ELTE 252
ELTE 255
ELTE 261

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## Electrical Technology - Construction C.A.

Career Community: Electrical and Manufacturing

Curriculum Code: 0759

Effective: Fall 2022 – Summer 2027

### Description

This certificate is designed to provide students with a background in applied electrical theory and the basic mechanical skills necessary to the practicing construction electrician.

### Milestone

Completion of ELTE 108 and ELTE 109 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Additional Information

Students who have already completed DCTM 102, ELTE 102, HVAC 102, METS 102 or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for TECH 102. Any of these courses may also be used to fulfill the prerequisite for BLDT 120, ELTE 108, ELTE 109, and ELTE 121.

Students may substitute ELTE 129 and ELTE 130 for ELTE 131.

### Contact Information

Contact the Electrical Technology Program at the West Campus Building, Room M127, telephone number 517-483-1570 or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
CITN 115	IoT & Automation Fundamentals	5 / 6
ELTA 105	Elect. Industry Orientation	.5 / .5
ELTA 180	Introduction to Fire Alarms	1 / 1
ELTE 108	Practical Electricity I	2 / 3
ELTE 109	Practical Electricity II	2 / 3
ELTE 112	Basic Wiring Installation	2 / 3
ELTE 121	Electrical Mathematics	5 / 6
ELTE 131	Machine Controls I	4 / 5
ELTE 141	National Electrical Code I	4 / 4
ELTE 142	National Electrical Code II	4 / 4
ELTE 145	Electrical Prints for Building	4 / 5
ELTE 150	Electric Motor Maintenance	2 / 3
TECH 102	General Industry Safety	2 / 3

**Program of Study Required Courses, Limited Choice – Select one**

Course Code	Course Title	Credit / Billing Hours
BLDT 120	Structural Framing	4 / 6
DCTM 101	Drafting/Intro to CAD	3 / 4

**Minimum Total Credit Hours**

40.5 credits / 50.5 billing hours

**Recommended Course Sequence**

Semester I (Fall)
CITN 115
ELTE 108 (First 8 weeks) – Milestone course
ELTE 109 (Second 8 weeks) – Milestone course
Limited Choice
TECH 102

Semester II (Spring)
ELTA 105
ELTE 112
ELTE 121
ELTE 131
ELTE 141

Semester III (Fall)
ELTA 180
ELTE 145

Semester IV (Spring)
ELTE 142
ELTE 150

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## Electrical Technology - Control Maintenance C.A.

Career Community: Electrical and Manufacturing

Curriculum Code: 0760

Effective: Fall 2022 – Summer 2027

### Description

This certificate is designed to provide students with a background in applied electrical theory and the basic mechanical skills necessary to the practicing electrician in the machine control field.

### Milestone

Completion of ELTE 108 and ELTE 109 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Additional Information

Students who have already completed DCTM 102, ELTE 102, HVAC 102, METS 102 or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for TECH 102. Any of these courses may also be used to fulfill the prerequisite for ELTE 108, ELTE 109, and ELTE 111.

Students may substitute ELTE 129 and ELTE 130 for ELTE 131.

### Contact Information

Contact the Electrical Technology Program at the West Campus Building, Room M127, telephone number 517-483-1570 or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
ELTE 108	Practical Electricity I	2 / 3
ELTE 109	Practical Electricity II	2 / 3
ELTE 111	Intro to Industrial Automation	4 / 6
ELTE 122	Industrial Control Electronics	5 / 7
ELTE 131	Machine Controls I	4 / 5
ELTE 132	Control Panel Assembly	2 / 3
ELTE 150	Electric Motor Maintenance	2 / 3
ELTE 232	Machine Controls II	4 / 6
ELTE 260	Programmable Controllers I	4 / 6
ELTE 261	Programmable Controllers II	6 / 8
METS 160	Introduction to Robotics	3 / 4.5
TECH 102	General Industry Safety	2 / 3



## Minimum Total Credit Hours

40 credits / 57.5 billing hours

## Recommended Course Sequence

Semester I (Fall)
ELTE 108 (First 8 weeks) – Milestone course
ELTE 109 (Second 8 weeks) – Milestone course
ELTE 111
TECH 102

Semester II (Spring)
ELTE 131
ELTE 132
METS 160

Semester III (Fall)
ELTE 150
ELTE 232
ELTE 260

Semester IV (Spring)
ELTE 122
ELTE 261

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## **Electrical Utility/Lineworker A.A.S.**

Career Community: Electrical and Manufacturing

Curriculum Code: 1783

Effective: Fall 2022 – Summer 2027

### **Description**

This program of study prepares individuals to apply technical knowledge and skills to install, operate, maintain, and repair local, long-distance, and rural electric power cables; erect and construct pole lines; and install underground lines and cables. Includes instruction in line installation and repair, trenching, mobile equipment and crane operation, high-voltage installations, maintenance and inspection, safety, and applicable codes and standards. Department approval is required to enroll in a significant number of the courses required for this degree. Interested students should contact an Electrical Program advisor before beginning this program for information regarding admission requirements.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of ELTE 108 and ELTE 109 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

ELTE 272, ELTE 274 and ELTE 276 are scheduled in a ten-week block typically offered during Summer Semester. Enrollment is restricted to students who have received department approval and who have completed all other courses on the curriculum with a minimum 2.5 grade except PFFT 182, PFFT 183 and ELTE 182 which must be passed with a minimum 3.0 grade. Students must receive a 2.5 in ELTE 272, ELTE 274 and ELTE 276 in order to successfully complete the program.

Students may substitute ELTE 121 for ELTA 106 and ELTA 120; and ELTE 123 for ELTA 155. ELTE 121 also fulfills the General Education Applied Mathematics requirement.

### **Contact Information**

Contact the Electrical Technology Program at the West Campus Building, Room M127, telephone number 517-483-1570 or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

### **General Education - Applied Degrees, Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours  
ENGL 124, Technical Writing, 3 credits / 3 billing hours  
ENGL 127, Business Writing, 3 credits / 3 billing hours

- English Composition (Second Course)/Communications or Applied Communications – *Select one*  
 COMM 110, Communication in the Workplace, 3 credits / 3 billing hours  
 COMM 120, Dynamics of Communication, 3 credits / 3 billing hours  
 COMM 130, Fundamentals Public Speaking, 3 credits / 3 billing hours
- Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one*  
 GEOG 200, World Regional Geography, 4 credits / 4 billing hours  
 MGMT 234, Diversity in the Workplace, 3 credits / 3 billing hours  
 SOCL 120, Introduction to Sociology, 4 credits / 4 billing hours
- Mathematics or Applied Mathematics – *Select one*  
 ELTE 121, Electrical Mathematics, 5 credits / 6 billing hours  
 MATH 115, Technical Math II, 4 credits / 4 billing hours  
 MATH 117, Math for Business, 4 credits / 4 billing hours  
 MATH 119, Math – Applications for Living, 4 credits / 4 billing hours
- Natural Sciences Lab or Applied Science and Technology Lab – *Select one*  
 BIOL 120, Environmental Science, 4 credits / 6 billing hours  
 CHEM 151 and CHEM 161, General Chemistry I Lecture/Lab, 5 credits / 7 billing hours  
 METM 190, Metallurgy and Heat Treatment, 4 credits / 6 billing hours  
 PHYS 120, The Art of Physics, 4 credits / 5 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
ELTA 106	Basic Electrical Calculations	2 / 2
ELTA 120	AC Fundamentals - Electrician	2 / 3
ELTA 155	Transformer Fundamentals	2 / 3
ELTE 104	Employee Worksite Basics	1 / 1
ELTE 108	Practical Electricity I	2 / 3
ELTE 109	Practical Electricity II	2 / 3
ELTE 154	Utility Prints and Diagrams	3 / 3
ELTE 173	Energy Industry Fundamentals I	2 / 2
ELTE 174	Energy Industry Fundamentals II	2 / 2
ELTE 181	Pole Climbing I	.5 / 1
ELTE 182	Pole Climbing II	.5 / 1
ELTE 272	Electric Basic Line Climbing	4 / 6
ELTE 274	Ground/Utility Worker	6 / 9
ELTE 276	Energized Secondary Worker	5 / 8
PFFT 183	Lineworker Fitness C	2 / 4
TECH 102	General Industry Safety	2 / 3

**Program of Study Required Courses, Limited Choice, Rigging – Select one**

Course Code	Course Title	Credit / Billing Hours
ELTE 156	Lineworker/Utility Rigging	3 / 4
METS 140	Rigging	3 / 4.5

**Program of Study Required Courses, Limited Choice, Fitness/Climbing - Select a minimum of one course, four credits**

Course Code	Course Title	Credit / Billing Hours
ELTE 131	Machine Controls I	4 / 5
ELTE 185	Pole Climbing Practice I	.25 / .5
ELTE 186	Pole Climbing Practice II	.25 / .5
ELTE 187	Pole Climbing Practice III	.25 / .5
ELTE 188	Pole Climbing Practice IV	.25 / .5
ELTE 270	Lineworker Fundamentals	1 / 1.5
PFFT 181	Lineworker Fitness A	1 / 2
PFFT 182	Lineworker Fitness B	1 / 2

**Minimum Total Credit Hours**

62 credits / 81 billing hours

**Recommended Course Sequence**

Semester I (Summer)
Gen Ed – English Composition or Applied English
ELTE 181
Limited Choice, Fitness/Climbing (if needed)

Semester II (Fall)
ELTA 106
ELTE 104
ELTE 108 (first 8 weeks) – Milestone course
ELTE 109 (second 8 weeks) – Milestone course
ELTE 173 (first 8 weeks)
ELTE 174 (second 8 weeks)
ELTE 182
TECH 102
Limited Choice, Rigging
Limited Choice, Fitness/Climbing

Semester III (Spring)
Gen Ed – Mathematics or Applied Mathematics
ELTA 120 (first 8 weeks)
ELTA 155 (second 8 weeks)
ELTE 154
PFFT 183
Limited Choice, Fitness/Climbing

Semester IV (Summer)
ELTE 272
ELTE 274
ELTE 276

Semester V (Fall)
Gen Ed – English Composition (Second Course)/Communications or Applied Communications
Gen Ed - Humanities and Fine Arts or Social Sciences or Applied Social Sciences
Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab

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## **Electrical Utility/Lineworker C.A.**

Career Community: Electrical and Manufacturing

Curriculum Code: 1468

Effective: Fall 2022 – Summer 2027

### **Description**

Lineworkers install and service power lines and power line connections between electrical power plants and the customers using the electricity. These lines may be above ground on utility poles or underground. This curriculum prepares students to enter the Electric Lines Apprenticeship Program with Consumers Energy or another utility/contractor. Department approval is required to enroll in ELTE 270, ELTE 272, ELTE 274 and ELTE 276 which are held onsite at the Consumers Energy Training Facility in Marshall, Michigan or at LCC's West Campus. Interested students should contact the Utility and Energy Systems program at Lansing Community College for information.

### **Milestone**

Completion of ELTE 108 and ELTE 109 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

ELTE 272, ELTE 274 and ELTE 276 are scheduled in a ten-week block typically offered during Summer Semester. Enrollment is restricted to students who have received department approval and who have completed all other courses on the curriculum with a minimum 2.5 grade except for PFFT 182, PFFT 183 and ELTE 182 which must be passed with a minimum 3.0 grade. Students must receive a 2.5 in ELTE 272, ELTE 274 and ELTE 276 in order to successfully complete the program.

PFFT 181 is only required if the student fails the LPAT fitness test.

### **Contact Information**

Contact the Electrical Technology Program at the West Campus Building, Room M127, telephone number 517-483-1570 or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

## Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
ELTA 106	Basic Electrical Calculations	2 / 2
ELTE 104	Employee Worksite Basics	1 / 1
ELTE 108	Practical Electricity I	2 / 3
ELTE 109	Practical Electricity II	2 / 3
ELTE 154	Utility Prints and Diagrams	3 / 3
ELTE 173	Energy Industry Fundamentals I	2 / 2
ELTE 174	Energy Industry Fundamentals II	2 / 2
ELTE 181	Pole Climbing I	.5 / 1
ELTE 182	Pole Climbing II	.5 / 1
ELTE 272	Electric Basic Line Climbing	4 / 6
ELTE 274	Ground/Utility Worker	6 / 9
ELTE 276	Energized Secondary Worker	5 / 8
PFFT 183	Lineworker Fitness C	2 / 4
TECH 102	General Industry Safety	2 / 3

## Program of Study Required Courses, Limited Choice – Fitness/Climbing - *Select a minimum of .25 credits in Semesters II and III*

Course Code	Course Title	Credit / Billing Hours
ELTE 185	Pole Climbing Practice I	.25 / .5
ELTE 186	Pole Climbing Practice II	.25 / .5
ELTE 187	Pole Climbing Practice III	.25 / .5
ELTE 188	Pole Climbing Practice IV	.25 / .5
ELTE 270	Lineworker Orientation	1 / 1.5
PFFT 181	Lineworker Fitness A	1 / 2
PFFT 182	Lineworker Fitness B	1 / 2

## Minimum Total Credit Hours

34.5 credits / 49 billing hours

## Recommended Course Sequence

Semester I (Summer)
ELTE 181
Limited Choice, Fitness/Climbing if needed
Semester II (Fall)
ELTA 106 (Second 8 weeks)
ELTE 104 (First 8 weeks)
ELTE 108 (First 8 weeks) – Milestone course
ELTE 109 (Second 8 weeks) – Milestone course
ELTE 182
Limited Choice – Fitness/Climbing
TECH 102

Semester III (Spring)
ELTE 154
ELTE 173 (First 8 weeks)
ELTE 174 (Second 8 weeks)
PFFT 183
Limited Choice – Fitness/Climbing

Semester IV (Summer)
ELTE 272
ELTE 274
ELTE 276

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## Electrical Wiring C.C.

Career Community: Electrical and Manufacturing

Curriculum Code: 0964

Effective: Fall 2022 – Summer 2027

### Description

This certificate is designed to provide students with entry level skills in basic electrical theory, fundamental wiring installation techniques, smart-house technologies, and an understanding of the National Electrical Code. This curriculum would be an excellent choice for students wishing to apply for a construction electrical apprenticeship. All of the course work may be applied toward the Electrical Technology, Associate in Applied Science Degree.

### Milestone

Completion of ELTE 108 and ELTE 109 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Additional Information

Students who have already completed DCTM 102, ELTE 102, HVAC 102, METS 102 or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for TECH 102. Any of these courses may also be used to fulfill the prerequisite for ELTE 108 and ELTE 109.

### Contact Information

Contact the Electrical Technology Program at the West Campus Building, Room M127, telephone number 517-483-1570 or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
CITN 115	IoT & Automation Fundamentals	5 / 6
ELTA 105	Elect. Industry Orientation	.5 / .5
ELTA 180	Introduction to Fire Alarms	1 / 1
ELTE 108	Practical Electricity I	2 / 3
ELTE 109	Practical Electricity II	2 / 3
ELTE 112	Basic Wiring Installation	2 / 3
ELTE 141	National Electrical Code I	4 / 4
TECH 102	General Industry Safety	2 / 3

### Minimum Total Credit Hours

18.5 credits / 23.5 billing hours

## Recommended Course Sequence

Semester I
CITN 115
ELTA 180
ELTE 108 (First 8 weeks) – Milestone course
ELTE 109 (Second 8 weeks) – Milestone course
TECH 102

Semester II
ELTA 105
ELTE 112
ELTE 141

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## **Emergency Medical Services A.A.S.**

Career Community: Health and Human Service Careers

Curriculum Code: 0276

Effective: Fall 2022 – Summer 2027

### **Description**

Basic Emergency Medical Technicians are members of the health care team in the pre-hospital emergency care setting. EMT personnel staff ambulances and are employed in hospitals, industry, and other public service agencies. They are expected to respond rapidly and effectively to many forms of trauma and medical emergencies and work in close contact with emergency physicians. Paramedics are employed by advanced life support ambulances and in emergency departments and critical care units of hospitals. The job is often fast-paced and always challenging. State licensing is required at both levels.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of EMTA 101 and EMTA 102 with a 3.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

All Emergency Medical Services courses are approved by the Michigan Department of Health and Human Services. The Paramedic Program is accredited by the Commission on Accreditation of Allied Health Education Programs, 25400 US Highway 19 North, Suite 158, Clearwater, FL 33756, in conjunction with the Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions.

Students completing this degree are also eligible for the Paramedic Certificate of Achievement. Refer to the Paramedic C.A. pathway, Curriculum Code 0272.

The Paramedic program approval and/or graduation requirements may change each academic year. The program requirements below apply only to those students who begin the program during the 2022/2023 academic year. For the most current information, interested students should contact the Emergency Medical Services program in the Health and Human Services Building, Room 108, telephone number 517-483-1410, or the Academic Advising Department, Gannon Building – StarZone, telephone number 517-483-1904.

To graduate from this program, students must complete the BIOL course(s) and PARA 221, 231, 241, 251 and 261 with a minimum grade of 2.5, and all other PARA courses and all EMTA courses with a minimum grade of 3.0. A minimum grade of 2.0 is required in all other courses.

Students in this program choose either Daytime EMT Academy and Full-time Paramedic Program, or Evening EMT Academy and Part-time Paramedic Program to determine the sequence of courses to take each semester.

## Contact Information

Contact the Emergency Medical Services program, Health and Human Services Building, Room 108, telephone number 517-483-1410, or the Academic Advising Department, Gannon Building – StarZone, telephone number 517-483-1904.

## General Education – Applied Degrees, Recommended Courses

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours  
ENGL 124, Technical Writing, 3 credits / 3 billing hours  
ENGL 127, Business Writing, 3 credits / 3 billing hours  
ENGL 131, Honors Composition I, 4 credits / 4 billing hours
- English Composition (second course)/Communications or Applied Communications – *Select One*  
COMM 110, Communication in the Workplace, 3 credits / 3 billing hours  
COMM 120, Dynamics of Communication, 3 credits / 3 billing hours  
COMM 130, Fundamentals Public Speaking, 3 credits / 3 billing hours  
ENGL 122, Composition II, 4 credits / 4 billing hours
- Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one*  
COMM 280, Intercultural Communication, 3 credits / 3 billing hours  
MGMT 234, Diversity in the Workplace, 3 credits / 3 billing hours  
PSYC 200, Introduction to Psychology, 4 credits / 4 billing hours  
SOCL 120, Introduction to Sociology, 4 credits / 4 billing hours
- Mathematics or Applied Mathematics – *Select one*  
MATH 120, College Algebra, 4 credits / 4 billing hours  
MATH 122, Trigonometry, 4 credits / 4 billing hours  
MATH 126, Precalculus, 5 credits / 5 billing hours
- Natural Sciences Lab or Applied Science and Technology Lab  
Program of Study Required Courses for Admission will meet this requirement

**Program of Study Required Courses for Admission, Limited Choice – Select one.**

*This course will satisfy the General Education Natural Sciences Lab or Applied Science and Technology Lab requirement.*

Course Code	Course Title	Credit / Billing Hours
BIOL 145	Intro Anatomy and Physiology	4 / 6
BIOL 201 and 202	Human Anatomy and Human Physiology	8 / 11

**Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
EMTA 101	Basic EMT I	4 / 4
EMTA 102	Basic EMT II	2 / 4
EMTA 103	Basic EMT III	4 / 4
EMTA 104	Basic EMT IV	2 / 4
EMTA 112	Basic EMT Clinical	4 / 4
PARA 221	Paramedic Medical Trauma I	4 / 4
PARA 222	Paramedic Medical Trauma II	4 / 4
PARA 231	Paramedic Cardiology I	2.5 / 2.5
PARA 232	Paramedic Cardiology II	2.5 / 2.5
PARA 241	Paramedic Pharmacology I	2.5 / 2.5
PARA 242	Paramedic Pharmacology II	2.5 / 2.5
PARA 251	Paramedic Skills I	2.5 / 7.5
PARA 252	Paramedic Skills II	2.5 / 7.5
PARA 261	Paramedic Clinical I	3 / 4
PARA 262	Paramedic Clinical II	3 / 4
PARA 263	Paramedic Internship	4 / 4
PFHW 163	Healthy Lifestyles	2 / 3

**Minimum Total Credit Hours**

68 credits / 87 billing hours

**Recommended Course Sequence for Daytime EMT Academy and Full-time Paramedic Program**

Semester I
Gen Ed – English Composition or Applied English
Gen Ed – Mathematics or Applied Mathematics
BIOL 145 or (BIOL 201 and 202)

Semester II
Gen Ed - Humanities and Fine Arts or Social Sciences or Applied Social Sciences
Gen Ed – English Comp (second course)/ Communications or Applied Communications
PFHW 163

Semester III (Spring)
EMTA 101 – Milestone course
EMTA 102 – Milestone course
EMTA 103
EMTA 104
EMTA 112

Semester IV (Fall)
PARA 221
PARA 231
PARA 241
PARA 251
PARA 261

Semester V (Spring)
PARA 222
PARA 232
PARA 242
PARA 252
PARA 262

Semester VI (Summer)
PARA 263

### **Recommended Course Sequence for Evening EMT Academy and Part-time Paramedic Program**

Semester I (Fall)
Gen Ed – English Composition or Applied English
EMTA 101 – Milestone course
EMTA 102 – Milestone course
PFHW 163

Semester II (Spring)
Gen Ed – Mathematics or Applied Mathematics
EMTA 103
EMTA 104
EMTA 112

Semester III (Fall)
Gen Ed – English Comp (second course)/ Communications or Applied Communications
Gen Ed - Humanities and Fine Arts or Social Sciences or Applied Social Sciences
BIOL 145 or (BIOL 201 and 202)

Semester IV (Spring)
PARA 221
PARA 231
PARA 241

Semester V (Summer)
PARA 251
PARA 261

Semester VI (Fall)
PARA 222
PARA 232
PARA 242

Semester VII (Spring)
PARA 252
PARA 262

Semester VIII (Summer)
PARA 263

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## EMS Instructor-Coordinator C.C.

Career Community: Health and Human Service Careers

Curriculum Code: 1638

Effective: Fall 2022 – Summer 2023

### Description

The EMS Instructor-Coordinator (IC) course is intended for licensed EMS practitioners who have an interest in teaching EMS initial or continuing education courses. The LCC IC course meets all State of Michigan curriculum and content requirements. The curriculum provides the opportunity for building and developing teaching skills that will lead to instructional and administrative expertise in accordance with applicable state requirements for EMS educators. Students who successfully complete this course are eligible to sit for the State of Michigan EMS Instructor-Coordinator licensure exam. Additionally, the State of Michigan also requires that EMS Instructor-Coordinator licensure candidates provide proof of a minimum of three years of service with a life support agency prior to sitting for the exam.

### Milestone

Completion of EMTA 222 with a 3.0 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in this course.

### Additional Information

Students must complete all courses with a minimum grade of 3.0 to receive this certificate.

### Contact Information

Contact the Emergency Medical Services Program, Health and Human Services Building, Room 108, telephone number 517-483-1410, or the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
EMTA 222	EMS Instructor-Coordinator	9 / 9
EMTA 224	EMS Instr-Coord Student Teach	2 / 2

### Minimum Total Credit Hours

11 credits / 11 billing hours

### Required Course Sequence – Two-Semester Option

Semester I (Fall)
EMTA 222 – Milestone course
Semester II (Spring)
EMTA 224



## Required Course Sequence – One-Semester Option

Semester I (Spring)
EMTA 222 – Milestone course
EMTA 224

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## Energy Auditor C.C.

Career Community: Building and Construction Trades

Curriculum Code: 1813

Effective: Fall 2022 - Summer 2027

### Description

Professional Energy Efficiency Technicians are involved in the inventory and evaluation of a wide variety of energy producing systems. Technicians will deal with the integration of building, electrical and HVAC systems along with those in alternative energy systems. The Technician will need a working knowledge of “green” building concepts and energy efficient design principles. Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

### Milestone

Completion of DCTM 100 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in this course.

### Contact Information

Contact the Energy Management Program, West Campus Building, Room M103, telephone number (517) 483- 5338 or Student Services West Campus, West Campus Building, Room M106, telephone number (517) 267-5452.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
CITN 115	IoT & Automation Fundamentals	5 / 6
DCTM 100	Intro to the Built Environment	3 / 4
DCTM 101	Drafting/Intro to CAD	3 / 4
DCTM 103	Codes and Specifications	3 / 3
HVAC 100	Fundamentals of HVAC	3 / 3
HVAC 110	Applied Electricity I	3 / 4
HVAC 130	Air Conditioning I	3 / 4
HVAC 140	Residential Energy	3 / 4
TECH 102	General Industry Safety	2 / 3

### Minimum Total Credit Hours

28 credits / 35 billing hours

## Recommended Course Sequence

Semester I
DCTM 100 – Milestone course
DCTM 101
HVAC 100
HVAC 110
TECH 102

Semester II
CITN 115
DCTM 103
HVAC 130
HVAC 140

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## Energy Industry Fundamentals C.C.

Career Community: Electrical and Manufacturing

Curriculum Code: 1777

Effective: Fall 2022 – Summer 2027

### Description

This Certificate provides a foundational understanding of the structure of the United States energy industry and the opportunity to study for and earn pre-employment certifications developed for the industry. Competencies addressed include employment skills, industrial safety, mathematics, electrical theory, problem solving, blueprint reading, rigging and troubleshooting.

### Milestone

Completion of ELTE 108 and ELTE 109 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Additional Information

Students who have already completed DCTM 102, ELTE 102, HVAC 102, METS 102 or WELD 102 with a grade of 2.5 or higher may substitute one of these courses for TECH 102. Any of these courses may also be used to fulfill the prerequisite for ELTE 108, ELTE 109, ELTE 156 and METS 140.

Students must complete all courses on this pathway with a minimum 2.5 grade to receive this certificate.

Students who plan to pursue the Electrical Technology, Associate in Applied Science Degree (0134) should choose ELTE 121 and ELTE 123. ELTE 121 will also fulfill the General Education Applied Mathematics requirement.

### Contact Information

Contact the Electrical Technology Program at the West Campus Building, Room M127, telephone number 517-483-1570 or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
ELTE 104	Employee Worksite Basics	1 / 1
ELTE 108	Practical Electricity I	2 / 3
ELTE 109	Practical Electricity II	2 / 3
ELTE 154	Utility Prints and Diagrams	3 / 3
ELTE 173	Energy Industry Fundamentals I	2 / 2
ELTE 174	Energy Industry Fundamental II	2 / 2
TECH 102	General Industry Safety	2 / 3

**Program of Study Required Courses, Limited Choice** – Select either ELTA 106 and ELTA 120, or ELTE 121

Course Code	Course Title	Credit / Billing Hours
ELTA 106	Basic Electrical Calculations	2 / 2
ELTA 120	AC Fundamentals - Electrician	2 / 3
ELTE 121	Electrical Mathematics	5 / 6

**Program of Study Required Courses, Limited Choice** – *Select one*

Course Code	Course Title	Credit / Billing Hours
ELTA 155	Transformer Fundamentals	2 / 3
ELTE 123	Motors and Transformers	5 / 7

**Program of Study Required Courses, Limited Choice** – *Select one*

Course Code	Course Title	Credit / Billing Hours
ELTE 131	Machine Controls I	4 / 5
ELTE 156	Lineworker/Utility Rigging	3 / 4
METS 140	Rigging	3 / 4.5

**Minimum Total Credit Hours**

23 credits / 29 billing hours

**Recommended Course Sequence**

Semester I
ELTA 106 (Second 8 weeks) if selected
ELTE 104 (First 8 weeks)
ELTE 108 (First 8 weeks) – Milestone course
ELTE 109 (Second 8 weeks) – Milestone course
TECH 102

Semester II (Spring)
ELTA 120 (First 8 weeks) or ELTE 121 depending on selection
ELTA 155 (Second 8 weeks) if selected
ELTE 154
ELTE 173 (First 8 weeks)
ELTE 174 (Second 8 weeks)
Limited Choice

Semester III (Fall)
ELTE 123 if selected

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## **Energy Management Specialist A.A.S.**

Career Community: Building Construction Trades

Curriculum Code: 1606

Effective: Fall 2022 – Summer 2027

### **Description**

Energy Management Specialists are involved in the commissioning, evaluation, planning, design, installation, and maintenance of a wide variety of energy systems in the built environment. The energy efficiency specialist will need a working knowledge of energy efficient building concepts and energy efficient design principles. Students completing this curriculum may also be eligible to apply for the Certificate of Completion in Alternative Energy Engineering Technology (1486). Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of HVAC 100 and HVAC 110 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

Students who have already completed ELTE 102, HVAC 102, METS 102, TECH 102, or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for DCTM 102. Any of these classes may also be used to fulfill the prerequisite for HVAC 110.

### **Contact Information**

Contact the Energy Management Program at the West Campus Building, Room M103, telephone number 517-483-5338 or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

### **General Education - Applied Degrees, Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*  
ENGL 124, Technical Writing, 3 credits / 3 billing hours
- English Composition (Second Course)/Communications or Applied Communications – *Select one*  
COMM 110, Communication in the Workplace, 3 credits / 3 billing hours

- Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one*  
MGMT 234, Diversity in the Workplace, 3 credits / 3 billing hours
- Mathematics or Applied Mathematics – *Select one*  
MATH 115, Technical Math II, 4 credits / 4 billing hours
- Natural Sciences Lab or Applied Science and Technology Lab – *Select one*  
BIOL 120, Environmental Science, 4 credits / 6 billing hours  
CHEM 135, Chemistry in Society, 4 credits / 5 billing hours  
PHYS 200, Intro to Applied Physics, 4 credits / 5 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
DCTM 100	Intro to the Built Environment	3 / 4
DCTM 101	Drafting/Intro to CAD	3 / 4
DCTM 102	Construction Safety	2 / 3
DCTM 103	Codes and Specifications	3 / 3
HVAC 100	Fundamentals of HVAC	3 / 3
HVAC 110	Applied Electricity I	3 / 4
HVAC 111	Applied Electricity II	3 / 4
HVAC 120	Heating I	3 / 4
HVAC 130	Air Conditioning I	3 / 4
HVAC 140	Residential Energy	3 / 4
HVAC 210	Solar Energy Technologies	3 / 4
HVAC 230	Air Conditioning II	3 / 4
HVAC 231	Heat Pump	3 / 4
HVAC 251	Fund of Direct Digital Control	3 / 4
HVAC 260	Building Commissioning	3 / 4

### Program of Study Required Courses, Limited Choice – *Select one*

Course Code	Course Title	Credit / Billing Hours
AEET 275	Sustainable Building Design	4 / 6
AEET 280	Alternative Energy Practicum	4 / 4

### Minimum Total Credit Hours

65 credits / 79 billing hours

## Recommended Course Sequence

Semester I
Gen Ed – Humanities and Fine Arts or Social Sciences or Applied Social Sciences
Gen Ed – Mathematics or Applied Mathematics
DCTM 100
DCTM 102
HVAC 100 – Milestone course
HVAC 110 – Milestone course

Semester II
Gen Ed – English Composition or Applied English
HVAC 111
HVAC 120
HVAC 130
HVAC 140

Semester III
Gen Ed – English Composition (Second Course)/Communications or Applied Communications
DCTM 101
DCTM 103
HVAC 210
HVAC 230

Semester IV
Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab
HVAC 231
HVAC 251
HVAC 260
Limited Choice

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## **Engineering-Physics A.S.**

Career Community: Science and Mathematics

Curriculum Code: 1619

Effective: Fall 2022 – Summer 2027

### **Purpose of Major**

This degree is designed for students who plan to transfer to a four-year university to pursue a Bachelor's of Science degree in Engineering or Physics with a variety of concentrations. Students completing this curriculum will also satisfy Michigan Transfer Agreement (MTA) between two-year and four-year institutions in Michigan and qualify for an LCC Transfer Studies Certificate of Achievement (1482). This degree includes a set of courses common to all Science and Mathematics majors and many transfer institutions. Students are encouraged to work with an academic advisor and program advisor to explore transfer opportunities.

Not all courses in this pathway transfer to all colleges. Students who wish to transfer to a four-year institution should select coursework indicated for that institution.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of PHYS 251 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

A student must earn a minimum grade of 2.0 in all courses.

### **Contact Information**

Contact the Science Department, Arts and Sciences Building, Room 3203, telephone number 517-483-1092, or the Academic Advising Department, Gannon Building – Star Zone, telephone number 517-483-1904.

### **General Education – Transfer Degrees (MTA) - Recommended Courses**

Select courses as indicated for specific transfer institutions and majors. These courses are preferred General Education courses listed on Transfer Articulation agreements. The recommended courses in each General Education category also meet Michigan Transfer Agreement (MTA) requirements. If no course is indicated, choose from the list of options under [General Education](#).

- English Composition  
ENGL 121 or ENGL 131 meets this requirement.
- English Composition (second course)/Communications  
COMM 130, ENGL 122, or ENGL 132 meets this requirement.

- Humanities or Fine Arts  
Program of Study Required Courses meets this requirement.
- Mathematics  
Program of Study Required Courses meets this requirement.
- Natural Sciences  
Career Community and Program of Study Required Courses meets this requirement.
- Social Sciences  
Career Community and Program of Study Required Courses meets this requirement.

**Science and Mathematics Career Community Courses** – *These courses are required for all Science and Mathematics programs. They should be taken before other Program Required or Limited Choice Courses. Some courses meet General Education requirements for Michigan Transfer Agreement (MTA). A minimum of 2.0 is required to meet LCC degree requirements for General Education courses and for all courses to transfer to other colleges (some colleges, and some programs within colleges, require a higher grade in a course.)*

Course Code	Course Title	Credit / Billing Hours
ACAD 100	First Year College Experience	1 / 1
ANTH 270 or	Cultural Anthropology	3 / 3
ECON 120 or	Power, Authority, and Exchange	4 / 4
ECON 201 or	Principles of Economics: Micro	4 / 4
EDUC 204 or	Educational Psychology	3 / 3
EDUC 220 or	Introduction to Education	3 / 3
GEOG 120 or	Introduction to Geography	3 / 3
GEOG 200 or	World Regional Geography	4 / 4
POLS 120 or	American Political System	3 / 3
POLS 240 or	Introduction to Public Policy	3 / 3
POLS 260 or	Comparative Political Systems	4 / 4
PSYC 200 or	Introduction to Psychology	4 / 4
SOCL 120	Introduction to Sociology	4 / 4
BIOL 120 or	Environmental Science	4 / 6
BIOL 127 or	Cell Biology	4 / 6
GEOG 221 or	Physical Geology	4 / 6
GEOG 230 or	Environmental Geology	4 / 6
PHYS 251	Physics I with Calculus	5 / 7
CHEM 151	General Chemistry Lecture 1	4 / 4
CHEM 161	General Chemistry Lab I	1 / 3
COMM 130 or	Fundamentals Public Speaking	3 / 3
ENGL 122 or	Composition II	4 / 4
ENGL 132	Honors Composition II	4 / 4
ENGL 121 or	Composition I	4 / 4

Course Code	Course Title	Credit / Billing Hours
ENGL 131	Honors Composition I	4 / 4
MATH 120 or MATH 126 or MATH 151	College Algebra Precalculus Calculus I	4 / 4 5 / 5 4 / 4

Notes:

ACAD 100 may be waived based on the recommendation of a Program Advisor.

For future transfer (all majors) to:

- Central Michigan University, Ferris State University, Grand Valley State University and Michigan State University choose COMM 130, MATH 151, and PHYS 251.
- Eastern Michigan University, University of Michigan Flint, and Western Michigan University choose ENGL 122, MATH 151, and PHYS 251.

Students considering adding Secondary Education Certification in Math or Science in order to teach in Michigan Public Schools are strongly encouraged to select EDUC courses as listed to meet the Michigan Transfer Agreement (MTA) Social Science requirement.

For future transfer (Secondary Education Certification) to:

- Central Michigan University, Ferris State University, or Michigan State University choose EDUC 204.
- Eastern Michigan University or Grand Valley State University choose EDUC 220.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
MATH 151	Calculus I	4 / 4
MATH 152	Calculus II	4 / 4
MATH 253	Calculus III	4 / 4
MATH 254	Intro to Differential Equations	4 / 4
PHYS 251	Physics I with Calculus	5 / 7
PHYS 252	Physics II with Calculus	5 / 7

**Program of Study Required Courses – Limited Choices – Humanities and Fine Arts** - *Select two from two different disciplines.*

Course Code	Course Title	Credit / Billing Hours
ENGL 220	Science Fiction	4 / 4
HIST 211	U.S. History to 1877	4 / 4
HIST 212	U.S. History 1877 to Present	4 / 4
HUMS 120	Masterpieces of Art & Music	4 / 4
HUMS 160	Mythology	4 / 4
HUMS 214	World Civilizations from 1600	4 / 4
PHIL 151	Intro to Logic and Critical Thinking	4 / 4
PHIL 152	Introduction to Ethics	4 / 4
RELG 150	Intro to World Religions	4 / 4

**Program of Study Required Courses – Limited Choices – Social Sciences** - *Select one from a different discipline chosen for the Science and Mathematics Career Community block of courses. Students considering adding Secondary Education Certification in order to teach in Michigan Public Schools are strongly encouraged to select PSYC 200.*

Course Code	Course Title	Credit / Billing Hours
ANTH 270	Cultural Anthropology	3 / 3
GEOG 200	World Regional Geography	4 / 4
POLS 120	American Political System	3 / 3
PSYC 200	Introduction to Psychology	4 / 4
SOCL 120	Introduction to Sociology	4 / 4

**Elective Courses, Recommended Choices** – *If needed, select courses to meet the 60-credit minimum required for this degree. For information on preferred courses for specific concentrations identified by transfer institutions, consult with a Program Advisor. (For the full list of options, see [AA and AS Degree Electives](#))*

Course Code	Course Title	Credit / Billing Hours
BIOL 127	Cell Biology	4 / 6
CPSC 131	Numerical Methods and MATLAB	4 / 4
CPSC 230	Algorithms and Computing with C++	4 / 4
MATH 260	Linear Algebra	4 / 4
PHYS 260	Statics for Engineers	4 / 4
STAT 215	Intro to Probability and Statistics	4 / 4

**Minimum Total Credit Hours**

60 credits / 66 billing hours

## Recommended Course Sequence

Semester I
CHEM 151
CHEM 161
ENGL 121 or ENGL 131
MATH 151
Limited Choices – Humanities and Fine Arts

Semester II
COMM 130, ENGL 122, or ENGL 132
MATH 152
Career Community – Social Science
Limited Choices – Humanities and Fine Arts

Semester III
MATH 253
PHYS 251
Limited Choices – Social Sciences
Electives as needed to meet degree requirements

Semester IV
MATH 254
PHYS 252
Limited Choices – Humanities and Fine Arts
Electives as needed to meet degree requirements

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## **Environmental Technology A.A.S.**

Career Community: Science and Mathematics

Curriculum Code: 0793

Effective: Fall 2022 – Summer 2027

### **Description**

Environmental Technicians may work for environmental/engineering consulting firms, local or state regulatory agencies, manufacturers, recycling and waste management companies and local utility and public service (works) departments. They perform tasks such as environmental sample collection and monitoring, instrument calibration, report writing and data management. Environmental Technicians may help clients comply with governmental environmental standards, assist in field investigations, or work as a team member on a waste or contamination site. They use computer skills to work with environmental data as well as the concepts of chemistry, biology, meteorology, geology and hydrology to help professionals determine the movement and effects of environmental contaminants. Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of BIOL 127, CHEM 151, and CHEM 161 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Contact Information**

Contact the Science Department, Arts and Sciences Building, Room 255, telephone number 517-483-1092, or the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

### **General Education – Applied Degrees, Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours  
ENGL 131, Honors Composition I, 4 credits / 4 billing hours
- English Composition (second course)/Communications or Applied Communications – *Select one*  
COMM 130, Fundamentals Public Speaking, 3 credits / 3 billing hours  
ENGL 122, Composition II, 4 credits / 4 billing hours  
ENGL 132, Honors Composition II, 4 credits / 4 billing hours

- Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one*  
 ECON 120, Power, Authority and Exchange, 4 credits / 4 billing hours  
 GEOG 200, World Regional Geography, 4 credits / 4 billing hours  
 HUMS 213, World Civilizations to 1600, 4 credits / 4 billing hours  
 PHIL 151, Intro to Logic & Critical Think, 4 credits / 4 billing hours  
 SOCL 120, Introduction to Sociology, 4 credits / 4 billing hours
- Mathematics or Applied Mathematics  
 Program of Study Required Courses will meet this requirement
- Natural Sciences Lab or Applied Science and Technology Lab  
 Program of Study Required Courses will meet this requirement

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
BIOL 127	Cell Biology	4 / 6
BIOL 210	Natural Resource Conservation	4 / 6
CHEM 151	General Chemistry Lecture I	4 / 4
CHEM 152	General Chemistry Lecture II	3 / 3
CHEM 161	General Chemistry Lab I	1 / 3
CHEM 162	General Chemistry Lab II	1 / 3
ENVR 131	Industrial Process Safety	3 / 3
GEOG 230	Environmental Geology	4 / 6
ISCI 245	S.T.E.M. Workplace Practices	4 / 6
MATH 126	Precalculus	5 / 5
STAT 215	Intro to Probability and Stats	4 / 4

### Program of Study Required Courses, Limited Choice - Biology – *Select one*

Course Code	Course Title	Credit / Billing Hours
BIOL 128	Organismal Biology	4 / 6
BIOL 203	Microbiology	3 / 3

**Program of Study Required Courses, Limited Choice** – *Select three or four courses for a minimum of nine credits to reach the 60 credits required for the degree. For MSU transfer students choosing Chemistry, select both CHEM 182 and 192, plus two additional courses.*

Course Code	Course Title	Credit / Billing Hours
CHEM 182	Introductory Organic Chemistry	3 / 3
CHEM 192	Intro Organic Chem Lab	1 / 3
CHEM 262	Quantitative Analysis	3 / 6
GEOG 221	Physical Geology	4 / 6
GSCI 110	Beginning ArcGIS	3 / 5
GSCI 120	Advanced ArcGIS	3 / 5
GSCI 210	Global Positioning Systems	3 / 4
PHYS 221	Introductory Physics I	4 / 6

Course Code	Course Title	Credit / Billing Hours
POLS 120	American Political System	4 / 4
SCIN 287	Science Technology Internship	2-4 / 2-4

### Minimum Total Credit Hours

60 credits / 75 billing hours

### Recommended Course Sequence

Semester I
Gen Ed - English Composition or Applied English
Gen Ed - English Composition (second course)/ Communications or Applied Communications
BIOL 127 – Milestone course
CHEM 151 – Milestone course
CHEM 161 – Milestone course

Semester II
CHEM 152
CHEM 162
ISCI 245
MATH 126

Semester III
Gen Ed - Humanities and Fine Arts or Social Sciences or Applied Social Sciences
BIOL 210
GEOL 230
STAT 215
Limited Choice

Semester IV
ENVR 131
Limited Choice Biology
Limited Choice
Limited Choice

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## **Field Sales and Marketing A.B.**

Career Community: Business

Curriculum Code: 0190

Effective: Fall 2022 – Summer 2027

### **Purpose of Major**

This major is designed for students wishing to work in Field Sales and Marketing on completion of the Associate of Business degree. Graduates of this degree are prepared to work in a variety of manufacturing, wholesaling, and retailing environments as well as in the service sector of our economy. Sales/marketing specialists, or sales representatives, sell products to wholesalers, retailers, or consumers, usually on a commission basis. They call on customers, point out salable features, answer questions, and forward orders. Some sales representatives sell services rather than products. Not all courses in this program transfer to all colleges. Students who also wish to transfer to a four-year institution should select coursework indicated for that institution and may complete the coursework for a Business, Enhanced AB degree. The Business, Enhanced AB option allows students to transfer additional credits (depending on institution) toward the Bachelor's degree. This allows completion of credits required for employment and of additional requirements for the Bachelor's. Institutions accepting coursework for the Business, Enhanced AB, Field Sales and Marketing track include Davenport University, Eastern Michigan University, Ferris State University, Northwood University, Oakland University, and Siena Heights University.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of MKTG 200 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in this course.

### **Contact Information**

Contact the Business and Economics Department, Gannon Building, Room 1222, telephone number 517-483-1546 or the Academic Advising Department, Gannon Building – Star Zone, telephone number 517-483-1904.

### **General Education – Applied Degrees, Recommended Courses**

Select courses as indicated for specific transfer institutions. These courses are preferred General Education courses listed on Transfer Articulation agreements. The recommended courses in each General Education category also meet Michigan Transfer Agreement (MTA) requirements. If no course is indicated, choose from the list of options under [General Education](#). A minimum grade of 2.0 is required for each General Education course.

- English Composition or Applied English  
Business Career Community courses meet this requirement.
- English Composition (Second Course) or Communications or Applied Communications  
Business Career Community Courses meet this requirement.
- Humanities and Fine Arts or Social Science or Applied Social Science  
Business Career Community Courses meet this requirement.
- Mathematics or Applied Mathematics  
Business Career Community Courses meet this requirement.
- Natural Sciences Lab or Applied Science and Technology Lab  
Business Career Community Courses meet this requirement.

**Business Career Community Required Courses** – *These courses are required for all Business programs. They should be taken before other Program Required or Limited Choice Courses. Some courses meet General Education requirements for Michigan Transfer Agreement (MTA). A minimum of 2.0 is required to transfer to other colleges (some colleges, and some programs within colleges, require a higher grade in a course.)*

Course Code	Course Title	Credit / Billing Hours
ACAD 100	First Year College Experience	1 / 1
ACCG 210	Principles of Financial Accg	4 / 4
BIOL 120 or BIOL 125	Environmental Science Introductory Biology	4 / 6 4 / 5
BUSN 118	Introduction to Business	3 / 3
COMM 110 or COMM 130	Communication in the Workplace Fundamentals Public Speaking	3 / 3 3 / 3
ECON 201	Principles of Economics - Micro	4 / 4
ENGL 121 or ENGL 131	Composition I Honors Composition I	4 / 4 4 / 4
LEGL 215	Business Law – Basic Principles	3 / 3
MATH 119 or MATH 120 or STAT 170	Math – Applications for Living College Algebra Introduction to Statistics	4 / 4 4 / 4 4 / 4
MGMT 225	Principles of Mgmt/Leadership	3 / 3
MKTG 200	Principles of Marketing	3 / 3

Notes:

ACAD 100 may be waived based on the recommendation of a Program Advisor.

For students not considering transfer as an option, MGMT 234, Diversity in the Workplace, may be substituted for ECON 201 using the Course Substitution process. MGMT 234 meets LCC General Education requirements for Applied Degrees – Humanities or Social Science or Applied Social Science. MGMT 234 does not meet Michigan Transfer Agreement (MTA) Social Science requirements for transfer as a General Education course.

For future transfer to:

- Davenport University choose COMM 110 and STAT 170.
- Eastern Michigan University choose STAT 170.
- Ferris State University choose COMM 130 and STAT 170.
- Northwood University and Oakland University choose MATH 120.
- Siena Heights University (Bachelor of Business Administration major) choose BIOL 120 and STAT 170.
- Siena Heights University (Bachelor of Professional Communications major) choose BIOL 120.

**Program of Study Required Courses** - *A minimum of 2.0 is required to transfer to other colleges (some colleges, and some programs within colleges, require a higher grade in a course.)*

Course Code	Course Title	Credit / Billing Hours
MGMT 150	Managing Customer Relations	3 / 3
MGMT 200	Creative Thinking for Business	3 / 3
MKTG 119	Mktg/Manage Your Profess Image	3 / 3
MKTG 120	Sales	3 / 3
MKTG 130	Retailing	3 / 3
MKTG 140	Introduction to Advertising	3 / 3
MKTG 202	Managerial Marketing	3 / 3
MKTG 204	Marketing Research	3 / 3
MKTG 210	Marketing on the Internet	3 / 3
MKTG 221	Consumer Behavior	3 / 3

**Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
ACCG 211	Principles of Managerial Accg	4 / 4
MKTG 235	Marketing Internship	3 / 3

**Minimum Total Credit Hours**

69 credits / 70 billing hours

## Recommended Course Sequence

Semester I
ACAD 100
BIOL 120 or BIOL 125
BUSN 118
ENGL 121 or ENGL 131
MKTG 200 – Milestone course

Semester II
LEGL 215
MATH 119 or MATH 120 or STAT 170
MGMT 225
MKTG 120

Semester III
ECON 201
MGMT 200
MKTG 204
MKTG 221

Semester IV
ACCG 210
COMM 110 or COMM 130
MKTG 119
MKTG 130
MKTG 202

Semester V
MGMT 150
MKTG 140
MKTG 210
Limited Choice

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## **Business, Enhanced A.B. Field Sales and Marketing Track**

Career Community: Business

Curriculum Code: 1822

Effective: Fall 2022 – Summer 2027

Revised: 7/6/22

### **Purpose of Program**

This degree is designed for students wishing to transfer after having completed the Associate in Business, Major in Field Sales and Marketing degree. This Enhanced AB option allows completion of credits required for employment through the AB and completion of additional courses required for the Bachelor's degree, as designated by transfer articulation agreements. Required coursework follows for the Field Sales and Marketing subtracks of the Business, Enhanced AB for students transferring to Davenport University, Eastern Michigan University, Ferris State University, Northwood University, Oakland University and Siena Heights University follows.

### **Contact Information**

Before beginning this program of study, students must contact the Business and Economics Department, Gannon Building, Room 1222, telephone number 517-483-1546, or the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

### **Program of Study Required Courses**

Completion of an LCC associate in Business is required for the Business, Enhanced degree. Completion of the AB in [Field Sales and Marketing \(0190\)](#) as required for the specified transfer institution is the most efficient path to completing the Enhanced degree Accounting track. Students who have completed a different degree will need to work with a Program Advisor to create a personalized MAP (My Academic Pathway) in Degree Works to ensure that all requirements are met.

### **Recommended Courses by College/University**

Completing courses as directed meets transfer articulation agreement requirements for each institution.

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*

## **Davenport University (Marketing)**

### **General Education – Transfer (MTA) Courses**

(For the list of options, see [General Education](#))

- Any non-ECON MTA Social Science course, 3 credits / 3 billing hours
- Any MTA Humanities course, 3 credits / 3 billing hours

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
ACCG 271	Principles of Finance	3 / 3
MATH 120	College Algebra	4 / 4
MGMT 332	Ethics: Assumpt for the Future	3 / 3
MKTG 229	Public Relations	3 / 3

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
ENGL 122	Composition II	4 / 4
ENGL 132	Honors Composition II	4 / 4

### **Minimum Total Credit Hours**

92 credits / 93 billing hours

## **Eastern Michigan University**

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
HUMS 140	Art of Being Human	4 / 4
STAT 215	Intro to Probability and Statistics	4 / 4

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
ANTH 270	Cultural Anthropology	3 / 3
COMM 280	Intercultural Communication	3 / 3

### **Program of Study Required Courses, Limited Choice - *Select one***

Course Code	Course Title	Credit / Billing Hours
ASTR 201	Introductory Astronomy	4 / 5
CHEM 135	Chemistry in Society	4 / 5
GEOG 221	Physical Geography	4 / 4
ISCI 131	Integrated Physical Science	4 / 6

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
ENGL 122	Composition II	4 / 4
ENGL 132	Honors Composition II	4 / 4

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
PHIL 151	Intro to Logic & Critical Think	4 / 4
PHIL 152	Introduction to Ethics	4 / 4

### **Mimimum Total Credit Hours**

92 credits / 93 billing hours

## **Ferris State University**

### **General Education – Transfer (MTA) Courses**

(For the list of options, see [General Education](#))

- Any non-BIOL MTA Science course, 3 credits / 3 billing hours
- Any non-ECON MTA Social Science course, 3 credits / 3 billing hours

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
BUSN 201	International Business	3 / 3
MGMT 224	Human Resource Management	3 / 3
MGMT 228	Organization Behavior	3 / 3

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
ENGL 122	Composition II	4 / 4
ENGL 127	Business Writing	3 / 3
ENGL 132	Honors Composition II	4 / 4

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
MATH 119	Math-Applications for Living	4 / 4
MATH 120	College Algebra	4 / 4

### **Minimum Total Credit Hours**

91 credits / 92 billing hours



## **Northwood University (Marketing)**

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
MGMT 234	Diversity in the Workplace	3 / 3
MGMT 329	Advanced Mgmt Communication	3 / 3
MGMT 332	Ethics: Assumpt for the Future	3 / 3
MGMT 335	Managerial Statistics	3 / 3

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
ENGL 122	Composition II	4 / 4
ENGL 132	Honors Composition II	4 / 4

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
HIST 211	U.S. History to 1877	4 / 4
HIST 212	U.S. History: 1877 to Present	4 / 4
HUMS 213	World Civilizations to 1600	4 / 4
HUMS 214	World Civilizations from 1600	4 / 4

### **Minimum Total Credit Hours**

89 credits / 90 billing hours

## **Oakland University**

### **General Education – Transfer (MTA) Courses**

(For the list of options, see [General Education](#))

- Any non-BIOL MTA Science course, 3 credits / 3 billing hours
- Any non-ECON MTA Social Science course, 3 credits / 3 billing hours
- Two MTA Humanities courses from 2 disciplines, 6 credits / 6 billing hours

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
ENGL 127	Business Writing	3 / 3
MATH 141	Calculus with Applications	4 / 4
STAT 215	Intro to Probability and Stats	4 / 4

### **Program of Study Required Courses, Limited Choice– *Select one***

Course Code	Course Title	Credit / Billing Hours
ENGL 122	Composition II	4 / 4
ENGL 132	Honors Composition II	4 / 4

### **Minimum Total Credit Hours**

96 credits / 97 billing hours

## **Siena Heights University (Business)**

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
BUSN 201	International Business	3 / 3
MGMT 200	Creative Thinking for Business	3 / 3
MGMT 234	Diversity in the Workplace	3 / 3

### **Program of Study Required Courses, Limited Choice– *Select one***

Course Code	Course Title	Credit / Billing Hours
ENGL 122	Composition II	4 / 4
ENGL 132	Honors Composition II	4 / 4

### **Minimum Total Credit Hours**

82 credits / 83 billing hours



## **Financial Institutions A.B.**

Career Community: Business

Curriculum Code: 0103

Effective: Fall 2022 – Summer 2027

### **Purpose of Major**

This major is designed for students wishing to work in the field of Financial Institutions on completion of the Associate of Business degree. Individuals who work in financial institutions are responsible for the effective and efficient operation of the organization which includes both operations and customer relations. This degree prepares individuals to perform and/or manage operations concerning personal and corporate credit, collateral, loan processing, and related financial agency communications. The program includes instruction in general finance, business law and regulations, quantitative methods, communication skills, management, and professional standards. Students will also make choices related to banking, credit unions, insurance, or real estate. Not all courses in this program transfer to all colleges. Students who also wish to transfer to a four-year institution should select coursework indicated for that institution and may also complete the coursework for a Business, Enhanced AB degree. The Business, Enhanced AB option allows students to transfer additional credits (depending on institution) toward the Bachelor's degree. This allows completion of credits required for employment and of additional requirements for the Bachelor's. Institutions accepting coursework for the Business Enhanced AB, Financial Institutions track include Eastern Michigan University, Ferris State University, Northwood University, Oakland University, and Siena Heights University.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of MGMT 225 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Contact Information**

Contact the Business and Economics Department, Gannon Building, Room 1222, telephone number 517-483-1546 or the Academic Advising Department, Gannon Building – Star Zone, telephone number 517-483-1904.

### **General Education – Applied Degrees, Recommended Courses**

Select courses as indicated for specific transfer institutions. These courses are preferred General Education courses listed on Transfer Articulation agreements. The recommended courses in each General Education category also meet Michigan Transfer Agreement (MTA) requirements. If no course is indicated, choose from the list of options under [General Education](#). A minimum grade of 2.0 is required for each General Education course.

- English Composition or Applied English  
Business Career Community courses meet this requirement.
- English Composition (Second Course) or Communications or Applied Communications  
Business Career Community Courses meet this requirement.
- Humanities and Fine Arts or Social Science or Applied Social Science  
Business Career Community Courses meet this requirement.
- Mathematics or Applied Mathematics  
Business Career Community Courses meet this requirement.
- Natural Sciences Lab or Applied Science and Technology Lab  
Business Career Community Courses meet this requirement.

**Business Career Community Required Courses** – *These courses are required for all Business programs. They should be taken before other Program Required or Limited Choice Courses. Some courses meet General Education requirements for Michigan Transfer Agreement (MTA). A minimum of 2.0 is required to transfer to other colleges (some colleges, and some programs within colleges, require a higher grade in a course.)*

Course Code	Course Title	Credit / Billing Hours
ACAD 100	First Year College Experience	1 / 1
ACCG 210	Principles of Financial Accg	4 / 4
BIOL 120 or BIOL 125	Environmental Science Introductory Biology	4 / 6 4 / 5
BUSN 118	Introduction to Business	3 / 3
COMM 110 or COMM 130	Communication in the Workplace Fundamentals Public Speaking	3 / 3 3 / 3
ECON 201	Principles of Economics - Micro	4 / 4
ENGL 121 or ENGL 131	Composition I Honors Composition I	4 / 4 4 / 4
LEGL 215	Business Law – Basic Principles	3 / 3
MATH 119 or MATH 120 or STAT 170	Math – Applications for Living College Algebra Introduction to Statistics	4 / 4 4 / 4 4 / 4
MGMT 225	Principles of Mgmt/Leadership	3 / 3
MKTG 200	Principles of Marketing	3 / 3

Notes:

ACAD 100 may be waived based on the recommendation of a Program Advisor.

For students not considering transfer as an option, MGMT 234, Diversity in the Workplace, may be substituted for ECON 201 using the Course Substitution process. MGMT 234 meets LCC General Education requirements for Applied Degrees – Humanities or Social Science or Applied

Social Science. MGMT 234 does not meet Michigan Transfer Agreement (MTA) Social Science requirements for transfer as a General Education course.

For future transfer to:

- Davenport University choose COMM 110 and STAT 170.
- Eastern Michigan University choose STAT 170.
- Ferris State University choose COMM 130 and STAT 170.
- Northwood University and Oakland University choose MATH 120.
- Siena Heights University choose BIOL 120 and STAT 170.

**Program of Study Required Courses** - *A minimum of 2.0 is required to transfer to other colleges (some colleges, and some programs within colleges, require a higher grade in a course.)*

Course Code	Course Title	Credit / Billing Hours
BUSN 250	Personal Finance	3 / 3
MGMT 150	Managing Customer Relations	3 / 3
MGMT 200	Creative Thinking for Business	3 / 3
MGMT 224	Human Resource Management	3 / 3

**Program of Study Required Courses, Limited Choice** – *Select one*

Course Code	Course Title	Credit / Billing Hours
MGMT 228	Organization Behavior	3 / 3
MGMT 304	Organization Development	3 / 3

For future transfer to Northwood University, choose MGMT 304

**Program of Study Required Courses, Limited Choice** – *Select MGMT 202 and 203, or MGMT 237*

Course Code	Course Title	Credit / Billing Hours
MGMT 202 and MGMT 203	Managing Difficult People Managing Meetings	2 / 2 (total)
MGMT 237	Managing/Continual Improvement	3 / 3

**Program of Study Required Courses, Limited Choice – Business/Insurance/Entrepreneurship** – *Select two, minimum of six credits. A minimum of 2.0 is required to transfer to other colleges (some colleges, and some programs within colleges, require a higher grade in a course.)*

Course Code	Course Title	Credit / Billing Hours
BUSN 201	International Business	3 / 3
BUSN 251	Understanding Investments	3 / 3
INSU 105	Prin of Property & Liability Ins	3 / 3
INSU 110	Personal Insurance	3 / 3
MKTG 119	Mktg/Manage Your Profess Image	3 / 3
MKTG 120	Sales	3 / 3
MKTG 229	Public Relations	3 / 3

For future transfer to:

- Ferris State University, choose BUSN 201
- Siena Heights University, choose MKTG 199 and MKTG 229

**Program of Study Required Courses, Limited Choice – Computer** – *Select one. A minimum of 2.0 is required to transfer to other colleges (some colleges, and some programs within colleges, require a higher grade in a course.)*

Course Code	Course Title	Credit / Billing Hours
CITA 110	Intro to Microsoft Office	3 / 3
CITF 110	Intro Computer Info Systems	3 / 3

For future transfer to:

- Eastern Michigan University or Ferris State University, choose CITF 110
- Northwood University or Oakland University, choose CITA 110

### Minimum Total Credit Hours

62 credits / 63 billing hours

### Recommended Course Sequence

Semester I
ACAD 100
BUSN 118
ENGL 121 or ENGL 131
MGMT 150
MGMT 225 – Milestone course
MKTG 200

Semester II
ACCG 210
BIOL 120 or BIOL 125
MATH 119 or MATH 120 or STAT 170
MGMT 228 or MGMT 304

Semester III
BUSN 250
CITA 110 or CITF 110
ECON 201
LEGL 215
Limited Choice – Business/Insurance/ Entrepreneurship

Semester IV
COMM 110 or COMM 130
MGMT 200
MGMT 202 and MGMT 203, or MGMT 237
MGMT 224
Limited Choice – Business/Insurance/ Entrepreneurship

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## Financial Institutions C.C.

Career Community: Business

Curriculum Code: 0151

Effective: Fall 2022 – Summer 2027

### Purpose

Certificate holders may improve their opportunities for advancement in this or a related area. Additional education enhances an individual's employment opportunities. Students may complete this certificate as part of the Financial Institutions Associate of Business degree.

### Milestone

Completion of MGMT 228 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in this course may be the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in this course.

### Contact Information

Contact the Business and Economics Department, Gannon Building, Room 1222, telephone number 517-483-1546 or the Academic Advising Department, Gannon Building – Star Zone, telephone number 517-483-1904.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
BUSN 118	Introduction to Business	3 / 3
MGMT 150	Managing Customer Relations	3 / 3
MGMT 200	Creative Thinking for Business	3 / 3
MGMT 228	Organization Behavior	3 / 3

### Program of Study Required Courses, Limited Choice – Communication and Composition – *Select one*

Course Code	Course Title	Credit / Billing Hours
COMM 110	Communication in the Workplace	3 / 3
COMM 130	Fundamentals Public Speaking	3 / 3
ENGL 121	Composition I	4 / 4
ENGL 127	Business Writing	3 / 3
ENGL 131	Honors Composition I	4 / 4

Note:

Students considering completing the Financial Institutions Associate of Business degree should choose ENGL 121 or ENGL 131.

## Program of Study Required Courses, Limited Choice – Accounting and Business –

Select a minimum of two courses, 8 credits.

Course Code	Course Title	Credit / Billing Hours
ACCG 210	Principles of Financial Accg	4 / 4
ACCG 211	Principles of Managerial Accg	4 / 4
BUSN 251	Understanding Investments	3 / 3
LEGL 215	Business Law – Basic Principles	3 / 3
MGMT 201	Time Management for Business	1 / 1
MGMT 225	Principles of Mgmt/Leadership	3 / 3
MKTG 200	Principles of Marketing	3 / 3

Note:

Students considering completing the Financial Institutions Associate of Business degree should choose ACCG 210 and ACCG 211.

### Minimum Total Credit Hours

23 credits / 23 billing hours

### Recommended Course Sequence

Semester I
BUSN 118
MGMT 150
Limited Choice – Composition and Communication
Semester II
MGMT 200
MGMT 228 – Milestone course
Limited Choice – Accounting and Business
Limited Choice – Accounting and Business

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## **Business, Enhanced A.B. Financial Institutions Track**

Career Community: Business

Curriculum Code: 1822

Effective: Fall 2022 – Summer 2027

### **Purpose of Program**

This degree is designed for students wishing to transfer after having completed the Associate in Business, Major in Financial Institutions degree. This Enhanced AB option allows students to transfer additional credits toward the Bachelor's degree. This allows completion of credits required for employment through the AB and completion of additional courses required for the Bachelor's degree, as designated by transfer articulation agreements. Required coursework follows for the Financial Institutions subtracks of the Business, Enhanced AB for students transferring to Eastern Michigan University, Ferris State University, Northwood University, Oakland University, and Siena Heights University.

### **Contact Information**

Before beginning this program of study, students must contact the Business and Economics Department, Gannon Building, Room 1222, telephone number 517-483-1546 or the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

### **Program of Study Required Courses:**

Completion of an LCC associate in Business is required for the Business, Enhanced degree. Completion of the AB in [Financial Institutions \(0103\)](#) as required for the specified transfer institution is the most efficient path to completing the Enhanced degree Accounting track. Students who have completed a different degree will need to work with a Program Advisor to create a personalized MAP (My Academic Pathway) in Degree Works to ensure that all requirements are met.

### **Recommended Courses by College/University**

Completing courses as directed meets transfer articulation agreement requirements for each institution.

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## **Eastern Michigan University**

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
ENGL 127	Business Writing	3 / 3
MUSC 199	Music Appreciation	3 / 3
STAT 215	Intro to Probability and Stats	4 / 4

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
ANTH 270	Cultural Anthropology	3 / 3
COMM 280	Intercultural Communication	3 / 3
GEOG 200	World Regional Geography	4 / 4

### **Program of Study Required Courses, Limited Choice - *Select one***

Course Code	Course Title	Credit / Billing Hours
ASTR 201	Introductory Astronomy	4 / 5
CHEM 135	Chemistry in Society	4 / 5
GEOG 221	Physical Geography	4 / 4
ISCI 131	Integrated Physical Science	4 / 6

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
ENGL 122	Composition II	4 / 4
ENGL 132	Honors Composition II	4 / 4

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
PHIL 151	Intro to Logic & Critical Think	4 / 4
PHIL 152	Introduction to Ethics	4 / 4

### **Minimum Total Credit Hours**

87 credits / 88 billing hours

## **Ferris State University**

### **General Education – Transfer (MTA) Courses**

(For the list of options, see [General Education](#))

- Any credit non-BIOL MTA Science course, 3 credits / 3 billing hours
- Any credit non-ECON MTA Social Science course, 3 credits / 3 billing hours
- Two MTA Humanities courses from 2 different disciplines, 6 credits /6 billing hours

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
BUSN 201	International Business	3 / 3
LEGL 216	Commercial Transactions	3 / 3

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
ENGL 122	Composition II	4 / 4
ENGL 127	Business Writing	3 / 3
ENGL 132	Honors Composition II	4 / 4

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
MATH 119	Math-Applications for Living	4 / 4
MATH 120	College Algebra	4 / 4

### **Minimum Total Credit Hours**

87 credits / 88 billing hours

## **Northwood University (Finance)**

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
ACCG 271	Principles of Finance	3 / 3
MATH 141	Calculus with Applications	4 / 4
MGMT 234	Diversity in the Workplace	3 / 3
MGMT 329	Advanced Mgmt Communication	3 / 3
MGMT 332	Ethics: Assumpt for the Future	3 / 3
MGMT 335	Managerial Statistics	3 / 3

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
ENGL 122	Composition II	4 / 4
ENGL 132	Honors Composition II	4 / 4

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
HIST 211	U.S. History to 1877	4 / 4
HIST 212	U.S. History: 1877 to Present	4 / 4
HUMS 213	World Civilizations to 1600	4 / 4
HUMS 214	World Civilizations from 1600	4 / 4

### **Minimum Total Credit Hours**

89 credits / 90 billing hours

## Oakland University

### **General Education – Transfer (MTA) Courses**

(For the list of options, see [General Education](#))

- Any non-BIOL MTA Science course, 3 credits / 3 billing hours
- Any non-ECON MTA Social Science course, 3 credits / 3 billing hours
- Two MTA Humanities courses from 2 disciplines, 6 credits / 6 billing hours

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
MATH 141	Calculus with Applications	4 / 4
STAT 215	Intro to Probability and Stats	4 / 4

### **Program of Study Required Courses, Limited Choice– *Select one***

Course Code	Course Title	Credit / Billing Hours
ENGL 122	Composition II	4 / 4
ENGL 132	Honors Composition II	4 / 4

### **Minimum Total Credit Hours**

86 credits / 87 billing hours

## **Siena Heights University (Business)**

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
BUSN 201	International Business	3 / 3
ENGL 127	Business Writing	3 / 3

### **Program of Study Required Courses, Limited Choice– *Select one***

Course Code	Course Title	Credit / Billing Hours
ENGL 122	Composition II	4 / 4
ENGL 132	Honors Composition II	4 / 4

### **Program of Study Required Courses, Limited Choice– *Select two***

Course Code	Course Title	Credit / Billing Hours
MKTG 119	Mktg/Manage Your Profess Image	3 / 3
MKTG 221	Consumer Behavior	3 / 3
MKTG 229	Public Relations	3 / 3

### **Minimum Total Credit Hours**

78 credits / 79 billing hours





## Fire Science Academy C.C.

Career Community: Public Service Careers

Curriculum Code: 0709

Effective: Fall 2022 – Summer 2023

### Description

The Regional Fire Training Center provides the Fire Academy Certificate Program to prepare individuals in basic fire training and fitness. Successful completion leads to certification by the Michigan Fire Fighter Training Council for Fire Fighter I and II, Hazardous Materials Operations, Vehicle Extrication, Advanced Vehicle Stabilization, NIMS 100 and 200, and Wildland Fire Fighter II through the National Wildfire Coordinating Group. Students completing this certificate may apply the credits towards both the Fire Science Technology (0123) and the Fire Science/Basic EMT (1057) Associate in Applied Science degrees.

### Contact Information

For current information about admission requirements, students must contact the Public Service Careers Program, West Campus Building, Room M127, telephone number 517-483-1570.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
FIRE 101	MI F.F.T.C. Basic Fire Level I	10 / 14
FIRE 102	MI F.F.T.C. Basic Fire Lev II	6 / 8
PFFT 119	Fire Academy Fitness Training	3 / 4

### Minimum Total Credit Hours

19 credits / 26 billing hours

### Recommended Course Sequence

Semester I
FIRE 101
FIRE 102
PFFT 119

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## **Fire Science Technology A.A.S.**

Career Community: Public Service Careers

Curriculum Code: 0123

Effective: Fall 2022 – Summer 2027

### **Description**

This degree program is accredited through the International Fire Service Accreditation Congress (IFSAC) and provides students with three options to pursue a fire service career area. Students in this program choose one of the following subspecialty pathways to determine the courses to take each semester.

1. National Fire Academy Curriculum pathway: This option provides an individual with the ability to continue their educational pursuit to a four-year fire science program.
2. Fire Fighter pathway: This option follows a general fire service career path and meets the state standards of the Michigan Fire Fighter Training Council's Fire Fighter I and II certification process.
3. Fire Service Management pathway: This option enhances the promotional opportunities for the veteran fire service employee. Courses provide a versatile approach to fire service management.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of FIRE 100, or FIRE 101 and FIRE 102, with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

Not all courses in this program transfer to all colleges. Students planning to transfer should see a Fire Science advisor before enrolling in any course.

Upon completion of a subspecialty, any additional subspecialty courses will not count toward the student's enrollment level for determining financial aid eligibility.

### **Contact Information**

Visit the Public Service Careers Program website, or in person at West Campus Building, Room M127, telephone number 517-483-1570.

### **General Education Applied Degree, Recommended Choices**

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*  
ENGL 124, Technical Writing, 3 credits / 3 billing hours

- English Composition (Second Course)/Communications or Applied Communications – *Select one*  
COMM 130, Fundamentals Public Speaking, 3 credits / 3 billing hours
- Humanities and Fine Arts or Social Sciences or Applied Social Sciences– *Select one*  
MGMT 234, Diversity in the Workplace, 3 credits / 3 billing hours
- Mathematics or Applied Mathematics – *Select one*  
MATH 119, Math - Applications for Living, 4 credits / 4 billing hours
- Natural Sciences Lab or Applied Science and Technology Lab – *Select one*  
BIOL 145, Intro Anatomy and Physiology, 4 credits / 6 billing hours

## National Fire Academy Subspecialty Pathway

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
FIRE 100	Principles Emergency Services	4 / 4
FIRE 104	Fire Behavior & Combustion	3 / 3
FIRE 105	Fire/Hydraulics/Water Supply	4 / 4
FIRE 110	Fire Prevention	3 / 3
FIRE 112	Occup Health & Safety/Fire Svc	4 / 4
FIRE 115	Bldg Construction/Fire Protect	4 / 4
FIRE 122	Hazardous Materials Chemistry	4 / 4
FIRE 125	Fire Protection Systems	4 / 4
FIRE 150	Strategy and Tactics	4 / 4
FIRE 210	Fire Investigation I	4 / 4
FIRE 215	Fire Investigation II	3 / 3
FIRE 250	Fire Administration I	4 / 4
FIRE 260	Legal Aspects/Fire Service	4 / 4
FIRE 270	Fire Service Career Developmnt	3 / 3

### Minimum Total Credit Hours

69 credits / 71 billing hours

### Recommended Course Sequence

Semester I
Gen Ed – English Composition or Applied English
FIRE 100 - Milestone
FIRE 110
FIRE 112
FIRE 115

Semester II
Gen Ed – Mathematics or Applied Mathematics
Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab
FIRE 104
FIRE 105
FIRE 150

Semester III
Gen Ed – English Composition (Second Course)/Communications or Applied Communications
Gen Ed – Humanities and Fine Arts or Social Sciences or Applied Social Sciences
FIRE 122
FIRE 210
FIRE 250

Semester IV
FIRE 125
FIRE 215
FIRE 260
FIRE 270

## Fire Fighter Subspecialty Pathway

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
FIRE 101	MI F.F.T.C. Basic Fire Level I	10 / 14
FIRE 102	MI F.F.T.C. Basic Fire Lev II	6 / 8
FIRE 104	Fire Behavior & Combustion	3 / 3
FIRE 105	Fire/Hydraulics/Water Supply	4 / 4
FIRE 110	Fire Prevention	3 / 3
FIRE 112	Occup Health & Safety/Fire Svc	4 / 4
FIRE 115	Bldg Construction/Fire Protect	4 / 4
FIRE 125	Fire Protection Systems	4 / 4
FIRE 150	Strategy and Tactics	4 / 4
FIRE 270	Fire Service Career Developmnt	3 / 3
PFFT 119	Fire Academy Fitness Training	3 / 4

### Minimum Total Credit Hours

65 credits / 74 billing hours

### Recommended Course Sequence

Semester I
FIRE 101 - Milestone
FIRE 102 - Milestone
PFFT 119

Semester II
Gen Ed - English Composition or Applied English
Gen Ed – Mathematics or Applied Mathematics
Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab
FIRE 104
FIRE 105

Semester III
Gen Ed – English Composition (Second Course)/ Communications or Applied Communications
Gen Ed - Humanities and Fine Arts or Social Sciences or Applied Social Sciences
FIRE 110
FIRE 112
FIRE 115

Semester IV
FIRE 125
FIRE 150
FIRE 270

## Fire Service Management Subspecialty Pathway

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
FIRE 100	Principles Emergency Services	4 / 4
FIRE 104	Fire Behavior & Combustion	3 / 3
FIRE 105	Fire/Hydraulics/Water Supply	4 / 4
FIRE 110	Fire Prevention	3 / 3
FIRE 112	Occup Health & Safety/Fire Svc	4 / 4
FIRE 115	Bldg Construction/Fire Protect	4 / 4
FIRE 125	Fire Protection Systems	4 / 4
FIRE 150	Strategy and Tactics	4 / 4
FIRE 220	Hazardous Materials/Fire Svc	4 / 5
FIRE 245	Fire Officer I & II	4 / 4
FIRE 250	Fire Administration I	4 / 4
FIRE 255	Fire Officer III & IV	4 / 4
FIRE 265	Fire Service Blue Card	4 / 4.5
FIRE 270	Fire Service Career Developmnt	3 / 3

### Minimum Total Credit Hours

70 credits / 73.5 billing hours

## Recommended Course Sequence

Semester I
Gen Ed – English Composition or Applied English
FIRE 100 – Milestone course
FIRE 110
FIRE 112
FIRE 115

Semester II
Gen Ed – Mathematics/Applied Mathematics
Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab
FIRE 104
FIRE 105
FIRE 150

Semester III
Gen Ed – English Composition (Second Course)/Communications or Applied Communications
Gen Ed – Humanities and Fine Arts or Social Sciences or Applied Social Sciences
FIRE 245
FIRE 250
FIRE 265

Semester IV
FIRE 125
FIRE 220
FIRE 255
FIRE 270

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## **Fire Science/Basic EMT A.A.S.**

Career Community: Public Service Careers

Curriculum Code: 1057

Effective: Fall 2022– Summer 2027

### **Description**

This degree curriculum is accredited through the International Fire Service Accreditation Congress and is for students who wish to combine fire service and emergency medical service education and training into a single degree program. This degree choice will expedite the career path of those students interested in a career within public or private agencies that require credentials in both the fire and emergency medical services fields. Students will complete certifications for Fire Fighter I & II, Basic Emergency Medical Technician, Hazardous Materials Operations, Wildland Fire Fighter II, NIMS 100 and 200, Vehicle Extrication, and Advanced Vehicle Stabilization. The fire science segment meets the state standards of the Michigan Fire Fighter Training Council's Fire Fighter I and II certification process and requires department approval to enroll in the Regional Fire Training Center at Lansing Community College. Basic EMT courses are approved by the Michigan Department of Consumer and Industry Services. An EMT Academy option is available to students. Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of FIRE 100 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Contact Information**

Contact the Public Service Careers Program at the West Campus Building, Room M127, telephone number 517-483-1570.

### **General Education - Applied Degree, Recommended Choices**

(For the full list of options, see [General Education](#))

- English Composition – *Select one*  
ENGL 124, Technical Writing, 3 credits / 3 billing hours
- English Composition (Second Course)/Communications or Applied Communications – *Select one*  
COMM 130, Fundamentals Public Speaking, 3 credits / 3 billing hours
- Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one*  
MGMT 234, Diversity in the Workplace, 3 credits / 3 billing hours

- Mathematics or Applied Mathematics – *Select one*  
MATH 119, Math - Applications for Living, 4 credits / 4 billing hours
- Natural Sciences Lab or Applied Science and Technology Lab – *Select one*  
BIOL 145, Intro Anatomy and Physiology, 4 credits / 6 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
EMTA 101	Basic EMT I	4 / 4
EMTA 102	Basic EMT II	2 / 4
EMTA 103	Basic EMT III	4 / 4
EMTA 104	Basic EMT IV	2 / 4
EMTA 112	Basic EMT Clinical	2 / 4
FIRE 100	Principles Emergency Services	4 / 4
FIRE 101	MI F.F.T.C. Basic Fire Level I	10 / 14
FIRE 102	MI F.F.T.C. Basic Fire Lev II	6 / 8
FIRE 104	Fire Behavior & Combustion	3 / 3
FIRE 112	Occup Health & Safety/Fire Svc	4 / 4
FIRE 270	Fire Service Career Developmnt	3 / 3
PFFT 119	Fire Academy Fitness Training	3 / 4

### Minimum Total Credit Hours

64 credits / 79 billing hours

### Recommended Course Sequence

Semester I
FIRE 101
FIRE 102
PFFT 119

Semester II
EMTA 101
EMTA 102
EMTA 103
EMTA 104
EMTA 112

Semester III
Gen Ed – English Composition or Applied English
Gen Ed – Mathematics or Applied Mathematics
Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab
FIRE 100 – Milestone course
FIRE 112



Semester IV
Gen Ed – English Composition (Second Course)/Communications or Applied Communications
Gen Ed – Humanities and Fine Arts or Social Sciences or Applied Social Sciences
FIRE 104
FIRE 270

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## General Associate Degree

Curriculum Code: 0863

Effective: Fall 2022 - Summer 2027

### Description

This degree is a customized program of study that should be approved by an academic advisor. A minimum of 60 credits is required and includes the LCC General Education-Applied Degree requirements. Students must also complete one of two options: EITHER 40-45 credits in an area of study of their own choosing (Option A); OR they must complete the credits required for admission to a selective admission program (Option B). Students planning to transfer should see an academic advisor before enrolling in any course.

### Milestone

Completion of the required General Education Math and English courses with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Additional Information

Students should meet with an academic advisor prior to selecting courses for customized options. Courses may not be counted more than once for those options.

The following cannot be used for degree requirements:

- a) courses numbered below 100
- b) courses in Mathematics or Statistics that are not listed on the Transfer Degrees (MTA) tab or Applied Degrees tab of LCC [General Education](#).
- c) courses in English or Writing numbered below 118
- d) courses in English as a Second Language
- e) courses in Reading
- f) courses in non-technical Vocabulary
- g) courses in Academic Experience (ACAD) numbered other than 100

### Contact Information

Prior to beginning this program, students should meet with an academic advisor in the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

### General Education – Applied Degrees

For the list of options, see [General Education](#) for Applied Degrees

- English Composition or Applied English – *Select one course, three to four credits*
- English Composition (Second Course)/Communications or Applied Communications – *Select one course, three to four credits*

- Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one course, three to four credits*
- Mathematics or Applied Mathematics – *Select one course, three to five credits*
- Natural Sciences Lab or Applied Science and Technology Lab – *Select one or two courses, four to five credits*

### Program of Study Required Courses – Option A

Courses	Credits
Courses selected by the student	40-45

### Program of Study Required Courses – Option B

Courses	Credits
Credits required for admission to selective admission program*	Variable
Courses selected by the student - After completing credits required for a selective admission program, students may also need additional credits to meet the 60-credit minimum required for this degree.	Variable

\*Students wishing to apply for admission to one of the selective admission programs listed below should visit the Health and Human Services Selective Admissions Program webpage for more information on program admission requirements. For additional information or questions, contact the Selective Admissions Office via [email](#) or 517-483-1182.

- P001 – Pre-Dental Hygiene
- P002 – Pre-Diagnostic Medical Sonography
- P006 - Pre-Nursing, PN/RN
- P008 – Pre-Radiologic Technology
- P009 – Pre-Surgical Technology

### Total Credit Hours

Minimum 60 credits

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## **Geography A.S.**

Career Community: Science and Mathematics

Curriculum Code: 1824

Effective: Fall 2022 – Summer 2027

Revised: 6/28/22

### **Purpose of Major**

This degree is designed for students who plan to transfer to a four-year university to pursue a Bachelor's of Science degree in Geography with a variety of concentrations. Students completing this degree will also satisfy the Michigan Transfer Agreement (MTA) between two-year and four-year institutions in Michigan and qualify for an LCC Transfer Studies Certificate of Achievement (1482). This degree includes a set of courses common to all Science and Mathematics majors and many transfer institutions. Students are encouraged to work with an academic advisor and program advisor to explore transfer opportunities.

Not all courses in this pathway transfer to all colleges. Students who wish to transfer to a four-year institution should select coursework indicated for that institution.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of GEOG 120 and GEOG 200 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

A student must earn a minimum grade of 2.0 in all courses.

### **Contact Information**

Contact the Science Department, Arts and Sciences Building, Room 3203, telephone number 517-483-1092, or the Academic Advising Department, Gannon Building – Star Zone, telephone number 517-483-1904.

### **General Education – Transfer Degrees (MTA) - Recommended Courses**

Select courses as indicated for specific transfer institutions and majors. These courses are preferred General Education courses listed on Transfer Articulation agreements. The recommended courses in each General Education category also meet Michigan Transfer Agreement (MTA) requirements. If no course is indicated, choose from the list of options under [General Education](#).

- English Composition  
ENGL 121 or ENGL 131 meets this requirement.
- English Composition (second course)/Communications  
COMM 130, ENGL 122, or ENGL 132 meets this requirement.

- Humanities and Fine Arts  
Program of Study Required Courses meets this requirement.
- Mathematics  
MATH 120, MATH 126, or MATH 151 will meet this requirement.
- Natural Sciences  
CHEM 151/ 161 and BIOL 120, BIOL 127, GEOL 221, GEOL 230, or PHYS 251 meets this requirement.
- Social Sciences  
GEOG 120/200, and ANTH 270, ECON 120, ECON 201, EDUC 204, EDUC 220, POLS 120, POLS 240, POLS 260, PSYC 200, or SOCL 120 will meet this requirement.

**Science and Math Career Community Courses** – *These courses are required for all Science and Math programs. They should be taken before other Program Required or Limited Choice Courses. Some courses meet General Education requirements for Michigan Transfer Agreement (MTA). A minimum of 2.0 is required to meet LCC degree requirements for General Education courses and for all courses to transfer to other colleges (some colleges, and some programs within colleges, require a higher grade in a course.)*

Course Code	Course Title	Credit / Billing Hours
ACAD 100	First Year College Experience	1 / 1
ANTH 270 or ECON 120 or ECON 201 or EDUC 204 or EDUC 220 or GEOG 120 or GEOG 200 or POLS 120 or POLS 240 or POLS 260 or PSYC 200 or SOCL 120	Cultural Anthropology Power, Authority, and Exchange Principles of Economics-Micro Educational Psychology Introduction to Education Introduction to Geography World Regional Geography American Political System Introduction to Public Policy Comparative Political Systems Introduction to Psychology Introduction to Sociology	3 / 3 4 / 4 4 / 4 3 / 3 3 / 3 3 / 3 4 / 4 4 / 4 3 / 3 3 / 3 4 / 4 4 / 4
BIOL 120 or BIOL 127 or GEOL 221 or GEOL 230 or PHYS 251	Environmental Science Cell Biology Physical Geology Environmental Geology Physics I with Calculus	4 / 6 4 / 6 4 / 6 4 / 6 5 / 7
CHEM 151	General Chemistry Lecture I	4 / 4
CHEM 161	General Chemistry Lab I	1 / 3
COMM 130 or ENGL 122 or ENGL 132	Fundamentals Public Speaking Composition II Honors Composition II	3 / 3 4 / 4 4 / 4
ENGL 121 or	Composition I	4 / 4

Course Code	Course Title	Credit / Billing Hours
ENGL 131	Honors Composition I	4 / 4
MATH 120 or MATH 126 or MATH 151	College Algebra Precalculus Calculus I	4 / 4 5 / 5 4 / 4

Notes:

ACAD 100 may be waived based on the recommendation of a Program Advisor.

Select a course other than GEOG 120 or GEOG 200 to meet the second course General Education Social Sciences requirement.

For future transfer (all majors) to:

- Central Michigan University, Ferris State University, Grand Valley State University and Michigan State University choose COMM 130 and GEOL 230.
- Eastern Michigan University, University of Michigan Flint, and Western Michigan University choose ENGL 122 and GEOL 230.

Students considering adding Secondary Education Certification in Math or Science in order to teach in Michigan Public Schools are strongly encouraged to select EDUC courses as listed to meet the Michigan Transfer Agreement (MTA) Social Science requirement.

For future transfer (Secondary Education Certification) to:

- Central Michigan University, Ferris State University, or Michigan State University choose EDUC 204.
- Eastern Michigan University, Grand Valley State University, University of Michigan Flint, or Western Michigan University choose EDUC 220.

**Program of Study Required Courses - Some courses meet General Education requirements for Michigan Transfer Agreement (MTA). A minimum of 2.0 is required to transfer to other colleges (some colleges, and some programs within colleges, require a higher grade in a course.)**

Course Code	Course Title	Credit / Billing Hours
GEOG 120	Introduction to Geography	3 / 3
GEOG 200	World Regional Geography	4 / 4
GEOG 221	Physical Geography	4 / 4
GSCI 100	Intro to Geospatial Tech	3 / 3
GSCI 110	Beginning ArcGIS	3 / 5

**Program of Study Required Courses, Limited Choice – Humanities** - *Select two from two different disciplines.*

Course Code	Course Title	Credit / Billing Hours
ENGL 211	World Literature I	4 / 4
HIST 211	U.S. History to 1877	4 / 4
HIST 212	U.S. History: 1877 to Present	4 / 4
HUMS 213	World Civilizations to 1600	4 / 4
HUMS 214	World Civilizations from 1600	4 / 4
LING 230	Introductory Linguistics	3 / 3
PHIL 151	Intro to Logic & Critical Think	4 / 4
RELG 150	Intro to World Religions	4 / 4

**Program of Study Required Courses, Limited Choice –** *Select a minimum of 7 credits to meet the 60-credit total credits required for this degree. For information on preferred courses for specific concentrations identified by transfer institutions, consult with a Program Advisor.*

Course Code	Course Title	Credit / Billing Hours
GEOG 202	Geography of North America	3 / 3
GEOG 220	Weather, Forecasting & Climate	4 / 4
GSCI 120	Advanced ArcGIS	3 / 5
GSCI 210	Global Positioning Systems	3 / 4
GSCI 240	Cartography in GIS	3 / 4
STAT 170	Introduction to Statistics	4 / 4

**Minimum Total Credit Hours**

60 credits / 64 billing hours

**Recommended Course Sequence**

Semester I
ACAD 100 (if waived substitute Career Community course)
CHEM 151
CHEM 161
ENGL 121 or ENGL 131
MATH 120 or MATH 126 or MATH 151

Semester II
COMM 130 or ENGL 122 or ENGL 132
ANTH 270, ECON 120, ECON 201, EDUC 204, EDUC 220, POLS 120, POLS 240, POLS 260, PSYC 200, or SOCL 120
Limited Choices – Humanities and Fine Arts
GSCI 110

Semester III
GEOG 120 – Milestone course
GEOG 200 – Milestone course
GSCI 100
Limited Choice

Semester IV
Limited Choices – Humanities and Fine Arts
BIOL 120 or BIOL 127 or GEOL 221 or GEOL 230 or PHYS 251
GEOG 221
Limited Choice

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## Geospatial Science C.A.

Career Community: Computer Technology and Networking

Curriculum Code: 0834

Effective: Fall 2022 – Summer 2027

### Description

This certificate program will emphasize development of components for GIS and project design based on application areas. The certificate allows beginners to become familiar with basic principles and those with some application background to become computer proficient in GIS. Students completing this certificate may use the credits towards the Geospatial Science Technician Associate in Applied Science degree (0224).

### Milestone

Completion of GSCI 110 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in the course.

### Additional Information

If beginning this pathway in the Spring Semester, you will need to start with the Semester II courses as Semester I courses are only offered in the Fall Semester.

### Contact Information

Contact the Geospatial Science Program, West Campus Building, Room M103, telephone number 517-267-6406 or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
CITA 133	Microsoft Access Database	3 / 3
GSCI 100	Intro to Geospatial Tech	3 / 3
GSCI 110	Beginning ArcGIS	3 / 5
GSCI 120	Advanced ArcGIS	3 / 5
GSCI 210	Global Positioning Systems	3 / 4
GSCI 240	Cartography in GIS	3 / 4
GSCI 241	Remote Sens/AirPhoto Interpret	3 / 4
GSCI 264	Web GIS	3 / 4
GSCI 271	Parcel Mapping	3 / 5
GSCI 275	GIS Proj Mgmt & Implementation	3 / 4

### Minimum Total Credit Hours

30 credits / 41 billing hours

## Recommended Course Sequence

Semester I
CITA 133
GSCI 100
GSCI 210

Semester II
GSCI 110 – Milestone course
GSCI 240

Semester III
GSCI 120
GSCI 271

Semester IV
GSCI 241
GSCI 264
GSCI 275

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## Geospatial Science C.C.

Career Community: Computer Technology and Networking

Curriculum Code: 1820

Effective: Fall 2022 – Summer 2027

### Description

This certificate program will emphasize development of components for GIS and project design based on application areas. The certificate allows beginners to become familiar with basic principles and those with some application background to become computer proficient in GIS. Students completing this certificate may use the credits towards the Geospatial Science Technician Associate in Applied Science degree (0224).

### Milestone

Completion of GSCI 110 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in this course.

### Additional Information

Students must earn a minimum grade of 2.0 in all courses.

### Contact Information

Contact the Geospatial Science Program, West Campus Building, Room M103, telephone number 517-267-6406 or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
GSCI 100	Intro to Geospatial Tech	3 / 3
GSCI 110	Beginning ArcGIS	3 / 5
GSCI 240	Cartography in GIS	3 / 4
GSCI 264	Web GIS	3 / 4

### Program of Study Required Courses, Limited Choice – *Select one or two courses for a minimum of 4 credits*

Course Code	Course Title	Credit / Billing Hours
CITA 126	Microsoft Excel	3 / 3
CITP 110	Intro to Programming-Python	4 / 4
CITP 130	Intro to Mobile App Devel	3 / 3
CITP 190	Intro to Programming in JAVA	4 / 4
CITW 160	Web Development HTML & CSS	3 / 3
CITW 165	Web Development JavaScript	3 / 3
GSCI 120	Advanced ArcGIS	3 / 5
GSCI 210	Global Positioning Systems	3 / 4

Course Code	Course Title	Credit / Billing Hours
GSCI 241	Remote Sens/AirPhoto Interpret	3 / 4
GSCI 260	Automating Workflows in GIS	3 / 4
GSCI 271	Parcel Mapping	3 / 5

### Minimum Total Credit Hours

16 credits / 20 billing hours

### Recommended Course Sequence

Semester I
GSCI 100
GSCI 110 – Milestone course
Limited Choice

Semester II
GSCI 240
GSCI 264
Limited Choice if needed

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## **Geospatial Science Technician A.A.S.**

Career Community: Computer Technology and Networking

Curriculum Code: 0224

Effective: Fall 2022 – Summer 2027

### **Description**

Geospatial Science combines computer technology, mapping technologies, aerial photography, and satellite imagery with the most current environmental resource management and environmental analysis software. Geographic Information Systems (GIS) technicians work with computer drafting, design, database management, graphic design, and computer analysis. Environmental technology requirements include a working knowledge of natural systems and related regulations and their assessment, planning, restoration, and management. GIS technicians are employed with engineering and design firms, state and federal agencies, environmental firms, parks and recreation departments, and with municipalities and local government units. Students completing this curriculum may also be eligible to apply for the Certificate of Achievement in Geospatial Science (0834). Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of GSCI 110 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

Students beginning this pathway in Spring Semester will need to start with the Semester II GRET courses. Semester I GRET and CIVL courses are only offered in Fall Semester.

### **Contact Information**

Contact the Geospatial Science Program, West Campus Building, Room M103, telephone number 517-267-6406 or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

### **General Education - Applied Degrees, Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours

- English Composition (Second Course)/Communications and Applied Communications – *Select one*  
COMM 110, Communication in the Workplace, 3 credits / 3 billing hours
- Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one*  
GEOG 200, World Regional Geography, 4 credits / 4 billing hours
- Mathematics or Applied Mathematics – *Select one*  
MATH 115, Technical Math II, 4 credits / 4 billing hours
- Natural Sciences Lab or Applied Science and Technology Lab – *Select one*  
GEOL 230, Environmental Geology, 4 credits / 6 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
CITA 133	Microsoft Access Database	3 / 3
CITP 110	Intro to Programming-Python	4 / 4
GSCI 100	Intro to Geospatial Tech	3 / 3
GSCI 110	Beginning ArcGIS	3 / 5
GSCI 120	Advanced ArcGIS	3 / 5
GSCI 210	Global Positioning Systems	3 / 4
GSCI 240	Cartography in GIS	3 / 4
GSCI 241	Remote Sens/AirPhoto Interpret	3 / 4
GSCI 260	Automating Workflows in GIS	3 / 4
GSCI 264	Web GIS	3 / 4
GSCI 271	Parcel Mapping	3 / 5
GSCI 275	GIS Proj Mgmt & Implementation	3 / 4

### Program of Study Required Courses, Limited Choice – *Select three courses*

Course Code	Course Title	Credit / Billing Hours
CITA 110	Intro to Microsoft Office	3 / 3
CITA 126	Microsoft Excel	3 / 3
CITP 130	Intro to Mobile App Devel	3 / 3
CITP 190	Intro to Programming in JAVA	4 / 4
CITW 160	Web Development HTML & CSS	3 / 3
CITW 165	Web Development JavaScript	3 / 3

### Minimum Total Credit Hours

65 credits / 79 billing hours

## Recommended Course Sequence

Semester I
Gen Ed – English Composition or Applied English
Gen Ed – Mathematics or Applied Mathematics
CITA 133
GSCI 100
GSCI 210

Semester II
Gen Ed – English Composition (Second Course)/ Communications or Applied Communications
Gen Ed – Humanities and Fine Arts or Social Sciences or Applied Social Sciences
GSCI 110 – Milestone Course
GSCI 240
Limited Choice

Semester III
Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab
CITP 110
GSCI 120
GSCI 260
GSCI 271

Semester IV
GSCI 241
GSCI 264
GSCI 275
Limited Choice
Limited Choice

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## **Graphic Communication A.A.A.**

Career Community: Art, Design, and Media

Curriculum Code: 1533

Effective: Fall 2022 – Summer 2027

### **Description**

A graphic designer is an artist/communicator who creatively and effectively designs informational or promotional materials for output in print, web and/or a variety of mass media situations. Artistic skills related to producing effective visual information are essential for a graphic designer. An understanding of the principles of typography, color theory, computer graphic applications, web design, and pre-press techniques is necessary. Graphic designers are employed by design studios, advertising agencies, printing companies, publishers, newspapers, sign companies, and businesses that generate their own publications. Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of ARTS 102, ARTS 162, and ARTS 175, for the Graphic Design subspecialty, and ARTS 102 and ARTS 173 for the Web Design subspecialty, with a 2.0 or higher are key components for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

Students in this program choose either the Graphic Design or Web Design subspecialty pathway to determine the courses to take each semester.

Upon completion of a subspecialty, any additional subspecialty courses will not count toward the student's enrollment level for determining financial aid eligibility.

### **Contact Information**

Contact the Communication, Media and the Arts Department, Gannon Building, Room 1222, telephone number 517-483-1546 or the Academic Advising Department, Gannon Building – StarZone, telephone number 517-483-1904.

### **General Education – Applied Degrees, Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours  
ENGL 131, Honors Composition I, 4 credits / 4 billing hours
- English (second course)/Communications or Applied Communications – *Select one*  
COMM 110, Communication in the Workplace, 3 credits / 3 billing hours  
COMM 120, Dynamics of Communication, 3 credits / 3 billing hours  
COMM 130, Fundamentals Public Speaking, 3 credits / 3 billing hours



- Humanities and Fine Arts or Social Sciences or Applied Social Sciences Program of Study Required Courses will fulfill this requirement
- Mathematics or Applied Mathematics – *Select one*  
MATH 118, The Art of Geometry, 3 credits / 4 billing hours
- Natural Sciences Lab or Applied Science and Technology Lab – *Select one*  
ASTR 201, Introductory Astronomy, 4 credits / 5 billing hours  
BIOL 120, Environmental Science, 4 credits / 6 billing hours  
PHYS 120, The Art of Physics, 4 credits / 5 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
ARTS 102	Design & Communication	3 / 4
ARTS 131	Drawing I	3 / 4
ARTS 151	Color and Design	3 / 4
ARTS 162	Type Communications	3 / 4
ARTS 164	Vector Drawing	3 / 4
ARTS 171	Adobe Photoshop	3 / 4
ARTS 173	Web Design I	3 / 4
ARTS 179	Web Design II	3 / 4
ARTS 195	Employ/Busn Issues for Artists	1 / 1
ARTS 229	Web Design III	3 / 4
ARTS 269	The Portfolio	2 / 2
ARTS 281	Art Internship	3 / 3

### Program of Study Required Courses, Limited Choice – *Select one*

Course Code	Course Title	Credit / Billing Hours
ARTS 132	Figure Drawing	3 / 4
ARTS 153	Drawing II	3 / 4

### Program of Study Required Courses for Graphic Design Subspecialty

Course Code	Course Title	Credit / Billing Hours
ARTS 175	Creative Design and Publishing	3 / 4
ARTS 183	Design Markets and Influences	3 / 3
ARTS 251	Graphic Design Communications	3 / 4
ARTS 252	Graphic Design Publications	3 / 4
ARTS 253	Graphic Design Branding	3 / 4

## Program of Study Required Courses for Web Design Subspecialty

Course Code	Course Title	Credit / Billing Hours
ARTS 226	Storyboards & Animatics	3 / 4
ARTS 232	Comp Graphics/2-D Animation	3 / 4
CITD 120	SQL Concepts	3 / 3
CITW 185	Web Development PHP & MySQL	4 / 4

## Minimum Total Credit Hours

63 credits / 77 billing hours

## Recommended Course Sequence for Graphic Design Subspecialty

Semester I (Fall)
ARTS 102 – Milestone course
ARTS 131
ARTS 162 – Milestone course
ARTS 171

Semester II (Spring)
ARTS 132 or 153
ARTS 164
ARTS 173
ARTS 175 – Milestone course
ARTS 251

Semester III (Fall)
Gen Ed – English Composition or Applied English
Gen Ed – English Composition (second course)/Communications or Applied Communications
Gen Ed – Mathematics or Applied Mathematics

Semester IV (Spring)
ARTS 151
ARTS 179
ARTS 252
ARTS 253

Semester V (Fall)
Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab
ARTS 183
ARTS 195
ARTS 229
ARTS 269
ARTS 281

## Recommended Course Sequence for Web Design Subspecialty

Semester I (Fall)
ARTS 102 – Milestone course
ARTS 131
ARTS 162
ARTS 164
ARTS 171

Semester II (Spring)
Gen Ed – Mathematics or Applied Mathematics
ARTS 132 or 153
ARTS 151
ARTS 173 – Milestone course

Semester III (Fall)
Gen Ed – English Composition or Applied English
Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab
ARTS 195

Semester IV (Spring)
Gen Ed – English Composition (second course)/ Communications or Applied Communications
ARTS 179
CITD 120

Semester V (Fall)
ARTS 226
ARTS 229
ARTS 232
ARTS 269
ARTS 281
CITW 185

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## Graphic Design C.A.

Career Community: Art, Design, and Media

Curriculum Code: 1020

Effective: Fall 2022 – Summer 2027

### Description

This certificate is designed for students who hold a post-secondary degree (A.A., B.A., B.F.A., or M.F.A.) in the visual arts and wish to acquire or enhance their graphic design skills to prepare for employment.

### Milestone

Completion of ARTS 102 and ARTS 162 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Contact Information

Contact the Communication, Media and the Arts Department, Gannon Building, Room 1222, telephone number 517-483-1546 or the Academic Advising Department, Gannon Building – StarZone, telephone number 517-483-1904.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
ARTS 102	Design & Communication	3 / 4
ARTS 162	Type Communications	3 / 4
ARTS 164	Vector Drawing	3 / 4
ARTS 171	Adobe Photoshop	3 / 4
ARTS 173	Web Design I	3 / 4
ARTS 175	Creative Design and Publishing	3 / 4
ARTS 179	Web Design II	3 / 4
ARTS 183	Design Markets and Influences	3 / 3
ARTS 195	Employ/Busn Issues for Artists	1 / 1
ARTS 229	Web Design III	3 / 4
ARTS 251	Graphic Design Communications	3 / 4
ARTS 252	Graphic Design Publications	3 / 4
ARTS 253	Graphic Design Branding	3 / 4
ARTS 269	The Portfolio	2 / 2

### Minimum Total Credit Hours

39 credits / 50 billing hours

## Recommended Course Sequence

Semester I
ARTS 102 – Milestone course
ARTS 162 – Milestone course
ARTS 171
ARTS 173

Semester II
ARTS 164
ARTS 175
ARTS 179
ARTS 183

Semester III
ARTS 195
ARTS 229
ARTS 251

Semester IV
ARTS 252
ARTS 253
ARTS 269

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## Group Fitness Instructor C.C.

Career Community: Health and Human Service Careers

Curriculum Code: 1704

Effective: Fall 2022 – Summer 2027

### Description

After successful completion of this certificate individuals are prepared to take a Group Fitness Instructor Certification Exam by a National Commission for Certifying Agencies (NCCA) accrediting organization, such as American Council on Exercise® (ACE), or American College of Sports Medicine® (ACSM). Once the Group Fitness Instructor Certification is obtained, individuals are prepared for jobs as a Group Fitness Instructor and are eligible to take the Level 1 Exercise is Medicine® (EIM) credential exam through the American College of Sports Medicine (ACSM). This curriculum is the first certificate in the Professional Fitness Leader Program.

### Milestone

In addition to the required Math and English courses, completion of BIOL 145, or BIOL 201 and BIOL 202, with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Contact Information

Contact the Kinesiology Program, Health and Human Services Building, Room 108, telephone number 517-483-1410, or the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
PFFT 109	Introduction to Fitness	1 / 2
PFHW 163	Healthy Lifestyles	2 / 3
PFKN 106	Group Fitness Instructor Prep	3 / 4
PFKN 170	Foundations of Kinesiology	3 / 3
PFKN 250	Measurements in Kinesiology	3 / 4
PFKN 260	Growth and Motor Behavior	3 / 3
PFWT 112	Intro to Weight Training	1 / 2

### Program of Study Required Courses, Limited Choice – English/Communications –

Select one. Students planning to transfer to a four-year institution are encouraged to complete ENGL 122.

Course Code	Course Title	Credit / Billing Hours
COMM 110	Communication in the Workplace	3 / 3
COMM 120	Dynamics of Communication	3 / 3
COMM 130	Fundamentals Public Speaking	3 / 3
ENGL 122	Composition II	4 / 4

**Program of Study Required Courses, Limited Choice – Mathematics – Select one.**  
*Students planning to transfer to a four-year institution for Kinesiology should complete a MATH course rather than STAT 170.*

Course Code	Course Title	Credit / Billing Hours
MATH 120	College Algebra	4 / 4
MATH 122	Trigonometry	4 / 4
MATH 126	Precalculus	5 / 5
MATH 151	Calculus I	4 / 4
STAT 170	Introduction to Statistics	4 / 4

**Program of Study Required Courses, Limited Choice – Biology– Select one.** *Students planning to transfer to a four-year institution should complete BIOL 201 and 202.*

Course Code	Course Title	Credit / Billing Hours
BIOL 145	Intro Anatomy and Physiology	4 / 6
BIOL 201 and 202	Human Anatomy and Human Physiology	8 / 11 (total)

### Minimum Total Credit Hours

27 credits / 34 billing hours

### Recommended Course Sequence

Semester I (Fall)
PFFT 109
PFHW 163
PFKN 170
BIOL 145 or 201 – Milestone course
Limited Choice – English/Communications
Limited Choice – Mathematics

Semester II (Spring)
BIOL 202 (if selected BIOL 201 and 202) – Milestone course
PFKN 106
PFKN 250
PFKN 260
PFWT 112

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## **Heating and Air Conditioning A.A.S.**

Career Community: Building and Construction Trades

Curriculum Code: 0836

Effective: Fall 2022 – Summer 2027

### **Description**

Heating, Ventilating, Air Conditioning and Refrigeration (HVAC/R) technicians work on systems that control temperature, humidity, and air quality of enclosed spaces. They are required to design, install, service, and maintain the various types of equipment used to control human comfort, preservation of food products, critical medical supplies, and computer and mechanical processes in residential, commercial, industrial, and institutional environments. Technicians must have a strong mechanical aptitude, be self-motivated, willing to accept challenges, and have a structured approach to problem solving. They should also have good communication skills, the ability to work well with others, and understand all aspects of the construction trade. Students completing this curriculum may also be eligible to apply for a Certificate of Achievement in Heating and Air Conditioning (0832).

### **Milestone**

In addition to the required General Education courses in Math and English, completion of HVAC 100 and HVAC 110) with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

Students who have already completed DCTM 102, ELTE 102, HVAC 102, METS 102, or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for TECH 102. Any of these courses may also be used to fulfill the prerequisite for HVAC 110, HVAC 113, and HVAC 115.

### **Contact Information**

Contact the Heating and Air Conditioning Program, West Campus Building, Room M127, telephone number 517-483-1570 or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

### **General Education - Applied Degree, Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*  
ENGL 124, Technical Writing, 3 credits / 3 billing hours
- English Composition (Second Course)/Communications or Applied Communications – *Select one*  
COMM 130, Fundamentals Public Speaking, 3 credits / 3 billing hours



- Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one*  
GEOG 200, World Regional Geography, 4 credits / 4 billing hours
- Mathematics or Applied Mathematics – *Select one*  
MATH 115, Technical Math II, 4 credits / 4 billing hours
- Natural Sciences Lab or Applied Science and Technology Lab – *Select one*  
PHYS 120, The Art of Physics, 4 credits / 5 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
HVAC 100	Fundamentals of HVAC	3 / 3
HVAC 110	Applied Electricity I	3 / 4
HVAC 111	Applied Electricity II	3 / 4
HVAC 113	HVAC/R Piping	3 / 4
HVAC 115	Sheet Metal Fab & Installation	2 / 3
HVAC 120	Heating I	3 / 4
HVAC 130	Air Conditioning I	3 / 4
HVAC 201	Mechanical Code	4 / 4
HVAC 220	Heating II	3 / 4
HVAC 221	Introduction to Hydronics	3 / 4
HVAC 230	Air Conditioning II	3 / 4
HVAC 231	Heat Pump	3 / 4
HVAC 240	Refrigeration I	3 / 4
HVAC 241	Refrigeration II	3 / 4
HVAC 251	Fund of Direct Digital Control	3 / 4
TECH 102	General Industry Safety	2 / 3

### Program of Study Required Courses, Limited Choice - *Select two*

Course Code	Course Title	Credit / Billing Hours
DCTM 100	Intro to the Built Environment	3 / 4
DCTM 101	Drafting/Intro to CAD	3 / 4
ELTE 141	National Electric Code I	4 / 4
ELTE 150	Electric Motor Maintenance	2 / 3
HVAC 140	Residential Energy	3 / 4
WELD 103	Combination Welding	4 / 6

### Minimum Total Credit Hours

70 credits / 87 billing hours

## Recommended Course Sequence

Semester I
Gen Ed – English Composition or Applied English
HVAC 100 – Milestone course
HVAC 110 – Milestone course
HVAC 113
HVAC 115
TECH 102

Semester II
Gen Ed – Mathematics or Applied Mathematics
HVAC 111
HVAC 120
HVAC 130
Limited Choice

Semester III
Gen Ed – English Composition (Second Course)/Communications
HVAC 220
HVAC 221
HVAC 230
HVAC 240
Limited Choice

Semester IV
Gen Ed - Humanities and Fine Arts or Social Sciences or Applied Social Sciences
Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab
HVAC 201
HVAC 231
HVAC 241
HVAC 251

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## Heating and Air Conditioning C.A.

Career Community: Building and Construction Trades

Curriculum Code: 0832

Effective: Fall 2022 – Summer 2027

### Description

Students will receive instruction on how to install, service, and maintain heating, air conditioning, and refrigeration systems, including sheet metal and electrical, to prepare for entry-level positions. Students completing this certificate may use the credits towards the Heating and Air Conditioning Associate in Applied Science Degree (0836).

### Milestone

Completion of HVAC 100 and HVAC 110 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Additional Information

Students who have already completed DCTM 102, ELTE 102, HVAC 102, METS 102, or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for TECH 102. Any of these courses may also be used to fulfill the prerequisite for HVAC 110, HVAC 113, and HVAC 115.

### Contact Information

Contact the Heating and Air Conditioning Program, West Campus Building, Room M127, telephone number 517-483-1570 or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
HVAC 100	Fundamentals of HVAC	3 / 3
HVAC 110	Applied Electricity I	3 / 4
HVAC 111	Applied Electricity II	3 / 4
HVAC 113	HVAC/R Piping	3 / 4
HVAC 115	Sheet Metal Fab & Installation	2 / 3
HVAC 120	Heating I	3 / 4
HVAC 130	Air Conditioning I	3 / 4
HVAC 220	Heating II	3 / 4
HVAC 221	Introduction to Hydronics	3 / 4
HVAC 230	Air Conditioning II	3 / 4
HVAC 240	Refrigeration I	3 / 4
TECH 102	General Industry Safety	2 / 3

### Minimum Total Credit Hours

34 credits / 45 billing hours

## Recommended Course Sequence

Semester I
HVAC 100 – Milestone course
HVAC 110 – Milestone course
HVAC 113
HVAC 115
TECH 102

Semester II
HVAC 111
HVAC 120
HVAC 130

Semester III
HVAC 220
HVAC 221
HVAC 230
HVAC 240

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## **Heavy Equipment Repair Technician A.A.S.**

Career Community: Transportation

Curriculum Code: 1055

Effective: Fall 2022 – Summer 2027

### **Description**

A heavy equipment repair technician is responsible for the efficient, timely, and proper repair on a variety of heavy-duty construction and road equipment. The technician must be knowledgeable in repair of all systems used in heavy equipment including diesel engines, fuel systems, powertrain, electronics, and hydraulics. The technician must be able to diagnose problems, plan repairs including required labor and parts, and then complete the repair. Repairs must be completed with consideration to safety, MIOSHA, and environmental guidelines. A repair technician must be able to work with a minimum of supervision as repairs may be made off site. Attention to detail and a sense of responsibility are required. Students completing this curriculum may also be eligible to apply for the Heavy Equipment Repair Certificate of Achievement (1041).

### **Milestone**

In addition to the required General Education courses in Math and English, completion of HERT 120 and HERT 125 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

All Heavy Equipment Repair (HERT) courses are taught at AIS Construction, 3600 N. Grand River Ave. in Lansing. In addition, one of the courses may be taught by the AIS Construction staff.

### **Contact Information**

Contact the Heavy Equipment Repair Program at the West Campus Building, Room M103, telephone number 517-267-6406.

### **General Education - Applied Degrees, Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*  
ENGL 124, Technical Writing, 3 credits / 3 billing hours
- English Composition (Second Course)/Communications or Applied Communications – *Select one*  
COMM 110, Communication in the Workplace, 3 credits / 3 billing hours

- Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one*  
MGMT 234, Diversity in the Workplace, 3 credits / 3 billing hours
- Mathematics or Applied Mathematics – *Select one*  
MATH 115, Technical Math II, 4 credits / 4 billing hours
- Natural Sciences Lab or Applied Science and Technology Lab – *Select one*  
BIOL 120, Environmental Science, 4 credits / 6 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
HERT 110	Equipment Introduction	5 / 5
HERT 120	Heavy Engine Rebuild	6 / 6
HERT 125	Heavy Equipment Electronics	5 / 5
HERT 130	Equipment Hydraulics	6 / 6
HERT 135	Diesel Fuel System	4 / 4
HERT 140	Equipment Powertrain	5 / 5
HERT 145	Equipment Service Writing	4 / 4
HERT 160	Equipment HVAC/Cab Controls	4 / 6
TECH 102	General Industry Safety	2 / 3

### Program of Study Required Courses, Limited Choice – *Select one*

Course Code	Course Title	Credit / Billing Hours
HERT 210	Heavy Equipment Internship	3 / 3
MGMT 150	Managing Customer Relations	3 / 3
WELD 103	Combination Welding	4 / 6

### Minimum Total Credit Hours

61 credits / 66 billing hours

### Recommended Course Sequence

Semester I (Fall)
Gen Ed – English Composition or Applied English
HERT 110
HERT 120 – Milestone course
TECH 102

Semester II (Spring)
HERT 125 – Milestone course
HERT 140
HERT 160

Semester III (Summer)
HERT 135
HERT 145

Semester IV (Fall)
Gen Ed – English Composition (Second Course)/ Communications or Applied Communications
Gen Ed – Mathematics or Applied Mathematics
HERT 130

Semester V (Spring)
Gen Ed – Humanities and Fine Arts or Social Sciences or Applied Social Sciences
Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab
Limited Choice

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## Heavy Equipment Repair Technician C.A.

Career Community: Transportation

Curriculum Code: 1041

Effective: Fall 2022 – Summer 2027

### Description

A heavy equipment repair technician is responsible for the efficient, timely, and proper repair on a variety of heavy-duty construction and road equipment. The technician must be knowledgeable in the repair of all systems used in heavy equipment. The technician must be able to diagnose problems, plan repairs including required labor and parts, and then complete the repair with consideration to safety, MIOSHA, and environmental factors. A repair technician must be able to work with a minimum of supervision as repairs may be made off-site. Attention to detail and a sense of responsibility are required. Students completing this certificate may use the credits toward the Heavy Equipment Repair Technician Associate of Applied Science Degree (1055).

### Milestone

Completion of HERT 120, HERT 125, and HERT 130 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Additional Information

All Heavy Equipment Repair (HERT) courses are taught at AIS Construction, 3600 N. Grand River Ave. in Lansing. In addition, one of the courses may be taught by the AIS Construction staff.

### Contact Information

Contact the Heavy Equipment Repair Program at the West Campus Building, Room M103, telephone number 517-267-6406.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
HERT 110	Equipment Introduction	5 / 5
HERT 120	Heavy Engine Rebuild	6 / 6
HERT 125	Heavy Equipment Electronics	5 / 5
HERT 130	Equipment Hydraulics	6 / 6
HERT 135	Diesel Fuel System	4 / 4
HERT 140	Equipment Powertrain	5 / 5
HERT 145	Equipment Service Writing	4 / 4
HERT 160	Equipment HVAC/Cab Controls	4 / 6
TECH 102	General Industry Safety	2 / 3

### Minimum Total Credit Hours

41 credits / 44 billing hours



## Recommended Course Sequence

Semester I (Fall)
HERT 110
HERT 120 – Milestone course
HERT 130 – Milestone course
TECH 102
Semester II (Spring)
HERT 125 – Milestone course
HERT 140
HERT 160
Semester III (Summer)
HERT 135
HERT 145

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## History A.A.

Career Community: History, Humanities, and English

Curriculum Code: 0197

Effective: Fall 2022 – Summer 2027

### Description

This degree is designed for students who intend to transfer to a four-year college or university to pursue a baccalaureate degree in this subject area. Students completing this curriculum will also satisfy the Michigan Transfer Agreement (MTA) between two-year and four-year institutions in Michigan and qualify for an LCC Transfer Studies Certificate of Achievement (1482).

### Milestone

In addition to the required General Education courses in Math and English, completion of HIST 211 and HIST 212 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Additional Information

A student must earn a minimum grade of 2.0 in all courses.

### Contact Information

Contact the Social Science and Humanities Department, Arts and Sciences Building, Room 2203, telephone number 517-483-1061, or the Academic Advising Department, Gannon Building – StarZone, telephone number 517-483-1904.

### General Education – Transfer Degrees (MTA), Recommended Courses

(For the full list of options, see [General Education](#))

- English Composition – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours  
ENGL 131, Honors Composition I, 4 credits / 4 billing hours
- English Composition (second course) or Communications – *Select one*  
ENGL 122, Composition II, 4 credits / 4 billing hours  
ENGL 132, Honors Composition II, 4 credits / 4 billing hours
- Humanities and Fine Arts – *Select one from a discipline other than HIST*  
ENGL 255, American Lit to 1865, 4 credits / 4 billing hours  
ENGL 256, American Lit 1865 to Present, 4 credits / 4 billing hours  
HUMS 160, Mythology, 4 credits / 4 billing hours  
HUMS 211, Art History to the Renaissance, 4 credits / 4 billing hours  
HUMS 212, Art Hist from the Renaissance, 4 credits / 4 billing hours  
RELG 150, Intro to World Religions, 4 credits / 4 billing hours

- Mathematics – *Select one*  
MATH 119, Math Applications for Living, 4 credits / 4 billing hours  
MATH 120, College Algebra, 4 credits / 4 billing hours  
STAT 215, Intro to Probability and Stats, 4 credits / 4 billing hours
- Natural Sciences – *Select two, each from a different discipline, one must be a lab course*  
ASTR 201, Introductory Astronomy, 4 credits / 5 billing hours  
BIOL 120, Environmental Science, 4 credits / 6 billing hours  
BIOL 125, Introductory Biology, 4 credits / 5 billing hours  
CHEM 135, Chemistry in Society, 4 credits / 5 billing hours  
GEOG 221, Physical Geography, 4 credits / 4 billing hours  
GEOL 222, Historical Geology, 4 credits / 6 billing hours  
GEOL 230, Environmental Geology, 4 credits / 6 billing hours  
ISCI 131, Integrated Physical Science, 4 credits / 6 billing hours
- Social Sciences – *Select two, each from a different discipline*  
ANTH 270, Cultural Anthropology, 3 credits / 3 billing hours  
ECON 120, Power, Authority and Exchange, 4 credits / 4 billing hours  
GEOG 200, World Regional Geography, 4 credits / 4 billing hours  
POLS 120, American Political System, 4 credits / 4 billing hours  
SOCL 120, Introduction to Sociology, 4 credits / 4 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
HIST 210*	Historical Methods and Skills	4 / 4
HIST 211	U.S. History to 1877	4 / 4
HIST 212	U.S. History: 1877 to Present	4 / 4

\*Capstone course – must be taken during Semester IV

### Program of Study Required Courses, Limited Choice – *Select one*

Course Code	Course Title	Credit / Billing Hours
HIST 214	African History	4 / 4
HIST 215	World History to 1500	4 / 4
HIST 216	World History since 1500	4 / 4
HIST 235	Modern European History	4 / 4
HIST 240	Latin American History	4 / 4
HIST 250	History of Modern Asia	4 / 4

**Elective Courses, Recommended Choices** – *Select courses to reach the minimum 60 total credits required for this degree. (For the full list of options, see [AA and AS Degree Electives](#))*

Course Code	Course Title	Credit / Billing Hours
FREN 121	Elementary French I	4 / 4
FREN 122	Elementary French II	4 / 4
FREN 201	Intermediate French I	4 / 4
FREN 202	Intermediate French II	4 / 4
GRMN 121	Elementary German I	4 / 4
GRMN 122	Elementary German II	4 / 4
GRMN 201	Intermediate German I	4 / 4
GRMN 202	Intermediate German II	4 / 4
HIST 150	African-American History	4 / 4
HUMS 215	American Cultural Experience	4 / 4
JAPN 121	Elementary Japanese I	4 / 4
JAPN 122	Elementary Japanese II	4 / 4
JAPN 201	Intermediate Japanese I	4 / 4
JAPN 202	Intermediate Japanese II	4 / 4
SOCL 260	Race and Ethnicity	3 / 3
SPAN 121	Elementary Spanish I	4 / 4
SPAN 122	Elementary Spanish II	4 / 4
SPAN 201	Intermediate Spanish I	4 / 4
SPAN 202	Intermediate Spanish II	4 / 4

### Minimum Total Credit Hours

60 credits / 61 billing hours

### Recommended Course Sequence

Semester I
MTA English Composition
MTA Mathematics
MTA Natural Sciences
HIST 211 – Milestone course

Semester II
MTA English Comp (2nd course) or Communications
MTA Natural Sciences
MTA Humanities and Fine Arts
HIST 212 – Milestone course

Semester III
MTA Social Sciences
Limited Choice
Electives as needed for total credits

Semester IV
MTA Social Sciences
HIST 210
Electives as needed for total credits

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## **Human Resource Management A.B.**

Career Community: Business

Curriculum Code: 0712

Effective: Fall 2022 – Summer 2027

### **Purpose of Major**

This major is designed for students wishing to work in the field of Human Resources Management on completion of the Associate of Business with Human Resource Management major. Human resource managers serve as a link between managers and employees. They help management make effective use of employees' skills and help employees find satisfaction in their jobs and working conditions. Graduates of this program are involved with recording and evaluating information such as job experience, education, skills, qualifications, and job performance; providing information about policies, job duties, working conditions, wages, opportunities for promotion, and employee benefits; maintaining job files on employees; administering various employee benefits; collecting and analyzing labor market data; and employee selection and training. Not all courses in this program transfer to all colleges. Students who also wish to transfer to a four-year institution should select coursework indicated for that institution and may complete the coursework for a Business, Enhanced AB degree. The Business, Enhanced AB option allows students to transfer additional credits toward the Bachelor's degree. This allows completion of credits required for employment and of additional requirements for the Bachelor's. Institutions accepting coursework for the Business, Enhanced AB, Human Resource Management track include Davenport University, Ferris State University (Business Administration – Professional Track), Oakland University, and Siena Heights University.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of MGMT 225 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Contact Information**

Contact the Business and Economics Department, Gannon Building, Room 1222, telephone number 517-483-1546 or the Academic Advising Department, Gannon Building – Star Zone, telephone number 517-483-1904.

### **General Education – Applied Degrees, Recommended Courses**

Select courses as indicated for specific transfer institutions. These courses are preferred General Education courses listed on Transfer Articulation agreements. The recommended courses in each General Education category also meet Michigan Transfer Agreement (MTA) requirements. If no course is indicated, choose from the list of options under [General Education](#). A minimum grade of 2.0 is required for each General Education course.

- English Composition or Applied English  
Business Career Community courses meet this requirement.
- English Composition (Second Course) or Communications or Applied Communications  
Business Career Community Courses meet this requirement.
- Humanities and Fine Arts or Social Science or Applied Social Science  
Business Career Community Courses meet this requirement.
- Mathematics or Applied Mathematics  
Business Career Community Courses meet this requirement.
- Natural Sciences Lab or Applied Science and Technology Lab  
Business Career Community Courses meet this requirement.

**Business Career Community Required Courses** – *These courses are required for all Business programs. They should be taken before other Program Required or Limited Choice Courses. Some courses meet General Education requirements for Michigan Transfer Agreement (MTA). A minimum of 2.0 is required to transfer to other colleges (some colleges, and some programs within colleges, require a higher grade in a course.)*

Course Code	Course Title	Credit / Billing Hours
ACAD 100	First Year College Experience	1 / 1
ACCG 210	Principles of Financial Accg	4 / 4
BIOL 120 or BIOL 125	Environmental Science Introductory Biology	4 / 6 4 / 5
BUSN 118	Introduction to Business	3 / 3
COMM 110 or COMM 130	Communication in the Workplace Fundamentals Public Speaking	3 / 3 3 / 3
ECON 201	Principles of Economics - Micro	4 / 4
ENGL 121 or ENGL 131	Composition I Honors Composition I	4 / 4 4 / 4
LEGL 215	Business Law – Basic Principles	3 / 3
MATH 119 or MATH 120 or STAT 170	Math – Applications for Living College Algebra Introduction to Statistics	4 / 4 4 / 4 4 / 4
MGMT 225	Principles of Mgmt/Leadership	3 / 3
MKTG 200	Principles of Marketing	3 / 3

Notes:

ACAD 100 may be waived based on the recommendation of a Program Advisor.

For students not considering transfer as an option, MGMT 234, Diversity in the Workplace, may be substituted for ECON 201 using the Course Substitution process. MGMT 234 meets LCC General Education requirements for Applied Degrees – Humanities or Social Science or Applied Social Science. MGMT 234 does not meet Michigan Transfer Agreement (MTA) Social Science requirements for transfer as a General Education course.

For future transfer to:

- Davenport University choose COMM 110 and STAT 170.
- Eastern Michigan University choose STAT 170.
- Ferris State University choose COMM 130 and STAT 170.
- Northwood University, and Oakland University choose MATH 120.
- Siena Heights University (Business Administration) choose BIOL 120 and STAT 170.
- Siena Heights University (Professional Communications) choose BIOL 120.

**Program of Study Required Courses** - *A minimum of 2.0 is required to transfer to other colleges (some colleges, and some programs within colleges, require a higher grade in a course.)*

Course Code	Course Title	Credit / Billing Hours
LABR 200	Intro to Labor Relations	3 / 3
LABR 204	Employment Law for Managers	3 / 3
MGMT 200	Creative Thinking for Business	3 / 3
MGMT 224	Human Resource Management	3 / 3
MGMT 227	Training/Development for Busn	3 / 3
MGMT 228 or MGMT 304	Organization Behavior Organization Development	3 / 3 3 / 3
MGMT 229	Compensation Management	3 / 3
MGMT 231	Developing and Leading Teams	3 / 3
MGMT 234	Diversity in the Workplace	3 / 3
MGMT 280 or MGMT 345	Mgmt/Leadership Internship Context and Transformation	3 / 3 3 / 3
MGMT 337	Advanced Human Resource Mgmt	3 / 3

### **Minimum Total Credit Hours**

69 credits / 70 billing hours



## Recommended Course Sequence

Semester I
ACAD 100
BUSN 118
ENGL 121 or ENGL 131
MGMT 225 – Milestone course
MKTG 200

Semester II
BIOL 120 or BIOL 125
LEGL 215
MATH 119, MATH 120, or STAT 170
MGMT 224

Semester III
ECON 201
LABR 200
MGMT 200
MGMT 228 or MGMT 304

Semester IV
ACCG 210
COMM 110 or COMM 130
LABR 204
MGMT 227
MGMT 234

Semester V
MGMT 229
MGMT 231
MGMT 280 or MGMT 345
MGMT 337

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**Business, Enhanced A.B.**  
**Human Resource Management Track**  
Career Community: Business  
Curriculum Code: 1822  
Effective: Fall 2022 – Summer 2027  
Revised: 7/6/22

**Purpose of Program**

This degree is designed for students wishing to transfer after having completed the Associate in Business, Major in Human Resource Management degree. This Enhanced AB option allows completion of credits required for employment through the AB and completion of additional courses required for the Bachelor’s degree, as designated by transfer articulation agreements. Required coursework follows for the Human Resource Management subtracks of the Business, Enhanced AB for students transferring to Davenport University, Ferris State University, Northwood University, and Oakland University.

**Contact Information**

Before beginning this program of study, students must contact the Business and Economics Department, Gannon Building, Room 1222, telephone number 517-483-1546, or the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

**Program of Study Required Courses:**

Completion of an LCC associate in Business is required for the Business, Enhanced degree. Completion of the AB in [Human Resource Management \(0712\)](#) as required for the specified transfer institution is the most efficient path to completing the Enhanced degree Accounting track. Students who have completed a different degree will need to work with a Program Advisor to create a personalized MAP (My Academic Pathway) in Degree Works to ensure that all requirements are met.

**Recommended Courses by College/University**

Completing courses as directed meets transfer articulation agreement requirements for each institution.

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## **Davenport University (Human Resource Management)**

### **General Education – Transfer (MTA) Courses**

(For the list of options, see [General Education](#))

- Any non-ECON MTA Social Science course, 3 credits / 3 billing hours
- Any MTA Humanities course, 3 credits / 3 billing hours

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
BUSN 201	International Business	3 / 3
MATH 120	College Algebra	4 / 4
MGMT 332	Ethics: Assumpt for the Future	3 / 3

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
ENGL 122	Composition II	4 / 4
ENGL 132	Honors Composition II	4 / 4

### **Minimum Total Credit Hours**

89 credits / 90 billing hours

## **Ferris State University**

### **General Education – Transfer (MTA) Courses**

(For the list of options, see [General Education](#))

- Any non-ECON MTA Social Science course, 3 credits / 3 billing hours
- Two MTA Humanities courses from 2 different disciplines, 6 credits /6 billing hours

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
BUSN 201	International Business	3 / 3
LEGL 216	Commercial Transactions	3 / 3

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
ENGL 122	Composition II	4 / 4
ENGL 127	Business Writing	3 / 3
ENGL 132	Honors Composition II	4 / 4

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
MATH 119	Math-Applications for Living	4 / 4
MATH 120	College Algebra	4 / 4

### **Minimum Total Credit Hours**

91 credits / 92 billing hours

## **Northwood University (Management)**

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
MGMT 332	Ethics: Assumpt for the Future	3 / 3
MGMT 335	Managerial Statistics	3 / 3

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
ENGL 122	Composition II	4 / 4
ENGL 132	Honors Composition II	4 / 4

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
HIST 211	U.S. History to 1877	4 / 4
HIST 212	U.S. History: 1877 to Present	4 / 4
HUMS 213	World Civilizations to 1600	4 / 4
HUMS 214	World Civilizations from 1600	4 / 4

### **Program of Study Required Courses, Limited Choice – *Select one***

Any 3-4-credit course from ARTS, BIOL, CHEM, ISCI, HIST, HUMS, PHIL, PHYS, POLS, PSYC, or SOCL

### **Minimum Total Credit Hours**

86 credits / 87 billing hours

## Oakland University

### **General Education – Transfer (MTA) Courses**

(For the list of options, see [General Education](#))

- Any non-BIOL MTA Science course, 3 credits / 3 billing hours
- Any non-ECON MTA Social Science course, 3 credits / 3 billing hours
- Two MTA Humanities courses from 2 disciplines, 6 credits / 6 billing hours

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
ENGL 127	Business Writing	3 / 3
MATH 141	Calculus with Applications	4 / 4

### **Program of Study Required Courses, Limited Choice– *Select one***

Course Code	Course Title	Credit / Billing Hours
ENGL 122	Composition II	4 / 4
ENGL 132	Honors Composition II	4 / 4

### **Minimum Total Credit Hours**

92 credits / 93 billing hours



## **Human Services A.A.S.**

Career Community: Health and Human Service Careers

Curriculum Code: 0915

Effective: Fall 2022 – Summer 2027

### **Description**

The trained Human Services employee assists professional staff in social service and human services agencies. The associate degree is generalist in nature, with all students acquiring an education in addictions, aging, and family. This degree is part of an enhanced career pathway into the profession. The education provides the opportunity to learn the history of human services, the necessity for a Code of Ethics, structure of community agencies, the programs and services provided, and the populations served. Standards from the Council for Standards in Human Services Education, the generic competencies and the ethical standards from the National Organization for Human Services serve as guidelines for the course work. Select general education courses compliment this degree.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of GERO 100, HUSE 100, HUSE 105, and HUSE 242 with a 2.5 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

Students completing this degree will select a Specialization - Addiction, Aging, or Children and Families. Students may follow other placement options with approval by the Human Services Program Director.

For students interested in addiction, view the [Michigan Certification Board for Addiction Professionals website](#) for current addiction credentialing. Students interested in aging should follow the Human Services Aging Studies course work.

Upon completion of a specialization, any additional specialization courses will not count toward the student's enrollment level for determining financial aid eligibility.

Students must meet the criteria as described in the Human Services Advising Guide for a supervised consecutive two-semester practicum within a community agency for experiential learning. Students are required to meet with the Human Services Program Director (Room 108 HHS Building) prior to or during their first semester to obtain practicum information and application requirements for fall semester. Before practicum placement a criminal background check is required, and a DHHS Central Registry clearance is required for placement with children and families and in agencies providing services to children and families.

To graduate with this degree a 2.5 grade or higher is required in all GERO, HUSE, SOWK courses and Specialization Choices. General education courses require a 2.0 grade or higher. An overall 2.5 GPA or higher is required. Students are encouraged to take the required general education courses in their first, second, third and summer semesters to complete the degree on time.

This degree is designed for students to enter the workforce as pre-professionals and for students who intend to transfer to a four-year college or university to pursue a baccalaureate degree in this subject area. Students completing this curriculum will also satisfy the Michigan Transfer Agreement (MTA) between two-year and four-year institutions in Michigan and qualify for an LCC Transfer Studies Certificate of Achievement (1482).

### Contact Information

Contact the Human Services Program, Health and Human Services Building, Room 108, telephone number 517-483-1410, or Academic Advising Department, Gannon Building – StarZone, telephone number 517-483-1904.

### General Education – Transfer Degrees (MTA), Recommended Courses

(For the full list of options, see [General Education](#))

- English Composition  
Program of Study Required Courses will meet this requirement
- English Composition (second course)/Communications  
Program of Study Required Courses will meet this requirement
- Humanities and Fine Arts  
Program of Study Required Courses will meet this requirement
- Mathematics – *Select one*  
MATH 119, Math - Applications for Living, 4 credits / 4 billing hours  
MATH 120, College Algebra, 4 credits / 4 billing hours  
STAT 170, Introduction to Statistics, 4 credits / 4 billing hours
- Natural Sciences  
Program of Study Required Courses will meet this requirement
- Social Sciences  
Program of Study Required Courses will meet this requirement

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
BIOL 145	Intro Anatomy and Physiology	4 / 6
GERO 100	Introduction to Human Aging	4 / 4
HUSE 100	Introduction to Human Services	3 / 3
HUSE 105	Personal Dynamics/ Interviewing	4 / 4
HUSE 242	The Family: Addiction/Violence	3 / 3
HUSE 282	Human Services Practicum I	4 / 4
HUSE 284	Human Services Practicum II	4 / 4



Course Code	Course Title	Credit / Billing Hours
PFHW 123	Human Nutrition	3 / 3
PSYC 200	Introduction to Psychology	4 / 4
SOCL 120	Introduction to Sociology	4 / 4

**Program of Study Required Courses, Limited Choice - MTA English Composition –  
Select one**

Course Code	Course Title	Credit / Billing Hours
ENGL 121	Composition I	4 / 4
ENGL 131	Honors Composition I	4 / 4

**Program of Study Required Courses, Limited Choice - MTA English Composition  
(second course) – Select one**

Course Code	Course Title	Credit / Billing Hours
ENGL 122	Composition II	4 / 4
ENGL 132	Honors Composition II	4 / 4

**Program of Study Required Courses, Limited Choice - MTA Humanities and Fine  
Arts – Select one**

Course Code	Course Title	Credit / Billing Hours
HUMS 120	Masterpieces of Art & Music	4 / 4
HUMS 211	Art History to the Renaissance	4 / 4
HUMS 212	Art Hist from the Renaissance	4 / 4
MUSC 240	Musical Cultures to 1750	4 / 4
MUSC 241	Musical Cultures 1750-Present	4 / 4

**Program of Study Required Courses, Limited Choice - MTA Humanities and Fine  
Arts – Select one**

Course Code	Course Title	Credit / Billing Hours
ENGL 211	World Literature I	4 / 4
ENGL 212	World Literature II	4 / 4
ENGL 260	African-American Literature	4 / 4
HIST 150	African-American History	4 / 4
HIST 211	U.S. History to 1877	4 / 4
HIST 212	U.S. History: 1877 to Present	4 / 4
HIST 214	African History	4 / 4
PHIL 151	Intro to Logic & Critical Think	4 / 4
PHIL 152	Introduction to Ethics	4 / 4
PHIL 211	Philosophy: Ancient & Medieval	4 / 4
RELG 150	Intro to World Religions	4 / 4
RELG 211	Asian Religions and Traditions	4 / 4
RELG 212	Judaism, Christianity & Islam	4 / 4

**Program of Study Specialization Courses – Addiction** – *Select HUSE 110, plus SOWK 101 or other 3-4 credit course approved by the Human Services Program Director.*

Course Code	Course Title	Credit / Billing Hours
HUSE 110	Child Abuse and Neglect	3 / 3
SOWK 101	Introduction to Social Work	3 / 3

**Program of Study Specialization Courses – Aging** – *Select SOWK 101, plus three credits from the Gerontology seminars below or other 3-4 credit course approved by the Human Services Program Director.*

Course Code	Course Title	Credit / Billing Hours
GERO 164	Med & Alcohol Use/Older Adults	.5 / 0*
GERO 169	Legal Rights of Older Adults	.5 / 0*
GERO 191	Special Topics in Gerontology	.25-4 / 0*
SOWK 101	Introduction to Social Work	3 / 3

**Program of Study Specialization Courses – Children and Families** – *Select HUSE 110, plus SOWK 101 or other 3-4 credit course approved by the Human Services Program Director.*

Course Code	Course Title	Credit / Billing Hours
HUSE 110	Child Abuse and Neglect	3 / 3
SOWK 101	Introduction to Social Work	3 / 3

### Minimum Total Credit Hours

63 credits / 65 billing hours\*

\*GERO seminars are a flat fee and do not have billing hours. Contact the Program Coordinator of the Mental Health and Aging Project at 517-483-1526 for fee information.

### Recommended Course Sequence

Semester I
ENGL 121 or 131
GERO 100 – Milestone course
HUSE 100 – Milestone course
Specialization course(s)

Semester II
ENGL 122 or 132
HUSE 105 – Milestone course
HUSE 242 – Milestone course
SOCL 120
Specialization course(s)

Semester III
MTA Mathematics
HUSE 282
PFHW 123
Limited Choice - MTA Humanities and Fine Arts

Semester IV
BIOL 145
HUSE 284
PSYC 200
Limited Choice - MTA Humanities and Fine Arts

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## **Human Services C.A.**

Career Community: Health and Human Service Careers

Curriculum Code: 1201

Effective: Fall 2022 – Summer 2027

### **Description**

This Certificate of Achievement provides the essential values, knowledge, and skills to promote client and community well-being. It is designed as the second certificate in an enhanced career pathway into human services. Standards from the Council for Standards in Human Services Education and the generic competencies and ethical standards from the National Organization for Human Services serve as guidelines for the course work.

### **Milestone**

Completion of ENGL 121 or ENGL 131 with a 2.0 or higher, and GERO 100, HUSE 100, HUSE 105, and HUSE 242 with a 2.5 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

Students completing this degree will select a Specialization - Addiction, Aging, or Children and Families. Students may follow other placement options with approval by the Human Services Program Director.

For students interested in addiction, view the [Michigan Certification Board for Addiction Professionals website](#) for current addiction credentialing. Students interested in aging should follow the Human Services Aging Studies course work.

Upon completion of a specialization, any additional specialization courses will not count toward the student's enrollment level for determining financial aid eligibility.

Students must meet the criteria as described in the Human Services Advising Guide for a supervised consecutive two-semester practicum within a community agency for experiential learning. Students are required to meet with the Human Services Program Director prior to or during their first semester to obtain practicum information and application requirements for Fall semester. Before practicum placement, a criminal background check is required, and a DHHS Central Registry check is required for placement with children and families or agencies providing services to children and families.

To earn this Certificate of Achievement a 2.5 grade or higher is required in all GERO, HUSE, SOWK courses and Specialization Choices. General education courses require a 2.0 grade or higher. An overall 2.5 GPA or higher is required. Students continuing their education are encouraged to take the required general education courses in their first, second, third and summer semesters to complete the Human Services Associate Degree on time.

## Contact Information

Contact the Human Services Program, Health and Human Services Building, Room 108, telephone number 517-483-1410, or the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

## Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
GERO 100	Introduction to Human Aging	4 / 4
HUSE 100	Introduction to Human Services	3 / 3
HUSE 105	Personal Dynamics/Interviewing	4 / 4
HUSE 242	The Family: Addiction/Violence	3 / 3
HUSE 282	Human Services Practicum I	4 / 4
HUSE 284	Human Services Practicum II	4 / 4

## Program of Study Required Courses, Limited Choice – *Select one*

Course Code	Course Title	Credit / Billing Hours
ENGL 121	Composition I	4 / 4
ENGL 131	Honors Composition I	4 / 4

## Program of Study Specialization Courses – Addiction – *Select HUSE 110, plus SOWK 101 or other 3-4 credit course approved by the Human Services Program Director.*

Course Code	Course Title	Credit / Billing Hours
HUSE 110	Child Abuse and Neglect	3 / 3
SOWK 101	Introduction to Social Work	3 / 3

## Program of Study Specialization Courses – Aging – *Select SOWK 101, plus three credits from the Gerontology seminars below or other 3-4 credit course approved by the Human Services Program Director.*

Course Code	Course Title	Credit / Billing Hours
GERO 164	Med & Alcohol Use/Older Adults	.5 / 0 *
GERO 169	Legal Rights of Older Adults	.5 / 0 *
GERO 191	Special Topics in Gerontology	.25-4 / 0*
SOWK 101	Introduction to Social Work	3 / 3

## Program of Study Specialization Courses – Children and Families – *Select HUSE 110, plus SOWK 101 or other 3-4 course approved by the Human Services Program Director.*

Course Code	Course Title	Credit / Billing Hours
HUSE 110	Child Abuse and Neglect	3 / 3
SOWK 101	Introduction to Social Work	3 / 3

## Minimum Total Credit Hours

32 credits / 32 billing hours + Flat Fees

\* GERO seminars are a flat fee and do not have billing hours. Contact the Program Coordinator of the Mental Health and Aging Project at 517-483-1526 or 517-483-1529 for fee information.

## Recommended Course Sequence

Semester I (Fall)
ENGL 121 or 131 – Milestone course
GERO 100 – Milestone course
HUSE 100 – Milestone course
Specialization course(s)
Semester II (Spring)
HUSE 105 – Milestone course
HUSE 242 – Milestone course
Specialization course(s)
Semester III (Fall)
HUSE 282
Semester IV (Spring)
HUSE 284

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## **Human Services C.C.**

Career Community: Health and Human Service Careers

Curriculum Code: 1199

Effective: Fall 2022 – Summer 2027

### **Description**

This Certificate of Completion provides the essential values, knowledge, and skills to promote client and community well-being. It is designed as the first certificate in an enhanced career pathway into human services. Standards from the Council for Standards in Human Services Education and the generic competencies and ethical standards from the National Organization for Human Services serve as guidelines for the course work.

### **Milestone**

Completion of HUSE 100 with a 2.5 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in this course.

### **Additional Information**

Students completing this degree will select a Specialization - Addiction, Aging, or Children and Families. Students may follow other placement options with approval by the Human Services Program Director.

For students interested in addiction, view the [Michigan Certification Board for Addiction Professionals website](#) for current addiction credentialing. Students interested in aging should follow the Human Services Aging Studies course work.

Students continuing their education for the Human Services Certificate of Achievement or Human Services Associate Degree are required to meet with the Human Services Program Director prior to or during their first semester of this certificate to obtain practicum information and application requirements for fall semester. Before practicum placement at the next level a criminal background check is required, and a DHHS Central Registry check is required for placement with children and families and in agencies providing services to children and families.

To earn this Certificate of Completion a 2.5 grade or higher is required in all GERO, HUSE, SOWK courses and Specialization Choices. Students continuing their education are encouraged to take the required general education courses in their first, second, third and summer semesters to complete the Human Services Associate Degree on time.

### **Contact Information**

Contact the Human Services Program, Health and Human Services Building, Room 108, telephone number 517-483-1410, or the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
HUSE 100	Introduction to Human Services	3 / 3
HUSE 105	Personal Dynamics/Interviewing	4 / 4

**Program of Study Specialization Courses – Addiction** – *Select HUSE 242, plus HUSE 110 or other 3-4 credit course approved by the Human Services Program Director.*

Course Code	Course Title	Credit / Billing Hours
HUSE 110	Child Abuse and Neglect	3 / 3
HUSE 242	The Family: Addiction/Violence	3 / 3

**Program of Study Specialization Courses – Aging** – *Select GERO 100, plus three credits from the courses below or other 3-4 credit course approved by the Human Services Program Director.*

Course Code	Course Title	Credit / Billing Hours
GERO 100	Introduction to Human Aging	4 / 4
GERO 164	Med & Alcohol Use/Older Adults	.5 / 0*
GERO 169	Legal Rights of Older Adults	.5 / 0*
GERO 191	Special Topics in Gerontology	.25-1 / 0*
SOWK 101	Introduction to Social Work	3 / 3

**Program of Study Specialization Courses – Children and Families** – *Select HUSE 110, plus HUSE 242 or SOWK 101 or other 3-4 credit course approved by the Human Services Program Director.*

Course Code	Course Title	Credit / Billing Hours
HUSE 110	Child Abuse and Neglect	3 / 3
HUSE 242	The Family: Addiction/Violence	3 / 3
SOWK 101	Introduction to Social Work	3 / 3

### Minimum Total Credit Hours

13 credits / 13 billing hours + Flat Fees\*

*\*GERO seminars are a flat fee and do not have billing hours. Contact the Program Coordinator of the Mental Health and Aging Project at 517-483-1526 or 517-483-1529 for fee information.*



## Recommended Course Sequence

Semester I
HUSE 100 – Milestone course
Specialization course(s)

Semester II
HUSE 105
Specialization course(s)

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## Human Services-Aging Studies C.C.

Career Community: Health and Human Service Careers

Curriculum Code: 1806

Effective: Fall 2022 – Summer 2027

### Description

The Aging Studies curriculum focuses on knowledge of physical, mental, and social aspects of aging. Students are introduced to the aging process, social institutions and policies, programs and services, and providing direct services to older persons and their families. This is the first certificate in an enhanced human services career pathway. Core principles from the Association from Gerontology in Higher Education (AGHE) serve as a guideline for the course work. A 2.5 grade or higher is required in all GERO and HUSE courses. General education courses require a 2.0 grade or higher.

Students continuing their education for the Human Services Certificate of Achievement or Associate Degree are required to meet with the Human Services Program Director prior to or during their first semester to obtain practicum information and application requirements for fall semester. Before practicum placement at the next level a criminal background check is required, and a DHHS Central Registry check for placements with children and families or agencies providing services to children and families.

### Milestone

Completion of GERO 100 with a 2.5 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in this course.

### Contact Information

Contact the Human Services Program, Health and Human Services Building, Room 108, telephone number 517-483-1410, or the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
GERO 100	Introduction to Human Aging	4 / 4
HUSE 105	Personal Dynamics/ Interviewing	4 / 4
PSYC 200	Introduction to Psychology	4 / 4

### Program of Study Required Courses, Limited Choice - Gerontology - *Select at least two courses, one credit total required.*

Course Code	Course Title	Credit / Billing Hours
GERO 164	Med & Alcohol Use/Older Adults	.5 / 0*
GERO 169	Legal Rights of Older Adults	.5 / 0*
GERO 191	Special Topics in Gerontology	.25-1 / 0*

**Program of Study Required Courses, Limited Choice - Psychology** – *Select one as approved by Human Services Program Director.*

Course Code	Course Title	Credit / Billing Hours
PSYC 209	Cognitive Psychology	3 / 3
PSYC 210	Brain and Behavior	3 / 3
PSYC 250	Abnormal Psychology	3 / 3

**Minimum Total Credit Hours**

16 credits / 15 billing hours + flat fees\*

\*GERO seminars are a flat fee and do not have billing hours. Contact the Program Coordinator of the Mental Health and Aging Project at 517-483-1526 or 517-483-1529 for fee information.

**Recommended Course Sequence**

Semester I
GERO 100 – Milestone course
PSYC 200
Limited Choice - Gerontology

Semester II
HUSE 105
Limited Choice – Gerontology
Limited Choice - Psychology

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## **HVAC/R-Energy Management Engineering Technology A.A.S.**

Career Community: Building and Construction Trades

Curriculum Code: 1257

Effective: Fall 2022 – Summer 2027

### **Description**

This degree is for students interested in pursuing a Bachelor of Science Degree in HVAC/R Energy Management Engineering Technology. As this is a transfer engineering degree, be aware that this pathway contains a higher math requirement and students may need additional math prerequisite classes depending upon math placement levels.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of HVAC 100 and HVAC 110 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

Students who have already completed DCTM 102, ELTE 102, HVAC 102, METS 102, or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for TECH 102. Any of these courses may also be used to fulfill the prerequisite for HVAC 110.

### **Contact Information**

Contact the Heating and Air Conditioning Program, West Campus Building, Room M127, telephone number 517-483-1570 or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

### **General Education – Applied Degrees, Recommended Courses**

- English Composition or Applied English  
Program of Study Required Courses will meet this requirement
- English Composition (Second Course)/Communications or Applied Communications  
Program of Study Required Courses will meet this requirement
- Humanities and Fine Arts or Social Sciences or Applied Social Sciences  
Program of Study Required Courses will meet this requirement
- Mathematics or Applied Mathematics  
Program of Study Required Courses will meet this requirement
- Natural Sciences Lab or Applied Science and Technology Lab  
Program of Study Required Courses will meet this requirement

## Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
COMM 130	Fundamentals Public Speaking	3 / 3
ENGL 121	Composition I	4 / 4
ENGL 124	Technical Writing	3 / 3
GEOG 200	World Regional Geography	4 / 4
HUMS 160	Mythology	4 / 4
HVAC 100	Fundamentals of HVAC	3 / 3
HVAC 110	Applied Electricity I	3 / 4
HVAC 111	Applied Electricity II	3 / 4
HVAC 120	Heating I	3 / 4
HVAC 130	Air Conditioning I	3 / 4
HVAC 201	Mechanical Code	4 / 4
HVAC 220	Heating II	3 / 4
HVAC 221	Introduction to Hydronics	3 / 4
HVAC 230	Air Conditioning II	3 / 4
HVAC 240	Refrigeration I	3 / 4
HVAC 241	Refrigeration II	3 / 4
HVAC 251	Fund of Direct Digital Control	3 / 4
MATH 126	Precalculus	5 / 5
PHYS 120	The Art of Physics	4 / 5
TECH 102	General Industry Safety	2 / 3

## Minimum Total Credit Hours

66 credits / 78 billing hours

## Recommended Course Sequence

Semester I
ENGL 124
HUMS 160
HVAC 100 – Milestone course
HVAC 110 – Milestone course
TECH 102

Semester II
ENGL 121
HVAC 111
HVAC 120
HVAC 130
MATH 126

Semester III
COMM 130
HVAC 220
HVAC 221
HVAC 230
HVAC 240

Semester IV
GEOG 200
HVAC 201
HVAC 241
HVAC 251
PHYS 120

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## Industrial Maintenance Technician C.A.

Career Community: Electrical and Manufacturing

Curriculum Code: 1484

Effective: Fall 2022 – Summer 2027

### Description

This certificate is designed for an apprentice, pre-apprentice, or person interested in advancing his/her skill set in the industrial maintenance trade. Ideally, this curriculum should be taken concurrently with an industry-based work experience or apprenticeship or in preparation for an apprenticeship in industrial or machine maintenance and repair.

### Milestone

Completion of WELD 103 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in this course.

### Additional Information

Students who have already completed DCTM 102, ELTE 102, HVAC 102, METS 102, or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for TECH 102. Any of these courses may also be used to fulfill the prerequisite for the ELTE and METS courses.

### Contact Information

Contact the Trades Technology Program, West Campus Building, Room M103, telephone number 517-483-5338 or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
METD 150	Industrial Blueprint Reading	3 / 3
METS 130	Industrial Hydraulics	4 / 6
METS 140	Rigging	3 / 4.5
TECH 102	General Industry Safety	2 / 3
WELD 103	Combination Welding	4 / 6

### Program of Study Required Courses, Limited Choice – *Select a minimum of four courses, sixteen credits*

Course Code	Course Title	Credit / Billing Hours
ELTE 108	Practical Electricity I	2 / 3
ELTE 109	Practical Electricity II	2 / 3
ELTE 131	Machine Controls I	4 / 5
MATH 115	Technical Math II	4 / 4
METM 108	Machine Tool Operations	4 / 6
METM 112	Introduction to CNC Machining	4 / 6

Course Code	Course Title	Credit / Billing Hours
METM 190	Metallurgy and Heat Treatment	4 / 6
METS 110	Mechanical Power Transmissions	4 / 6
METS 120	Industrial Pneumatics	4 / 6
METS 210	Lubrication and Bearings	4 / 6
WELD 105	Advanced ARC Welding	4 / 6
WELD 111	Gas Tungsten ARC Welding	4 / 6

### Minimum Total Credit Hours

32 credits / 43.5 billing hours

### Recommended Course Sequence

Semester I
METD 150
TECH 102
Limited Choice

Semester II
METS 130
METS 140
WELD 103 – Milestone course

Semester III
Limited Choice
Limited Choice
Limited Choice

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## **Industrial Manufacturing Engineering Technology A.A.S.**

Career Community: Electrical and Manufacturing

Curriculum Code: 0110

Effective: Fall 2022 – Summer 2027

### **Description**

Industrial manufacturing engineering technology is the study of a variety of technologies used in today's industry. Physical and mental skills are required including mechanical skills, problem-solving abilities, and dexterity. Employment opportunities are with industries that have a variety of work processes and/or trades. Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of METM 108 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Contact Information**

Contact the Trades Technology Program, West Campus Building, Room M103, telephone number 517-483-5338 or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

### **General Education - Applied Degrees, Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition or Applied English  
Program of Study Required Courses will meet this requirement
- English Composition (second course) or Communications or Applied Communications  
Program of Study Required Courses will meet this requirement
- Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one*  
GEOG 200, World Regional Geography, 4 credits / 4 billing hours  
HUMS 160, Mythology, 4 credits / 4 billing hours  
POLS 260, Comparative Political Systems, 3 credits / 3 billing hours
- Mathematics or Applied Mathematics  
Program of Study Required Courses will meet this requirement
- Natural Sciences Lab or Applied Science and Technology Lab  
Program of Study Required Courses will meet this requirement

## Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
COMM 130	Fundamentals Public Speaking	3 / 3
COMM 280	Intercultural Communication	3 / 3
ELTE 108	Practical Electricity I	2 / 3
ENGL 121	Composition I	4 / 4
ENGL 122	Composition II	4 / 4
MATH 126	Precalculus	5 / 5
METD 100	Basic Mechanical Drafting	3 / 4
METD 105	PC Applications for Technology	3 / 4
METD 110	Mechanical CAD Drafting I	4 / 6
METD 220	Basic Unigraphics/NX	4 / 6
METM 108	Machine Tool Operations	4 / 6
METM 112	Introduction to CNC Machining	4 / 6
METM 190	Metallurgy and Heat Treatment	4 / 6
METM 220	Basic Mastercam	4 / 6
METS 115	Intro to Mechanical Systems	4 / 6
TECH 102	General Industry Safety	2 / 3

## Minimum Total Credit Hours

60 credits / 78 billing hours

## Recommended Course Sequence

Semester I
COMM 130
ELTE 108 (first 8 weeks)
ENGL 121
METD 100
METD 105
TECH 102

Semester II
COMM 280
METD 110
METD 220
METM 108 - Milestone

Semester III
ENGL 122
MATH 126
METM 112
METM 190

Semester IV
Gen Ed - Humanities and Fine Arts or Social Sciences or Applied Social Sciences
METM 220
METS 115

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## Information Technology Foundations C.C.

Career Community: Computer Technology and Networking

Curriculum Code: 0766

Effective: Fall 2022 – Summer 2027

### Description

This certificate of completion provides the student with a broad-based introduction to the Information Technology (IT) field. The courses are selected to give the student an understanding of the use of computers in various aspects of business, some typical business applications, how computer networks function, how operating systems work, and an introduction to computer programming. Students also learn skills for basic computer repair and support, allowing them to earn the industry respected CompTIA A+ certification. This certificate is especially suited to help an undecided student select which aspect of IT to pursue, or to allow a person with a non-IT background and/or degree to add basic IT skills, or as a starting point for students seeking the Computer Networking and Cybersecurity Associate of Business degree (1453).

### Milestone

Completion of CITF 110 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in the course.

### Contact Information

Contact the Computer Information Technologies Program at the West Campus Building, Room M103, telephone number 517-267-6406 or Student Services West Campus, West Campus Building, Room M016, telephone number 517-267-5452.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
CITF 110	Intro Computer Info Systems	3 / 3
CITF 120	Operating Systems Concepts	3 / 3
CITN 120	Networking Concepts	3 / 3
CITP 110	Intro to Programming-Python	4 / 4
CITS 125	Computer Support: A+ Cert Prep	6 / 6

### Minimum Total Credit Hours

19 credits / 19 billing hours

## Recommended Course Sequence

Semester I
CITF 110 – Milestone course
CITN 120
CITS 125

Semester II
CITF 120
CITP 110

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## **Inside Wireman Apprenticeship A.A.S.**

Career Community: Electrical and Manufacturing

Curriculum Code: 1445

Effective: Fall 2022 – Summer 2027

### **Description**

This curriculum is available only to individuals who have completed a formal apprenticeship program through Lansing Community College and hold JATC Inside Wireman journeyman-level status recognized by the U.S. Department of Labor, Bureau of Apprenticeship and Training. Upon completion of all the academic credit courses, the apprenticeship program will be evaluated and appropriate credit awarded. Students who have completed this apprenticeship work installing and servicing electrical wiring and systems in homes, offices, stores or industrial plants. This trade requires mechanical aptitude, logical thinking, and problem-solving skills. Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of APPR 170 and APPR 171 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Contact Information**

Contact the Electrical Technology Program at the West Campus Building, Room M127, telephone number 517-483-1570 or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

### **General Education - Applied Degrees, Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours  
ENGL 124, Technical Writing, 3 credits / 3 billing hours  
ENGL 127, Business Writing, 3 credits / 3 billing hours  
ENGL 131, Honors Composition I, 4 credits / 4 billing hours
- English Composition (Second Course)/Communications or Applied Communications – *Select one*  
COMM 110, Communication in the Workplace, 3 credits / 3 billing hours  
COMM 120, Dynamics of Communication, 3 credits / 3 billing hours  
COMM 130, Fundamentals Public Speaking, 3 credits / 3 billing hours

- Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one*  
 COMM 280, Intercultural Communication, 3 credits / 3 billing hours  
 GEOG 200, World Regional Geography, 4 credits / 4 billing hours  
 MGMT 234, Diversity in the Workplace, 3 credits / 3 billing hours  
 SOCL 120, Introduction to Sociology, 4 credits / 4 billing hours
- Mathematics or Applied Mathematics – *Select one*  
 ELTE 121, Electrical Mathematics, 5 credits / 6 billing hours  
 MATH 115, Technical Math II, 4 credits / 4 billing hours  
 MATH 117, Math for Business, 4 credits / 4 billing hours  
 MATH 119, Math – Applications for Living, 4 credits / 4 billing hours
- Natural Sciences Lab or Applied Science and Technology Lab – *Select one*  
 BIOL 120, Environmental Science, 4 credits / 6 billing hours  
 CHEM 151 and CHEM 161, General Chemistry Lecture/Lab I, 5 credits / 7 billing hours  
 METM 190, Metallurgy and Heat Treatment, 4 credits / 6 billing hours  
 PHYS 120, The Art of Physics, 4 credits / 5 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
APPR 170	Inside Wireman Apprentice 1-A	4 / 4
APPR 171	Inside Wireman Apprentice 1-B	4 / 4
APPR 172	Inside Wireman Apprentice 1-C	4 / 4
APPR 173	Inside Wireman Apprentice 2-A	4 / 4
APPR 174	Inside Wireman Apprentice 2-B	4 / 4
APPR 175	Inside Wireman Apprentice 2-C	4 / 4
APPR 176	Inside Wireman Apprentice 3-A	4 / 4
APPR 177	Inside Wireman Apprentice 3-B	4 / 4
APPR 178	Inside Wireman Apprentice 3-C	4 / 4
APPR 179	Inside Wireman Apprentice 4-A	4 / 4
APPR 180	Inside Wireman Apprentice 4-B	4 / 4
APPR 181	Inside Wireman Apprentice 4-C	4 / 4
APPR 182	Inside Wireman Apprentice 5-A	4 / 4

### Minimum Total Credit Hours

69 credits / 70 billing hours

### Recommended Course Sequence

Semester I
APPR 170 – Milestone course

Semester II
APPR 171 – Milestone course

Semester III
APPR 172
Semester IV
APPR 173
Semester V
APPR 174
Semester VI
APPR 175
Semester VII
Gen Ed – English Composition or Applied English
APPR 176
Semester VIII
Gen Ed – Mathematics or Applied Mathematics
APPR 177
Semester IX
Gen Ed – English Composition (Second Course)/Communications or Applied Communications
APPR 178
Semester X
Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab
APPR 179
Semester XI
Gen Ed - Humanities and Fine Arts or Social Sciences or Applied Social Sciences
APPR 180
Semester XII
APPR 181
Semester XIII
APPR 182

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*





## **Insurance and Risk Management A.B.**

Career Community: Business

Curriculum Code: 1804

Effective: Fall 2022 – Summer 2027

### **Purpose of Major**

This major is designed for students wishing to work in the field of Insurance and Risk Management on completion of the Associate of Business degree. Graduates of this degree will be prepared to start their career. The insurance industry is experiencing a high demand for professionals, providing graduates with many career opportunities. Not all courses in this pathway transfer to all colleges. Students who also wish to transfer to a four-year institution should select coursework indicated for that institution and may complete the coursework for a Business, Enhanced AB degree. The Business, Enhanced AB option allows students to transfer additional credits toward the Bachelor's degree. This allows completion of credits required for employment and of additional requirements for the Bachelor's. Institutions accepting coursework for the Business, Enhanced AB, Insurance and Risk Management track include Davenport University, Ferris State University (Business Administration – Professional Track), and Northwood University. Students wishing to transfer to Olivet College in the Insurance and Risk Management major should choose the Business Transfer Studies Associate in Arts degree and follow instructions for transfer to Olivet College, Insurance and Risk Management major.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of INSU 105 and INSU 110 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Contact Information**

Contact the Business and Economics Department, Gannon Building, Room 1222, telephone number 517-483-1546 or the Academic Advising Department, Gannon Building – Star Zone, telephone number 517-483-1904.

### **General Education – Applied Degree Courses, Recommended Courses**

Select courses as indicated for specific transfer institutions. These courses are preferred General Education courses listed on Transfer Articulation agreements. The recommended courses in each General Education category also meet Michigan Transfer Agreement (MTA) requirements. If no course is indicated, choose from the list of options under [General Education](#). A minimum grade of 2.0 is required for each General Education course.

- English Composition  
Business Career Community courses meet this requirement.

- English Composition (Second Course) or Communications or Applied Communications  
Business Career Community Courses meet this requirement.
- Humanities or Social Science or Applied Social Science  
Business Career Community Courses meet this requirement.
- Mathematics or Applied Mathematics  
Business Career Community Courses meet this requirement.
- Natural Sciences Lab or Applied Science and Technology Lab  
Business Career Community Courses meet this requirement.

**Business Career Community Required Courses** – *These courses are required for all Business programs. They should be taken before other Program Required or Limited Choice Courses. Some courses meet General Education requirements for Michigan Transfer Agreement (MTA). A minimum of 2.0 is required to transfer to other colleges (some colleges, and some programs within colleges, require a higher grade in a course.)*

Course Code	Course Title	Credit / Billing Hours
ACAD 100	First Year College Experience	1 / 1
ACCG 210	Principles of Financial Accg	4 / 4
BIOL 120 or BIOL 125	Environmental Science Introductory Biology	4 / 6 4 / 5
BUSN 118	Introduction to Business	3 / 3
COMM 110 or COMM 130	Communication in the Workplace Fundamentals Public Speaking	3 / 3 3 / 3
ECON 201	Principles of Economics - Micro	4 / 4
ENGL 121 or ENGL 131	Composition I Honors Composition I	4 / 4 4 / 4
LEGL 215	Business Law – Basic Principles	3 / 3
MATH 119 or MATH 120 or STAT 170	Math – Applications for Living College Algebra Introduction to Statistics	4 / 4 4 / 4 4 / 4
MGMT 225	Principles of Mgmt/Leadership	3 / 3
MKTG 200	Principles of Marketing	3 / 3

Notes:

ACAD 100 may be waived based on the recommendation of a Program Advisor.

For students not considering transfer as an option, MGMT 234, Diversity in the Workplace, may be substituted for ECON 201 using the Course Substitution process. MGMT 234 meets LCC General Education requirements for Applied Degrees – Humanities and Fine Arts or Applied Humanities and Fine Arts or Social Science or Applied Social Science. MGMT 234 does not meet

Michigan Transfer Agreement (MTA) Social Science requirements for transfer as a General Education course.

For future transfer to:

- Davenport University and Ferris State University choose COMM 110 and STAT 170.
- Northwood University choose MATH 120.

**Program of Study Required Courses** - *A minimum of 2.0 is required to transfer to other colleges (some colleges, and some programs within colleges, require a higher grade in a course.)*

Course Code	Course Title	Credit / Billing Hours
ACCG 211	Principles of Managerial Accg	4 / 4
ECON 202	Principles of Economics - Macro	4 / 4
INSU 105	Prin of Prop & Liability Ins	3 / 3
INSU 110	Personal Insurance	3 / 3
INSU 125	Commercial Insurance	3 / 3
INSU 175	Intro to Financial Advising	3 / 3
INSU 250	Claims and Underwriting	3 / 3
INSU 285	Insurance Agency Operations	3 / 3
INSU 295	Insurance Internship	3 / 3

Note:

INSU 295 may be waived on the recommendation of a Program Advisor.

### Minimum Total Credit Hours

65 credits / 66 billing hours

### Recommended Course Sequence

Semester I
ACAD 100
BUSN 118
ENGL 121 or ENGL 131
INSU 105 – Milestone course
MKTG 200

Semester II
INSU 110 – Milestone course
INSU 125
LEGL 215
MATH 119 or MATH 120 or STAT 170

Semester III (Summer)
INSU 295
MGMT 225

Semester IV
ACCG 210
COMM 110 or COMM 130
ECON 201
INSU 175
INSU 285

Semester V
ACCG 211
BIOL 120 or BIOL 125
ECON 202
INSU 250

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## **Business, Enhanced A.B.**

### **Insurance and Risk Management Track**

Career Community: Business

Curriculum Code: 1822

Effective: Fall 2022 – Summer 2027

#### **Purpose of Program:**

This degree is designed for students wishing to transfer after having completed the Associate in Business, Major in Insurance and Risk Management degree. This Enhanced AB option allows completion of credits required for employment through the AB and completion of additional courses required for the Bachelor's degree, as designated by transfer articulation agreements. Required coursework follows for the Insurance and Risk Management subtracks of the Business, Enhanced AB for students transferring to Davenport University, Ferris State University, and Northwood University.

#### **Contact Information**

Before beginning this program of study, students must contact the Business and Economics Department, Gannon Building, Room 1222, telephone number 517-483-1546, or the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

#### **Program of Study Required Courses**

Completion of an LCC associate in Business is required for the Business, Enhanced degree. Completion of the AB in [Insurance and Risk Management \(1804\)](#), as required for the specified transfer institution, is the most efficient path to completing the Enhanced degree Accounting track. Students who have completed a different degree will need to work with a Program Advisor to create a personalized MAP (My Academic Pathway) in Degree Works to ensure that all requirements are met.

#### **Recommended Courses by College/University**

Completing courses as directed meets transfer articulation agreement requirements for each institution.

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*

## **Davenport University (Risk Management and Insurance)**

### **General Education – Transfer (MTA) Courses**

(For the list of options, see [General Education](#))

- Any non-ECON MTA Social Science course, 3 credits / 3 billing hours
- Any MTA Humanities course, 3 credits / 3 billing hours

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
ACCG 271	Principles of Finance	3 / 3
BUSN 201	International Business	3 / 3
MATH 120	College Algebra	4 / 4
MGMT 224	Human Resource Management	3 / 3
MGMT 234	Diversity in the Workplace	3 / 3
MGMT 332	Ethics: Assumpt for the Future	3 / 3

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
ENGL 122	Composition II	4 / 4
ENGL 132	Honors Composition II	4 / 4

### **Minimum Total Credit Hours**

94 credits / 95 billing hours

## **Ferris State University**

### **General Education – Transfer (MTA) Courses**

(For the list of options, see [General Education](#))

- Any non-BIOL MTA Science course, 3 credits / 3 billing hours
- Any non-ECON MTA Social Science course, 3 credits / 3 billing hours
- Two MTA Humanities courses from 2 different disciplines, 6 credits /6 billing hours

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
BUSN 201	International Business	3 / 3
MGMT 224	Human Resource Management	3 / 3

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
ENGL 122	Composition II	4 / 4
ENGL 127	Business Writing	3 / 3
ENGL 132	Honors Composition II	4 / 4

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
MATH 119	Math-Applications for Living	4 / 4
MATH 120	College Algebra	4 / 4

### **Minimum Total Credit Hours**

90 credits / 91 billing hours

## **Northwood University (Insurance)**

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
ACCG 271	Principles of Finance	3 / 3
MGMT 200	Creative Thinking for Business	3 / 3
MGMT 234	Diversity in the Workplace	3 / 3
MGMT 329	Advanced Mgmt Communication	3 / 3
MGMT 332	Ethics: Assumpt for the Future	3 / 3
MGMT 335	Managerial Statistics	3 / 3
MKTG 120	Sales	3 / 3

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
ENGL 122	Composition II	4 / 4
ENGL 132	Honors Composition II	4 / 4

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
HIST 211	U.S. History to 1877	4 / 4
HIST 212	U.S. History: 1877 to Present	4 / 4
HUMS 213	World Civilizations to 1600	4 / 4
HUMS 214	World Civilizations from 1600	4 / 4

### **Minimum Total Credit Hours**

94 credits/ 95 billing hours





## **Interdisciplinary Humanities A.A.**

Career Community: History, Humanities, and English

Curriculum Code: 0119

Effective: Fall 2022 – Summer 2027

### **Description**

This degree is designed for students who intend to transfer to a four-year college or university to pursue a baccalaureate degree in this subject area. Students completing this curriculum will also satisfy the Michigan Transfer Agreement (MTA) between two-year and four-year institutions in Michigan and qualify for an LCC Transfer Studies Certificate of Achievement (1482).

### **Milestone**

In addition to the required General Education courses in Math and English, completion of HUMS 211 or HUMS 213, and HUMS 212 or HUMS 214 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses may be the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

A student must earn a minimum grade of 2.0 in all courses.

### **Contact Information**

Contact the Social Science and Humanities Department, Arts and Sciences Building, Room 2203, telephone number 517-483-1061, or the Academic Advising Department, Gannon Building – StarZone, telephone number 517-483-1904.

### **General Education – Transfer Degrees (MTA), Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours  
ENGL 131, Honors Composition I, 4 credits / 4 billing hours
- English Composition (second course)/Communications – *Select one*  
ENGL 122, Composition II, 4 credits / 4 billing hours  
ENGL 132, Honors Composition II, 4 credits / 4 billing hours
- Humanities and Fine Arts  
Program of Study Required Courses will meet this requirement

- Mathematics – *Select one*  
 MATH 119, Math Applications for Living, 4 credits / 4 billing hours  
 MATH 120, College Algebra, 4 credits / 4 billing hours  
 STAT 170, Introduction to Statistics, 4 credits / 4 billing hours  
 STAT 215, Intro to Probability and Stats, 4 credits / 4 billing hours
- Natural Sciences – *Select two, each from a different discipline, one must be a lab course*  
 ASTR 201, Introductory Astronomy, 4 credits / 5 billing hours  
 BIOL 120, Environmental Science, 4 credits / 6 billing hours  
 BIOL 125, Introductory Biology, 4 credits / 5 billing hours  
 CHEM 135, Chemistry in Society, 4 credits / 5 billing hours  
 GEOG 221, Physical Geography, 4 credits / 4 billing hours  
 GEOL 221, Physical Geology, 4 credits / 6 billing hours  
 ISCI 131, Integrated Physical Science, 4 credits / 6 billing hours  
 PHYS 120, The Art of Physics, 4 credits / 5 billing hours
- Social Sciences – *Select two, each from a different discipline*  
 ANTH 270, Cultural Anthropology, 3 credits / 3 billing hours  
 ECON 120, Power, Authority and Exchange, 4 credits / 4 billing hours  
 EDUC 220, Introduction to Education, 3 credits / 3 billing hours  
 GEOG 200, World Regional Geography, 4 credits / 4 billing hours  
 POLS 120, American Political System, 4 credits / 4 billing hours  
 PSYC 200, Introduction to Psychology, 4 credits / 4 billing hours  
 SOCL 120, Introduction to Sociology, 4 credits / 4 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
HUMS 160	Mythology	4 / 4

### Program of Study Required Courses, Limited Choice – *Select one*

Course Code	Course Title	Credit / Billing Hours
HUMS 211	Art History to the Renaissance	4 / 4
HUMS 213	World Civilizations to 1600	4 / 4

### Program of Study Required Courses, Limited Choice – *Select one*

Course Code	Course Title	Credit / Billing Hours
HUMS 212	Art Hist from the Renaissance	4 / 4
HUMS 214	World Civilizations from 1600	4 / 4

**Program of Study Required Courses, Limited Choice - Humanities and Fine Arts –**

Select four courses. For General Education requirements, one must be from a discipline other than HUMS.

Course Code	Course Title	Credit / Billing Hours
ARTS 102	Design & Communication	3 / 4
ENGL 200	Introduction to Literature	3 / 3
ENGL 240	The Film as Art	4 / 4
HUMS 120	Masterpieces of Art & Music	4 / 4
PHIL 101	Introduction to Philosophy	3 / 3
RELG 150	Intro to World Religions	4 / 4

**Elective Courses, Recommended Choices** – Select courses to reach the minimum 60 total credits required for this degree. (For the full list of options, see [AA and AS Degree Electives](#))

Course Code	Course Title	Credit / Billing Hours
ANTH 270	Cultural Anthropology	3 / 3
ENGL 211	World Literature I	4 / 4
ENGL 212	World Literature II	4 / 4
ENGL 290	Shakespeare	4 / 4
HIST 150	African-American History	4 / 4
HIST 211	U.S. History to 1877	4 / 4
HIST 212	U.S. History: 1877 to Present	4 / 4
HUMS 140	Art of Being Human	4 / 4
HUMS 215	American Cultural Experience	4 / 4
PHIL 152	Introduction to Ethics	4 / 4
RELG 211	Asian Religions and Traditions	4 / 4

**Minimum Total Credit Hours**

60 credits / 61 billing hours

**Recommended Course Sequence**

Semester I
MTA English Composition
MTA Mathematics
MTA Social Sciences
HUMS 160

Semester II
MTA English Comp (2nd course) or Communications
MTA Natural Sciences
MTA Social Sciences
HUMS 211 or HUMS 213 – Milestone course

Semester III
MTA Natural Sciences
HUMS 212 or HUMS 214 – Milestone course
Limited Choice - Humanities and Fine Arts – 2 courses
Semester IV
Limited Choice - Humanities and Fine Arts – 2 courses
Electives as needed for total credits

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## **International Business A.B.**

Career Community: Business

Curriculum Code: 0240

Effective: Fall 2022 – Summer 2027

### **Purpose of Major**

This major is designed for students wishing to work in the field of International Business on completion of the Associate of Business degree. International business managers plan, organize, and control projects from start to finish for organizations with international connections. They help their company achieve its goals in differing international and governmental situations. Graduates of this program may work for a variety of business and organizations, both in this hemisphere and overseas. Knowledge of a foreign language and a business or technical specialty increases one's employability. This degree can be completed entirely online. Not all courses in this program transfer to all colleges. Students who also wish to transfer to a four-year institution should select coursework indicated for that institution and may complete the coursework for a Business, Enhanced AB degree. The Business, Enhanced AB option allows students to transfer additional credits toward the Bachelor's degree. This allows completion of credits required for employment and of additional requirements for the Bachelor's. Institutions accepting coursework for the Business, Enhanced AB, International Business track include Davenport University, Ferris State University (Business Administration – Professional Track), and Siena Heights University.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of BUSN 118 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Contact Information**

Contact the Business and Economics Department, Gannon Building, Room 1222, telephone number 517-483-1546 or the Academic Advising Department, Gannon Building – Star Zone, telephone number 517-483-1904.

### **General Education – Applied Degree Courses, Recommended Courses**

Select courses as indicated for specific transfer institutions. These courses are preferred General Education courses listed on Transfer Articulation agreements. The recommended courses in each General Education category also meet Michigan Transfer Agreement (MTA) requirements. If no course is indicated, choose from the list of options under [General Education](#). A minimum grade of 2.0 is required for each General Education course.

- English Composition or Applied English  
Business Career Community courses meet this requirement.

- English Composition (Second Course) or Communications or Applied Communications  
Business Career Community Courses meet this requirement.
- Humanities and Fine Arts or Social Science or Applied Social Science  
Business Career Community Courses meet this requirement.
- Mathematics or Applied Mathematics  
Business Career Community Courses meet this requirement.
- Natural Sciences Lab or Applied Science and Technology Lab  
Business Career Community Courses meet this requirement.

**Business Career Community Required Courses** – *These courses are required for all Business programs. They should be taken before other Program Required or Limited Choice Courses. Some courses meet General Education requirements for Michigan Transfer Agreement (MTA). A minimum of 2.0 is required to transfer to other colleges (some colleges, and some programs within colleges, require a higher grade in a course.)*

Course Code	Course Title	Credit / Billing Hours
ACAD 100	First Year College Experience	1 / 1
ACCG 210	Principles of Financial Accg	4 / 4
BIOL 120 or BIOL 125	Environmental Science Introductory Biology	4 / 6 4 / 5
BUSN 118	Introduction to Business	3 / 3
COMM 110 or COMM 130	Communication in the Workplace Fundamentals Public Speaking	3 / 3 3 / 3
ECON 201	Principles of Economics - Micro	4 / 4
ENGL 121 or ENGL 131	Composition I Honors Composition I	4 / 4 4 / 4
LEGL 215	Business Law – Basic Principles	3 / 3
MATH 119 or MATH 120 or STAT 170	Math – Applications for Living College Algebra Introduction to Statistics	4 / 4 4 / 4 4 / 4
MGMT 225	Principles of Mgmt/Leadership	3 / 3
MKTG 200	Principles of Marketing	3 / 3

Notes:

ACAD 100 may be waived based on the recommendation of a Program Advisor.

For students not considering transfer as an option, MGMT 234, Diversity in the Workplace, may be substituted for ECON 201 using the Course Substitution process. MGMT 234 meets LCC General Education requirements for Applied Degrees – Humanities or Social Science or Applied Social Science. MGMT 234 does not meet Michigan Transfer Agreement (MTA) Social Science requirements for transfer as a General Education course.

For future transfer to:

- Davenport University, Ferris State University, and Siena Heights University choose COMM 110 and STAT 170.

**Program of Study Required Courses** - *A minimum of 2.0 is required to transfer to other colleges (some colleges, and some programs within colleges, require a higher grade in a course.)*

Course Code	Course Title	Credit / Billing Hours
ACCG 211	Principles of Managerial Accg	4 / 4
BUSN 201	International Business	3 / 3
BUSN 285 or MKTG 235	Business Internship Marketing Internship	3 / 3 3 / 3
ECON 202	Principles of Economics - Macro	4 / 4
MGMT 228	Organization Behavior	3 / 3
MKTG 119	Mktg/Manage Your Profess Image	3 / 3

Note:

BUSN 285 or MKTG 235 may be waived based on the recommendation of a Program Advisor.

**Program of Study Required Courses, Limited Choice**— *Select a minimum of 8 credits to reach the 60 credits required for the degree. Include up to 8 credits of the same Foreign Language based on proficiency testing. Some courses meet General Education requirements for Michigan Transfer Agreement (MTA). A minimum of 2.0 is required to transfer to other colleges (some colleges, and some programs within colleges, require a higher grade in a course.)*

Course Code	Course Title	Credit / Billing Hours
FREN 121 or GRMN 121 or JAPN 121 or SPAN 121 or	Elementary French I Elementary German I Elementary Japanese I Elementary Spanish I	4 / 4 4 / 4 4 / 4 4 / 4
FREN 201 or GRMN 201 or JAPN 201 or SPAN 201	Intermediate French I Intermediate German I Intermediate Japanese I Intermediate Spanish I	4 / 4 4 / 4 4 / 4 4 / 4
FREN 122 or GRMN 122 or JAPN 122 or SPAN 122 or	Elementary French II Elementary German II Elementary Japanese II Elementary Spanish II	4 / 4 4 / 4 4 / 4 4 / 4
FREN 202 or GRMN 202 or JAPN 202 or SPAN 202	Intermediate French II Intermediate German II Intermediate Japanese II Intermediate Spanish II	4 / 4 4 / 4 4 / 4 4 / 4
MGMT 200	Creative Thinking for Business	3 / 3
MGMT 224	Human Resource Management	3 / 3
MGMT 231	Developing and Leading Teams	3 / 3
MKTG 210	Marketing on the Internet	3 / 3

## Minimum Total Credit Hours

64 credits / 65 billing hours

## Recommended Course Sequence

Semester I
ACAD 100
BUSN 118 – Milestone course
ENGL 121 or ENGL 131
Limited Choice

Semester II
ACCG 210
MATH 119 or MATH 120 or STAT 170
Limited Choice

Semester III
ACCG 211
BUSN 201
ECON 201
MGMT 225

Semester IV
COMM 110 or COMM 130
ECON 202
LEGL 215
MKTG 200

Semester V
BIOL 120 or BIOL 125
BUSN 285 or MKTG 235
MGMT 228
MKTG 119

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## **Business, Enhanced A.B.**

### **International Business Track**

Career Community: Business

Curriculum Code: 1822

Effective: Fall 2022 – Summer 2027

### **Purpose of Program**

This degree is designed for students wishing to transfer after having completed the Associate in Business, Major in Institutional Business degree. This Enhanced AB option allows completion of credits required for employment through the AB and completion of additional courses required for the Bachelor's degree, as designated by transfer articulation agreements. Required coursework follows for the International Business subtracks of the Business, Enhanced AB for students transferring to Davenport University, Ferris State University, and Siena Heights University.

### **Contact Information**

Before beginning this program of study, students must contact the Business and Economics Department, Gannon Building, Room 1222, telephone number 517-483-1546, or the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

### **Program of Study Required Courses:**

Completion of an LCC associate in Business is required for the Business, Enhanced degree. Completion of the AB in [International Business \(0240\)](#), as required for the specified transfer institution, is the most efficient path to completing the Enhanced degree Accounting track. Students who have completed a different degree will need to work with a Program Advisor to create a personalized MAP (My Academic Pathway) in Degree Works to ensure that all requirements are met.

### **Recommended Courses by College/University**

Completing courses as directed meets transfer articulation agreement requirements for each institution.

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*

## **Davenport University**

### **General Education – Transfer (MTA) Courses**

- Any MTA Humanities course, 3 credits / 3 billing hours

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
ACCG 271	Principles of Finance	3 / 3
GEOG 200	World Regional Geography	4 / 4
MATH 120	College Algebra	4 / 4
MGMT 234	Diversity in the Workplace	3 / 3
MGMT 332	Ethics: Assumpt for the Future	3 / 3

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
ENGL 122	Composition II	4 / 4
ENGL 132	Honors Composition II	4 / 4

### **Minimum Total Credit Hours**

88 credits / 89 billing hours

## **Ferris State University**

### **General Education – Transfer (MTA) Courses**

(For the list of options, see [General Education](#))

- Any non-BIOL MTA Science course, 3-4 credits / 3-6 billing hours
- Any non-ECON MTA Social Science course, 3-4 credits / 3-4 billing hours
- Two MTA Humanities courses from 2 different disciplines, 6-8 credits /6-8 billing hours

### **Program of Study Required Course**

Course Code	Course Title	Credit / Billing Hours
LEGL 216	Commercial Transactions	3 / 3

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
ENGL 122	Composition II	4 / 4
ENGL 127	Business Writing	3 / 3
ENGL 132	Honors Composition II	4 / 4

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
MATH 119	Math-Applications for Living	4 / 4
MATH 120	College Algebra	4 / 4

### **Minimum Total Credit Hours**

86 credits / 87 billing hours

## **Siena Heights University (Accounting)**

### **Program of Study Required Courses, Limited Choice– *Select one***

Course Code	Course Title	Credit / Billing Hours
ENGL 122	Composition II	4 / 4
ENGL 127	Business Writing	3 / 3
ENGL 132	Honors Composition II	4 / 4

### **Program of Study Required Courses, Limited Choice– *Select two***

Course Code	Course Title	Credit / Billing Hours
MKTG 119	Mktg/Manage Your Profess Image	3 / 3
MKTG 221	Consumer Behavior	3 / 3
MKTG 229	Public Relations	3 / 3

### **Program of Study Required Courses, Limited Choice – *Select fourteen credits***

- 300-level MGMT courses

### **Minimum Total Credit Hours**

87 credits / 88 billing hours



## **International Studies A.A.**

Career Community: Social Sciences

Curriculum Code: 0252

Effective: Fall 2022 – Summer 2027

### **Description**

This degree is designed for students who intend to transfer to a four-year college or university to pursue a baccalaureate degree in this subject area. Students completing this curriculum will also satisfy the Michigan Transfer Agreement (MTA) between two-year and four-year institutions in Michigan and qualify for an LCC Transfer Studies Certificate of Achievement (1482).

### **Milestone**

In addition to the required General Education courses in Math and English, completion of POLS 120, and POLS 201 or POLS 240 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

A student must earn a minimum grade of 2.0 in all courses.

### **Contact Information**

Contact the Social Science and Humanities Department, Arts and Sciences Building, Room 2203, telephone number 517-483-1061, or the Academic Advising Department, Gannon Building – StarZone, telephone number 517-483-1904.

### **General Education – Transfer Degrees (MTA), Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours  
ENGL 131, Honors Composition I, 4 credits / 4 billing hours
- English Composition (second course) or Communications – *Select one*  
ENGL 122, Composition II, 4 credits / 4 billing hours  
ENGL 132, Honors Composition II, 4 credits / 4 billing hours
- Humanities and Fine Arts – *Select two, each from a different discipline*  
ENGL 211, World Literature I, 4 credits / 4 billing hours  
HIST 211, U.S. History to 1877, 4 credits / 4 billing hours  
HIST 212, U.S. History: 1877 to Present, 4 credits / 4 billing hours  
HIST 220, Michigan History, 4 credits / 4 billing hours  
HUMS 213, World Civilizations to 1600, 4 credits / 4 billing hours  
HUMS 214, World Civilizations from 1600, 4 credits / 4 billing hours  
PHIL 151, Intro to Logic & Critical Thinking, 4 credits / 4 billing hours  
PHIL 152, Introduction to Ethics, 4 credits / 4 billing hours

- Mathematics – *Select one*  
 MATH 119, Math Applications for Living, 4 credits / 4 billing hours  
 MATH 120, College Algebra, 4 credits / 4 billing hours  
 STAT 170, Introduction to Statistics, 4 credits / 4 billing hours
- Natural Sciences – *Select two, each from a different discipline, one must be a lab course*  
 ASTR 201, Introductory Astronomy, 4 credits / 5 billing hours  
 BIOL 120, Environmental Science, 4 credits / 6 billing hours  
 BIOL 125, Introductory Biology, 4 credits / 5 billing hours  
 CHEM 135, Chemistry in Society, 4 credits / 5 billing hours  
 GEOG 221, Physical Geography, 4 credits / 4 billing hours  
 GEOL 221, Physical Geology, 4 credits / 6 billing hours  
 ISCI 131, Integrated Physical Science, 4 credits / 6 billing hours  
 PHYS 120, The Art of Physics, 4 credits / 5 billing hours
- Social Sciences  
 Program of Study Required Courses will meet this requirement

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
GEOG 200	World Regional Geography	4 / 4
POLS 120	American Political System	4 / 4
POLS 260	Comparative Political Systems	3 / 3
POLS 270	International Relations	3 / 3

### Program of Study Required Courses, Limited Choice – *Select one*

Course Code	Course Title	Credit / Billing Hours
POLS 201	Intro to Political Science	3 / 3
POLS 240	Introduction to Public Policy	3 / 3

### Elective Courses, Recommended Choices – *Select courses to reach the minimum 60 total credits required for this degree. (For the full list of options, see [AA and AS Degree Electives](#))*

Course Code	Course Title	Credit / Billing Hours
ANTH 270	Cultural Anthropology	3 / 3
ECON 120	Power, Authority and Exchange	4 / 4
ECON 201	Principles of Economics-Micro	4 / 4
ECON 260	Comparative Economic Systems	3 / 3
GEOG 202	Geography of North America	3 / 3
HIST 211	U.S. History to 1877	4 / 4
HIST 212	U.S. History: 1877 to Present	4 / 4
HIST 220	Michigan History	4 / 4
HUMS 140	Art of Being Human	4 / 4
HUMS 213	World Civilizations to 1600	4 / 4
HUMS 214	World Civilizations from 1600	4 / 4

Course Code	Course Title	Credit / Billing Hours
POLS 250	Campaigns & Elections	3 / 3
PSYC 200	Introduction to Psychology	4 / 4
SOCL 120	Introduction to Sociology	4 / 4
SOCL 255	Contemporary Social Problems	3 / 3

### Minimum Total Credit Hours

60 credits / 61 billing hours

### Recommended Course Sequence

Semester I
MTA English Composition
MTA Humanities and Fine Arts
POLS 120 – Milestone course
Electives as needed for total credits

Semester II
MTA English Composition (2nd course) or Communications
MTA Mathematics
POLS 201 or 240 – Milestone course
Electives as needed for total credits

Semester III
MTA Natural Sciences
POLS 260
POLS 270
Electives as needed for total credits

Semester IV
MTA Humanities and Fine Arts
MTA Natural Sciences
GEOG 200
Electives as need for total credits

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## IoT Specialist C.A.

Career Community: Computer Technology and Networking

Curriculum Code: 1713

Effective: Fall 2022 – Summer 2027

### Description

The IoT Specialist curriculum prepares students for a career in an expanding field caused by the Internet of Things. IoT is the integrations of sensors, switches, actuators, voice, video, image, and data into both local and global communication networks and can be found in both the enterprise, manufacturing and residential markets. This curriculum provides extensive hands-on training and prepares students for the workforce and for professional certification exams from Cisco, CompTIA and others.

### Milestone

Completion of CITN 115 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in this course.

### Contact Information

Contact the Computer Information Technologies Program at the West Campus Building, Room M103, telephone number 517-267-6406 or Student Services West Campus, West Campus Building, Room M016, telephone number 517-267-5452.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
CITN 115	IoT & Automation Fundamentals	5 / 6
CITN 220	Introduction to Networks	3 / 3
CITN 222	Wireless Networking & Security	3 / 3
CITN 225	Switch Route Wireless Essentials	3 / 3
CITN 280	IT Security Foundations	3 / 3
CITP 110	Intro to Programming-Python	4 / 4
CITS 125	Computer Support: A+ Cert Prep	6 / 6
CITS 170	Basic Electronic for PC Repair	6 / 7

### Minimum Total Credit Hours

33 credits / 35 billing hours



## Recommended Course Sequence

Semester I (Fall)
CITP 110
CITS 125
CITS 170

Semester II (Spring)
CITN 115 – Milestone course
CITN 220 (First 8 weeks)
CITN 225 (Second 8 weeks)

Semester III (Fall)
CITN 222
CITN 280

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## Japanese Studies C.C.

Career Community: Communication, Journalism, and Language

Curriculum Code: 1787

Effective: Fall 2022 – Summer 2027

### Description

This Certificate of Completion in Japanese Studies provides the beginning and intermediate level Japanese language skills and cross-cultural information for students preparing to transfer to college or university programs, qualifying dual-enrolled high school or home school students, or those seeking to reinforce their own professional Japanese language and cultural competencies. In an increasingly international world economy, holders of this certificate may improve their employment opportunities, in particular since many Japanese companies have very strong ties to Michigan businesses. Students may apply all courses in this curriculum toward other certificates and/or degrees.

### Milestone

Completion of JAPN 121 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in this course may be the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in this course.

### Contact Information

Contact the Communication, Media and the Arts Department, Gannon Building, Room 1222, telephone number 517-483-1546 or the Academic Advising Department, Gannon Building – StarZone, telephone number 517-483-1904.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
JAPN 121	Elementary Japanese I	4 / 4
JAPN 122	Elementary Japanese II	4 / 4
JAPN 201	Intermediate Japanese I	4 / 4
JAPN 202	Intermediate Japanese II	4 / 4

### Minimum Total Credit Hours

16 credits / 16 billing hours

## Recommended Course Sequence

Semester I
JAPN 121 – Milestone course
Semester II
JAPN 122
Semester III
JAPN 201
Semester IV
JAPN 202

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## Journalism A.A.

Career Community: Communication, Journalism, and Language

Curriculum Code: 1628

Effective: Fall 2022 – Summer 2027

### Description

This degree is designed for students who intend to transfer to a four-year college or university to pursue a baccalaureate degree in this subject area. Students completing this curriculum will also satisfy the Michigan Transfer Agreement (MTA) between two-year and four-year institutions in Michigan and qualify for an LCC Transfer Studies Certificate of Achievement (1482).

### Milestone

In addition to the required General Education courses in Math and English, completion of ENGL 279 and JRNL 151 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses may be the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Additional Information

A student must earn a minimum grade of 2.0 in all courses.

### Contact Information

Contact the English Department, Arts and Sciences Building, Room 1106, telephone number 517-483-1061, or the Academic Advising Department, Gannon Building – StarZone, telephone number 517-483-1904.

### General Education – Transfer Degrees (MTA), Recommended Courses

(For the full list of options, see [General Education](#))

- English Composition – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours  
ENGL 131, Honors Composition I, 4 credits / 4 billing hours
- English Composition (second course) or Communications – *Select one*  
ENGL 122, Composition II, 4 credits / 4 billing hours  
ENGL 132, Honors Composition II, 4 credits / 4 billing hours
- Humanities and Fine Arts – *Select one from a discipline other than ENGL*  
HIST 212, U.S. History: 1877 to Present, 4 credits / 4 billing hours  
HUMS 160, Mythology, 4 credits / 4 billing hours  
RELG 150, Intro to World Religions, 4 credits / 4 billing hours
- Mathematics – *Select one*  
MATH 119, Math Applications for Living, 4 credits / 4 billing hours  
MATH 120, College Algebra, 4 credits / 4 billing hours

- Natural Sciences – *Select two, each from a different discipline, one must be a lab course*  
 ASTR 201, Introductory Astronomy, 4 credits / 5 billing hours  
 BIOL 120, Environmental Science, 4 credits / 6 billing hours  
 BIOL 125, Introductory Biology, 4 credits / 5 billing hours  
 CHEM 135, Chemistry in Society, 4 credits / 5 billing hours  
 GEOG 221, Physical Geography, 4 credits / 4 billing hours  
 GEOL 221, Physical Geology, 4 credits / 6 billing hours  
 ISCI 131, Integrated Physical Science, 4 credits / 6 billing hours  
 PHYS 120, The Art of Physics, 4 credits / 5 billing hours
- Social Sciences – *Select two, each from a different discipline*  
 ANTH 270, Cultural Anthropology, 3 credits / 3 billing hours  
 PSYC 200, Introduction to Psychology, 4 credits / 4 billing hours  
 SOCL 120, Introduction to Sociology, 4 credits / 4 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
ENGL 200	Introduction to Literature	3 / 3
ENGL 279	Prose Style	3 / 3
JRNL 151	Newswriting and Reporting	3 / 3
JRNL 254	Opinion Writing	3 / 3

**Elective Courses, Recommended Choices** – *Select courses to reach the minimum 60 total credits required for this degree. (For the full list of options, see [AA and AS Degree Electives](#))*

Course Code	Course Title	Credit / Billing Hours
ENGL 201	Introduction to Poetry	4 / 4
ENGL 208	Children's Literature	4 / 4
ENGL 211	World Literature I	4 / 4
ENGL 212	World Literature II	4 / 4
ENGL 220	Science Fiction	4 / 4
ENGL 240	The Film as Art	4 / 4
ENGL 255	American Lit to 1865	4 / 4
ENGL 256	American Lit 1865 to Present	4 / 4
ENGL 260	African-American Literature	4 / 4
ENGL 267	British Lit 1800 to Present	4 / 4
ENGL 270	Gender and Literature	4 / 4
ENGL 290	Shakespeare	4 / 4

### Minimum Total Credit Hours

60 credits / 61 billing hours

## Recommended Course Sequence

Semester I
MTA English Composition
MTA Mathematics
MTA Natural Sciences
ENGL 200

Semester II
MTA English Comp (2nd course) or Communication
MTA Humanities and Fine Arts
MTA Natural Sciences
ENGL 279 – Milestone course

Semester III
MTA Humanities and Fine Arts
MTA Social Sciences
JRNL 151 – Milestone course
Electives as needed for total credits

Semester IV
MTA Social Sciences
JRNL 254
Electives as needed for total credits

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## Juvenile Justice C.A.

Career Community: Public Service Careers

Curriculum Code: 0916

Effective: Fall 2022 – Summer 2027

### Description

This degree program prepares an individual for a career as a probation officer, juvenile detention, residential or community site worker/professional. To fulfill requirements for this degree, students may choose to also complete the Juvenile Care Worker Certificate of Achievement option. Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

### Milestone

In addition to the required General Education courses in Math and English, completion of CJUS 106 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Contact Information

Contact the Public Service Careers Program at the West Campus Building, Room M127, telephone number 517-483-1570 or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

### General Education - Applied Degrees, Recommended Courses

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours
- English Composition (Second Course)/Communications or Applied Communications – *Select one*  
COMM 130, Fundamentals Public Speaking, 3 credits / 3 billing hours
- Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one*  
Program of Study Required Courses will meet this requirement
- Mathematics or Applied Mathematics – *Select one*  
MATH 119, Math - Applications for Living, 4 credits / 4 billing hours  
MATH 120, College Algebra, 4 credits / 4 billing hours
- Natural Sciences Lab or Applied Science and Technology Lab – *Select one*  
BIOL 120, Environmental Science, 4 credits / 6 billing hours  
BIOL 121, Biological Foundation for Physiology, 4 credits / 6 billing hours

## Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
CJUS 101	Intro to Criminal Justice	3 / 3
CJUS 103	Criminal Law	3 / 3
CJUS 106	Intro to Juvenile Justice	3 / 3
CJUS 126	Juvenile Offenders/Families	3 / 3
CJUS 133	Juvenile Residential Services	3 / 3
CJUS 245	Report Writing/Crim Justice	3 / 3
CJUS 247	Juvenile Justice: Special Pops	3 / 3
CJUS 255	Human Relations/Crim Justice	3 / 3
CJUS 286	Juvenile Internship I	3 / 3
CJUS 287	Juvenile Internship II	3 / 3
PSYC 200	Introduction to Psychology	4 / 4
SOWK 101	Introduction to Social Work	3 / 3

## Program of Study Required Courses, Limited Choice – *Select three*

Course Code	Course Title	Credit / Billing Hours
CJUS 102	Crime Causes and Conditions	3 / 3
CJUS 134	Probation and Parole	3 / 3
HUSE 110	Child Abuse and Neglect	3 / 3
HUSE 242	The Family: Addiction/Violence	3 / 3
PSYC 202	Psychology of Personality	3 / 3
PSYC 221	Child Psychology	3 / 3
PSYC 222	Adolescent Psychology	3 / 3

## Minimum Total Credit Hours

61 credits / 63 billing hours

## Recommended Course Sequence

Semester I
Gen Ed – English Composition or Applied English
Gen Ed – Mathematics or Applied Mathematics
CJUS 106 – Milestone course
CJUS 126
PSYC 200

Semester II
Gen Ed – English Comp (Second Course)/ Communications or Applied Communications
Gen Ed – Natural Sciences or Applied Science and Technology Lab
CJUS 101
CJUS 133



Semester III
CJUS 103
CJUS 255
CJUS 286
SOWK 101
Limited Choice

Semester IV
CJUS 245
CJUS 247
CJUS 287
Limited Choice
Limited Choice

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## **Kinesiology/Exercise Science A.A.S.**

Career Community: Health and Human Service Careers

Curriculum Code: 1639

Effective: Fall 2022 – Summer 2027

### **Description**

This curriculum is designed to prepare individuals for a career as a Fitness Leader, such as a certified Group Fitness Instructor, a certified Personal Trainer, or to transfer to a four-year college or university to pursue a baccalaureate degree in Kinesiology. Upon completion of the AAS degree, individuals are prepared to take a Group Fitness Instructor certification exam as well as a Personal Trainer certification exam given by a National Commission for Certifying Agencies (NCCA) accrediting organization such as American Council on Exercise® (ACE), or American College of Sports Medicine® (ACSM). This curriculum includes course options from the Group Fitness Instructor Certificate of Completion as well as the Personal Trainer Certificate of Achievement.

Students are also prepared to pursue entry-level employment in the areas of recreation, fitness, and health careers. Opportunities for Group Exercise certification and Personal Training certification are available.

For students who intend to transfer to a four-year college or university to pursue a baccalaureate degree, completion of this curriculum will also satisfy the Michigan Transfer Agreement (MTA) between two-year and four-year institutions in Michigan and qualify for an LCC Transfer Studies Certificate of Achievement (1482).

### **Milestone**

In addition to the required General Education courses in Math and English, completion of BIOL 145, or BIOL 201 and BIOL 202, with a 2.0 or higher is key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

All courses must be completed with a minimum 2.0 grade to receive this degree.

Not all courses in this curriculum transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course. General education and subject area requirements vary from one college or university to another.

Students planning to transfer to a four-year institution are encouraged to complete BIOL 201 and 202, rather than BIOL 145.

### **Contact Information**

Contact the Kinesiology Program, Health and Human Services Building, Room 108, telephone number 517-483-1410, or the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

## General Education – Transfer Degrees (MTA), Recommended Courses

(For the full list of options, see [General Education](#))

- English Composition – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours  
ENGL 131, Honors Composition I, 4 credits / 4 billing hours
- English Composition (second course)/Communications – *Select one*  
COMM 110, Communication in the Workplace, 3 credits / 3 billing hours  
COMM 120, Dynamics of Communication, 3 credits / 3 billing hours  
COMM 130, Fundamentals Public Speaking, 3 credits / 3 billing hours  
ENGL 122, Composition II, 4 credits / 4 billing hours  
ENGL 132, Honors Composition II, 4 credits / 4 billing hours
- Humanities and Fine Arts – *Select two, each from a different discipline*  
HUMS 213, World Civilizations to 1600, 4 credits / 4 billing hours  
HUMS 214, World Civilizations from 1600, 4 credits / 4 billing hours  
PHIL 151, Intro to Logic & Critical Think, 4 credits / 4 billing hours  
PHIL 152, Introduction to Ethics, 4 credits / 4 billing hours
- Mathematics  
Program of Study Required Courses will meet this requirement.
- Natural Sciences  
Program of Study Required Courses will meet this requirement.
- Social Sciences – *Select one from a discipline other than PSYC*  
COMM 280, Intercultural Communication, 3 credits / 3 billing hours  
SOCL 120, Introduction to Sociology, 4 credits / 4 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
PFFT 109	Introduction to Fitness	1 / 2
PFHW 163	Healthy Lifestyles	2 / 3
PFKN 170	Foundations of Kinesiology	3 / 3
PFKN 200	Exercise Physiology	3 / 3
PFKN 201	Exercise Physiology Lab	1 / 2
PFKN 208	Biomechanics	3 / 3
PFKN 250	Measurements in Kinesiology	3 / 4
PFKN 260	Growth and Motor Behavior	3 / 3
PFWT 112	Intro to Weight Training	1 / 2
PSYC 200	Introduction to Psychology	4 / 4

**Program of Study Required Courses, Limited Choice – Gen Ed Mathematics –**

*Select one. Students planning to transfer to a four-year institution for Kinesiology should complete MATH 120, 122, 126, or 151, rather than STAT 170.*

Course Code	Course Title	Credit / Billing Hours
MATH 120	College Algebra	4 / 4
MATH 122	Trigonometry	4 / 4
MATH 126	Precalculus	5 / 5
MATH 151	Calculus I	4 / 4
STAT 170	Introduction to Statistics	4 / 4

**Program of Study Required Courses, Limited Choice – Gen Ed Natural Sciences**

**Biology** – *Select one. Students planning to transfer to a four-year institution for Kinesiology should complete BIOL 201 and 202, rather than BIOL 145.*

Course Code	Course Title	Credit / Billing Hours
BIOL 145	Intro Anatomy and Physiology	4 / 6
BIOL 201 and 202	Human Anatomy and Human Physiology	8 / 11

**Program of Study Required Courses, Limited Choice – Gen Ed Natural Sciences**

**Chemistry** – *Select one.*

Course Code	Course Title	Credit / Billing Hours
CHEM 151 and 161	General Chemistry Lecture and Lab I	5 / 7
CHEM 182 and 192	Introductory Organic Chemistry and Lab	4 / 6

**Program of Study Required Courses, Limited Choice - Kinesiology**

*Select at least one course. Select multiple courses if needed to reach the minimum of 60 credits required for this degree.*

Course Code	Course Title	Credit / Billing Hours
CHSE 120	Medical Terminology	4 / 4
PFHW 123	Human Nutrition	3 / 3
PFHW 181	Stress Management	1 / 1
PFKN 106	Group Fitness Instructor Prep	3 / 4
PFKN 205	Sport & Exercise Psychology	3 / 3
PFKN 210	Athletic Training Principles	3 / 4
PFKN 270	Personal Trainer Preparation	4 / 5
PFKN 280	Kinesiology Internship	3 / 3
PHYS 221	Introductory Physics I	4 / 6

**Minimum Total Credit Hours**

60 credits / 69 billing hours

## Recommended Course Sequence

Semester I (Fall)
BIOL 145 or 201 – Milestone course
PFFT 109
PFHW 163
PFKN 170
Limited Choice – Mathematics

Semester II (Spring)
MTA English Composition
BIOL 202 (if selected BIOL 201/202) – Milestone course
PFKN 250
PFKN 260
Limited Choice – Kinesiology

Semester III (Fall)
MTA Humanities and Fine Arts (2 courses)
MTA Social Science
PFKN 208
PFWT 112
Limited Choice – Kinesiology (if needed)

Semester IV (Spring)
MTA English Composition/ Communications
PFKN 200
PFKN 201
PSYC 200
Limited Choice – Chemistry
Limited Choice – Kinesiology (if needed)

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## **Legal Studies A.B.**

Career Community: Public Service Careers

Curriculum Code: 0101

Effective: Fall 2022 – Summer 2027

### **Description**

Pursue your path to studying law or train to be a paralegal. Paralegals generally work under the supervision of an attorney as authorized by law and adhere to recognized ethical standards and rules of professional responsibility. Paralegals investigate the facts; conduct interviews; perform legal research; analyze substantive and procedural laws; draft appropriate documents including: briefs, pleadings, and other forms. Paralegals possess strong technology and case management skills. A Legal Studies degree will prepare you for a variety of career opportunities in private law firms, governmental agencies, corporations, financial institutions, courts systems, legal aid organizations, and other industries. This program is approved by the American Bar Association (ABA). Paralegals are not authorized to engage in the unauthorized practice of law. Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of LEGL 115 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

Legal Studies Program Legal Specialty Courses Transfer Credit Policy\*

The Lansing Community College Legal Studies Program may award transfer credit for designated, legal specialty courses on a case-by-case basis determined by the Legal Studies Program Director, subject to approval of the Dean of the Technical Careers Division. The current Legal Studies specialty courses are LEGL 115, LEGL 125, LEGL 211, LEGL 212, LEGL 218, LEGL 222, LEGL 223, LEGL 225, LEGL 228, LEGL 229 and LEGL 270. The following conditions apply to the transfer of these legal specialty courses:

1. Transfer credit may be awarded for substantially similar courses completed with a grade of "C" or higher in an ABA approved, or other post-secondary academically accredited academic Legal Studies program. To be considered "substantially similar", the course must have incorporated the same or similar topics and assignments as the LCC Legal Studies specialty course sought to be credited as evidenced by a catalog description, detailed syllabus, and course reference file.
2. No more than 9 semester credit hours of Legal Studies specialty course credit may be earned toward the Legal Studies Associate Degree or Legal Studies Post-Bachelor Certificate by transfer credit.
3. Transfer credit will not be awarded for LEGL 225 and LEGL 270.

\*Notwithstanding the provisions detailed above: in no circumstance will a student be awarded a Legal Studies Associate degree or Certificate unless at least 9 hours of Legal Studies specialty course work has been completed at LCC in a traditional class format.

### Contact Information

Contact the Public Service Careers Program, West Campus Building, Room M127, telephone number 517-483-1570, or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

### General Education – Applied Degrees, Recommended Courses

(For the full list of options, see [General Education](#) )

- English Composition or Applied English – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours
- English Composition (second course)/Communication – *Select one*  
COMM 130, Fundamentals Public Speaking, 3 credits / 3 billing hours
- Humanities and Fine Arts or Social Sciences or Applied Social Sciences– *Select one*  
MGMT 234, Diversity in the Workplace, 3 credits / 3 billing hours
- Mathematics or Applied Mathematics – *Select one*  
MATH 119, Math – Applications for Living, 4 credits / 4 billing hours  
MATH 120, College Algebra, 4 credits / 4 billing hours
- Natural Sciences Lab or Applied Science and Technology Lab – *Select one*  
BIOL 120, Environmental Science, 4 credits / 6 billing hours  
BIOL 121, Biol Foundation for Physiology, 4 credits / 6 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
CITF 110	Intro Computer Info Systems	3 / 3
LEGL 110	Editing Legal Documents	2 / 2
LEGL 115	Introduction to Legal Studies	3 / 3
LEGL 125	Legal Research and Writing I	4 / 4
LEGL 160	Critical Thinking in Law	3 / 3
LEGL 211	Tort Law	2 / 2
LEGL 212	Litigation Procedures	4 / 4
LEGL 217	Business Organizations	3 / 3
LEGL 222	Probate Law and Procedure	3 / 3
LEGL 223	Domestic Relations	3 / 3
LEGL 225	Legal Research and Writing II	3 / 3
LEGL 228	Computer Appl for the Law Ofc	3 / 3
LEGL 270	Paralegal Certification Prep	3 / 3

**Program of Study Required Courses, Limited Choice – Select two**

Course Code	Course Title	Credit / Billing Hours
CJUS 103	Criminal Law	3 / 3
LEGL 215	Business Law–Basic Principles	3 / 3
LEGL 216	Commercial Transactions	3 / 3
LEGL 218	Litigation Specialties	3 / 3
LEGL 229	Immigration Law	3 / 3
LEGL 251	Legal Studies Independent Study	3 / 3
LEGL 280	Legal Studies Internship	3 / 3

**Minimum Total Credit Hours**

63 credits / 65 billing hours

**Recommended Course Sequence**

Semester I
Gen Ed – English Composition or Applied English
Gen Ed - Mathematics or Applied Mathematics
LEGL 115 – Milestone course
LEGL 160
LEGL 211

Semester II
Gen Ed – English Composition (Second Course)/ Communications or Applied English
Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab
CITF 110
LEGL 212
LEGL 228

Semester III
LEGL 110
LEGL 125
LEGL 217
LEGL 222
Limited Choice

Semester IV
Gen Ed – Humanities and Fine Arts or Social Sciences or Applied Social Sciences
LEGL 223
LEGL 225
LEGL 270
Limited Choice



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## **Legal Studies Post-Bachelor C.A.**

Career Community: Public Service Careers

Curriculum Code: 0744

Effective: Fall 2022 – Summer 2027

### **Description**

Pursue your path to studying law or train to be a paralegal. Paralegals generally work under the supervision of an attorney as authorized by law and adhere to recognized ethical standards and rules of professional responsibility. Paralegals investigate the facts; conduct interviews; perform legal research; analyze substantive and procedural laws; draft appropriate documents including: briefs, pleadings, and other forms. Paralegals possess strong technology and case management skills. A Legal Studies degree will prepare you for a variety of career opportunities in private law firms, governmental agencies, corporations, financial institutions, courts systems, legal aid organizations, and other industries. This program is approved by the American Bar Association (ABA). Paralegals are not authorized to engage in the unauthorized practice of law. Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

### **Milestone**

Completion of LEGL 115 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in this course.

### **Additional Information**

Students following this curriculum must have proof of a bachelor's degree on file and entered on their official Lansing Community College transcript before beginning this curriculum.

#### **Legal Studies Program Legal Specialty Courses Transfer Credit Policy\***

The Lansing Community College Legal Studies Program may award transfer credit for designated, legal specialty courses on a case-by-case basis determined by the Legal Studies Program Director, subject to approval of the Dean of the Technical Careers Division. The current Legal Studies specialty courses are LEGL 115, LEGL 125, LEGL 212, LEGL 211, LEGL 218, LEGL 222, LEGL 223, LEGL 225, LEGL 228, LEGL 229 and LEGL 270. The following conditions apply to the transfer of these legal specialty courses:

1. Transfer credit may be awarded for substantially similar courses completed with a grade of "C" or higher in an ABA approved, or other post-secondary academically accredited academic Legal Studies program. To be considered "substantially similar", the course must have incorporated the same or similar topics and assignments as the LCC Legal Studies specialty course sought to be credited as evidenced by a catalog description, detailed syllabus, and course reference file.
2. No more than 9 semester credit hours of Legal Studies specialty course credit may be earned toward the Legal Studies Associate Degree or Legal Studies Post-Bachelor Certificate by transfer credit.

3. Transfer credit will not be awarded for LEGL 225 and LEGL 270.

\*Notwithstanding the provisions detailed above: in no circumstance will a student be awarded a Legal Studies Associate degree or Certificate unless at least 9 hours of Legal Studies specialty course work has been completed at LCC in a traditional class format.

### Contact Information

Contact the Public Service Careers Program, West Campus Building, Room M127, telephone number 517-483-1570, or the West Campus Student Services, West Campus Building, Room M106, telephone number 517-267-5452.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
LEGL 115	Introduction to Legal Studies	3 / 3
LEGL 125	Legal Research and Writing I	4 / 4
LEGL 212	Litigation Procedures	4 / 4
LEGL 211	Tort Law	2 / 2
LEGL 217	Business Organizations	3 / 3
LEGL 222	Probate Law and Procedure	3 / 3
LEGL 223	Domestic Relations	3 / 3
LEGL 225	Legal Research and Writing II	3 / 3
LEGL 228	Computer Appl for the Law Ofc	3 / 3
LEGL 270	Paralegal Certification Prep	3 / 3

### Program of Study Required Courses, Limited Choice – *Select one*

Course Code	Course Title	Credit / Billing Hours
LEGL 160	Critical Thinking in Law	3 / 3
LEGL 215	Business Law - Basic Principles	3 / 3
LEGL 216	Commercial Transactions	3 / 3
LEGL 218	Litigation Specialties	3 / 3
LEGL 229	Immigration Law	3 / 3
LEGL 280	Legal Studies Internship	3 / 3
CJUS 103	Criminal Law	3 / 3

### Minimum Total Credit Hours

34 credits / 34 billing hours

## Recommended Course Sequence

Semester I
LEGL 115 – Milestone course
LEGL 125
LEGL 211
LEGL 217
LEGL 222

Semester II
LEGL 212
LEGL 223
LEGL 225
LEGL 228
LEGL 270
Limited Choice

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## Literature A.A.

Career Community: Communication, Journalism, and Language

Curriculum Code: 0124

Effective: Fall 2022 – Summer 2027

### Description

This degree is designed for students who intend to transfer to a four-year college or university to pursue a baccalaureate degree in this subject area. Students completing this curriculum will also satisfy the Michigan Transfer Agreement (MTA) between two-year and four-year institutions in Michigan and qualify for an LCC Transfer Studies Certificate of Achievement (1482).

### Milestone

In addition to the required General Education courses in Math and English, completion of ENGL 200 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses may be the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Additional Information

A student must earn a minimum grade of 2.0 in all courses.

ENGL 255, ENGL 260, and ENGL 266 are only offered in Fall. ENGL 256, ENGL 267, and ENGL 270 are only offered in Spring

### Contact Information

Contact the English Department, Arts and Sciences Building, Room 1106, telephone number 517-483-1061, or the Academic Advising Department, Gannon Building – StarZone, telephone number 517-483-1904.

### General Education - Transfer Degrees (MTA), Recommended Courses

(For the full list of options, see [General Education](#))

- English Composition – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours  
ENGL 131, Honors Composition I, 4 credits / 4 billing hours
- English Composition (second course) or Communications  
Program of Study Required Courses will meet this requirement
- Humanities and Fine Arts – *Select one from a discipline other than ENGL*  
HIST 211, U.S. History to 1877, 4 credits / 4 billing hours  
HUMS 160, Mythology, 4 credits / 4 billing hours  
PHIL 101, Introduction to Philosophy, 3 credits / 3 billing hours  
RELG 150, Intro to World Religions, 4 credits / 4 billing hours

- Mathematics – *Select one*  
MATH 119, Math Applications for Living, 4 credits / 4 billing hours  
MATH 120, College Algebra, 4 credits / 4 billing hours
- Natural Sciences – *Select two, each from a different discipline, one must be a lab course*  
ASTR 201, Introductory Astronomy, 4 credits / 5 billing hours  
BIOL 120, Environmental Science, 4 credits / 6 billing hours  
BIOL 125, Introductory Biology, 4 credits / 5 billing hours  
CHEM 135, Chemistry in Society, 4 credits / 5 billing hours  
GEOG 221, Physical Geography, 4 credits / 4 billing hours  
GEOL 221, Physical Geology, 4 credits / 6 billing hours  
ISCI 131, Integrated Physical Science, 4 credits / 6 billing hours  
PHYS 120, The Art of Physics, 4 credits / 5 billing hours
- Social Science – *Select two, each from a different discipline*  
ANTH 270, Cultural Anthropology, 3 credits / 3 billing hours  
PSYC 200, Introduction to Psychology, 4 credits / 4 billing hours  
SOCL 120, Introduction to Sociology, 4 credits / 4 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
ENGL 200	Introduction to Literature	3 / 3
ENGL 261	Creative Writing I	3 / 3

### Program of Study Required Courses, Limited Choice – English Composition (Second Course) - *Select one*

Course Code	Course Title	Credit / Billing Hours
ENGL 122	Composition II	4 / 4
ENGL 132	Honors Composition II	4 / 4

### Program of Study Required Courses, Limited Choice – *Select one*

Course Code	Course Title	Credit / Billing Hours
ENGL 255	American Lit to 1865	4 / 4
ENGL 256	American Lit 1865 to Present	4 / 4
ENGL 266	British Lit to 1800	4 / 4
ENGL 267	British Lit 1800 to Present	4 / 4

**Program of Study Required Courses, Limited Choice – Select one**

Course Code	Course Title	Credit / Billing Hours
ENGL 260	African-American Literature	4 / 4
ENGL 270	Gender and Literature	4 / 4

**Elective Courses, Recommended Choices – Select courses to reach the minimum 60 total credits required for this degree. (For the full list of options see [AA and AS Degree Electives](#))**

Course Code	Course Title	Credit / Billing Hours
ENGL 208	Children’s Literature	4 / 4
ENGL 211	World Literature I	4 / 4
ENGL 212	World Literature II	4 / 4
ENGL 220	Science Fiction	4 / 4
ENGL 240	The Film as Art	4 / 4
ENGL 255	American Lit to 1865	4 / 4
ENGL 256	American Lit 1865 to Present	4 / 4
ENGL 260	African American Literature	4 / 4
ENGL 266	British Lit to 1800	4 / 4
ENGL 267	British Lit 1800 to Present	4 / 4
ENGL 270	Gender and Literature	4 / 4
ENGL 290	Shakespeare	4 / 4

**Minimum Total Credit Hours**

60 credits / 61 billing hours

**Recommended Course Sequence**

Semester I
MTA English Composition
MTA Mathematics
MTA Natural Science
ENGL 200 - Milestone course

Semester II
MTA Humanities and Fine Arts
MTA Natural Science
ENGL 122 or ENGL 132
ENGL 261

Semester III
MTA Social Science
Limited Choice
Electives as needed for total credits

Semester IV
MTA Social Science
Limited Choice
Electives as needed for total credits

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## Local Corrections Officer C.C.

Career Community: Public Service Careers

Curriculum Code: 1810

Effective: Fall 2022 – Summer 2027

### Description

This certificate option is designed to provide entry level skills for the person who wishes to enter the job market as a Local Correctional Officer at a Sheriff Department or Local Detention Center. This curriculum meets the Michigan Coordinating and Training Council requirements. Students completing this certificate may use the credits towards the Criminal Justice, Corrections Associate in Applied Science Degree (1209). Students interested in working in State facilities should pursue the Correctional Officer Certificate of Completion (0840).

### Milestone

Completion of CJUS 131 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in this course.

### Requirements for Admission to the Local Corrections Officer Academy

For current information about admission requirements to CJUS 272 and CJUS 273, students must contact the Public Service Careers Program, West Campus Building, Room M127, telephone number (517) 483-1570.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
CJUS 101	Intro to Criminal Justice	3 / 3
CJUS 130	Local Detention	3 / 3
CJUS 131	Introduction to Corrections	3 / 3
CJUS 272	Local Corrections Academy I	5 / 5
CJUS 273	Local Corrections Academy II	3 / 5

### Minimum Total Credit Hours

17 credits / 19 billing hours

### Recommended Course Sequence

Semester I
CJUS 101
CJUS 130
CJUS 131 – Milestone course
Semester II
CJUS 272
CJUS 273

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## Long-Term Care Nurse Aide C.C.

Career Community: Health and Human Service Careers

Curriculum Code: 1025

Effective: Fall 2022 – Summer 2023

### Description

This certificate curriculum will prepare an individual to be a nurse aide in a long-term care facility or home health care agency. This state-approved course will provide specific knowledge and skills required for a nurse aide to safely function in a long-term care setting. Upon successful completion of this course, the student is qualified to take the State Competency Evaluation Nurse Aide Examination to become a Certified Nursing Assistant (CNA).

### Additional Information

Students must complete CHSE 108 with a minimum grade of 2.5 to receive this certificate.

Students wishing to pursue an associate degree, should declare the Allied Health A.A.S. major. Courses in this program of study may be applied toward that degree.

### Contact Information

Contact the Community Health Services Education Program, Health and Human Services Building, Room 108, telephone number 517-483-1410, or the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
CHSE 108	Long-Term Care Nurse Aide	4 / 6.5

### Minimum Total Credit Hours

4 credits / 6.5 billing hours

### Recommended Course Sequence

Semester I
CHSE 108

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## Machine Tool Technology C.A.

Career Community: Electrical and Manufacturing

Curriculum Code: 1470

Effective: Fall 2022 – Summer 2027

### Description

This certificate is designed for an apprentice, pre-apprentice, or person interested in advancing his/her skill set in the machinist or tool & die trade. Technical math, blueprint reading, knowledge of the Machinery Handbook, and metallurgy are just some of the skills and knowledge that are necessary for this type of work. Ideally, this curriculum should be taken concurrently with an industry-based work experience or apprenticeship or in preparation for an apprenticeship as a machinist or tool and die maker.

### Milestone

Completion of METM 108 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in this course.

### Additional Information

Students who have already completed ELTE 102 or DCTM 102 or HVAC 102, METS 102 or WELD 102 with a grade of 2.0 or higher may substitute one of those courses for TECH 102.

### Contact Information

Contact the Trades Technology Program, West Campus Building, Room M103, telephone number 517-483-5338 or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
METD 110	Mechanical CAD Drafting I	4 / 6
METM 108	Machine Tool Operations	4 / 6
METM 112	Introduction to CNC Machining	4 / 6
METM 190	Metallurgy and Heat Treatment	4 / 6
TECH 102	General Industry Safety	2 / 3

### Program of Study Required Courses, Limited Choice – *Select four*

Course Code	Course Title	Credit / Billing Hours
MATH 115	Technical Math II	4 / 4
METD 105	PC Applications for Technology	3 / 4
METD 111	Mechanical CAD Drafting II	4 / 6
METD 130	Geometric Dimension/Tolerance	4 / 6
METD 150	Industrial Blueprint Reading	3 / 3
METD 220	Basic Unigraphics/NX	4 / 6

Course Code	Course Title	Credit / Billing Hours
METM 150	Advanced CNC Machining	4 / 6
METM 220	Basic Mastercam	4 / 6
METS 140	Rigging	3 / 4.5
WELD 103	Combination Welding	4 / 6

### Minimum Total Credit Hours

31 credits / 42.5 billing hours

### Recommended Course Sequence

Semester I
TECH 102
Limited Choice

Semester II
METD 110
METM 108 – Milestone course

Semester III
METM 112
METM 190

Semester IV
Limited Choice
Limited Choice
Limited Choice

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## **Magnetic Resonance Imaging Technology A.A.S.**

Career Community: Health and Human Service Careers

Curriculum Code: 1632

Effective: Summer 2022 – Summer 2025

### **Description**

This associate degree program is intended for individuals who are not already certified technologists with the American Registry of Radiologic Technologist (ARRT). The curriculum provides didactic hybrid distance education, laboratory simulation, and clinical experience to teach the essential content needed to begin a career in Magnetic Resonance Imaging. Graduates will be eligible to take the national registry examination administered by ARRT.

Courses in this program are offered through the Michigan Community College Association/ Michigan Colleges Online, and taught by various colleges in the Educational Programs in Collaboration (EPiC) consortium.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of MRIT 201, MRIT 220, and MRIT 229 with a 2.5 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

The MRI (Magnetic Resonance Imaging) Consortium Program through the Michigan Community College Association via the Michigan Colleges Online of which LCC is a member, received Initial Accreditation from the Joint Review Committee on Education in Radiological Sciences (JRCERT), 20 N Wacker Drive, Suite 2850, Chicago, IL 60606-3182.

Students must complete all non-MRIT courses with a minimum 2.5 prior to submitting their application for Program Approval. First semester MRIT courses require Program Approval. Applications must be submitted by February 1 and are available by contacting the Program Director of Imaging Technology at 517-483-1410. Once Program Approval is received, students must complete each MRIT course with a minimum 2.5 to progress to the next semester and meet graduation requirements.

### **Contact Information**

For the most current information, contact the Medical Imaging Program, Health and Human Services Building, Room 108, telephone number 517-483-1410.

## General Education – Applied Degrees Courses

(For the full list of options, see [General Education](#))

- English Composition or Applied English  
Program of Study Required Courses for Admission will meet this requirement.
- English Composition (second course)/Communications or Applied Communications  
Program of Study Required Courses for Admission will meet this requirement.
- Humanities and Fine Arts or Social Sciences or Applied Social Sciences  
SOCL 120, Introduction to Sociology, 4 credits / 4 billing hours
- Mathematics or Applied Mathematics  
Program of Study Required Courses for Admission will meet this requirement.
- Natural Sciences Lab or Applied Science and Technology Lab  
Program of Study Required Courses for Admission will meet this requirement.

**Program of Study Required Courses for Admission – BIOL 201 and 202 also satisfies the General Education Natural Sciences Lab or Applied Science and Technology Lab requirement.**

Course Code	Course Title	Credit / Billing Hours
BIOL 201	Human Anatomy	4 / 6
BIOL 202	Human Physiology	4 / 5

## Program of Study Required Courses for Admission, Limited Choice – English

**Composition** - *Select one. This selection satisfies the General Education English Composition requirement.*

Course Code	Course Title	Credit / Billing Hours
ENGL 121	Composition I	4 / 4
ENGL 122	Composition II	4 / 4
ENGL 131	Honors Composition I	4 / 4
ENGL 132	Honors Composition II	4 / 4

## Program of Study Required Courses for Admission, Limited Choice – English

**Composition (second course)/Communications** - *Select one. This selection satisfies the General Education English Composition (second course)/Communications or Applied Communications requirement.*

Course Code	Course Title	Credit / Billing Hours
COMM 110	Communication in the Workplace	3 / 3
COMM 120	Dynamics of Communication	3 / 3
COMM 130	Fundamentals Public Speaking	3 / 3

### Program of Study Required Courses for Admission, Limited Choice –

**Mathematics** - *Select one. This selection satisfies the General Education Mathematics or Applied Mathematics requirement. (Any course from the General Education Mathematics College Algebra category may also be selected.)*

Course Code	Course Title	Credit / Billing Hours
MATH 120	College Algebra	4 / 4
STAT 170	Introduction to Statistics	4 / 4
STAT 215	Intro to Probability and Stats	4 / 4

### Program of Study Required Courses for Admission, Limited Choice - *Select one.*

Course Code	Course Title	Credit / Billing Hours
PHYS 120	The Art of Physics	4 / 5
PHYS 200	Intro to Applied Physics	4 / 5

### Minimum Total Credit Hours for Admission

27 credits / 31 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
MRIT 200	Professional Prospectus	1 / 0*
MRIT 201	Computer Apps/Medical Imaging	3 / 0*
MRIT 220	MR Physics I	3 / 0*
MRIT 222	MR Physics II	3 / 0*
MRIT 229	Applied Sectional Anatomy	3 / 0*
MRIT 230	MR Procedures and Pathophys I	3 / 0*
MRIT 232	MR Procedures and Pathophys II	3 / 0*
MRIT 240	MRI Image Analysis	3 / 0*
MRIT 260	MRI Pre-Clinical Preparation	3 / 0*
MRIT 261	Clinical Practice I	3 / 0*
MRIT 262	Clinical Practice II	3 / 0*
MRIT 263	Clinical Practice III	3 / 0*
MRIT 295	MRI Certification Exam Prep	3 / 0*

### Minimum Total Credit Hours

64 credits / 31 billing hours\*

\*MRIT courses follow the Michigan Community College Association/Michigan Colleges Online tuition rates, and are not included in the billing hours. Please contact the Radiologic Technology Program Director at 517-483-1410 for current tuition rates.



## Recommended Course Sequence

Semester I
BIOL 201
COMM 110, 120, or 130
ENGL 121, 122, 131, or 132
PHYS 120 or 200
Semester II
Gen Ed – Humanities and Fine Arts or Social Sciences or Applied Social Sciences
BIOL 202
MATH 120 (or other Gen Ed Mathematics College Algebra course), STAT 170 or 215
Semester III (Summer 2023)
MRIT 200
MRIT 229 – Milestone course
MRIT 260
Semester IV (Fall 2023)
MRIT 201 – Milestone course
MRIT 220 – Milestone course
MRIT 230
MRIT 261
Semester V (Spring 2024)
MRIT 222
MRIT 232
MRIT 240
MRIT 262
Semester VI (Summer 2024)
MRIT 263
MRIT 295

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## **Magnetic Resonance Imaging Technology C.A.**

Career Community: Health and Human Service Careers

Curriculum Code: 1602

Effective: Summer 2022 – Fall 2023

### **Description**

The MRI Certificate of Achievement is intended for registered/certified radiologic technologists with the American Registry of Radiologic Technologists® (ARRT). As of January 1, 2015, these registered/certified technologists must also already have an associate degree or higher. The curriculum provides didactic hybrid distance education, laboratory simulation, and clinical experience to teach the essential content needed to begin a career in Magnetic Resonance Imaging. Successful completion of the program qualifies students for examination by the ARRT in Magnetic Resonance Imaging.

Courses in this program are offered through the Michigan Community College Association/ Michigan Colleges Online, and taught by various colleges in the Educational Programs in Collaboration (EPiC) consortium.

### **Milestone**

Completion of MRIT 201, MRIT 220, and MRIT 229 with a 2.5 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

The MRI (Magnetic Resonance Imaging) Consortium Program through the Michigan Community College Association via the Michigan Colleges Online of which LCC is a member, received Initial Accreditation from the Joint Review Committee on Education in Radiological Sciences (JRCERT), 20 N Wacker Drive, Suite 2850, Chicago, IL 60606-3182.

First semester MRIT courses require Department Approval. Applications must be submitted by February 1 and are available by contacting the Imaging Technology Program Director at 517-483-1410. Once Department Approval is received, students must complete each MRIT course with a minimum 2.5 to progress to the next semester and meet graduation requirements.

### **Contact Information**

For the most current information, contact the Medical Imaging Program, Health and Human Services Building, Room 108, telephone number 517-483-1410.

## Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
MRIT 200	Professional Prospectus	1 / 0*
MRIT 201	Computer Apps/Medical Imaging	3 / 0*
MRIT 220	MR Physics I	3 / 0*
MRIT 222	MR Physics II	3 / 0*
MRIT 229	Applied Sectional Anatomy	3 / 0*
MRIT 230	MR Procedures and Pathophys I	3 / 0*
MRIT 232	MR Procedures and Pathophys II	3 / 0*
MRIT 240	MRI Image Analysis	3 / 0*
MRIT 260	MRI Pre-Clinical Preparation	3 / 0*
MRIT 261	Clinical Practice I	3 / 0*
MRIT 262	Clinical Practice II	3 / 0*
MRIT 263	Clinical Practice III	3 / 0*
MRIT 295	MRI Certification Exam Prep	3 / 0*

## Minimum Total Credit Hours

37 credits / 0\* billing hours

\*MRIT courses follow the Michigan Community College Association/Michigan Colleges Online tuition rates, and are not included in billing hours. Please contact the Medical Imaging Program Director at telephone number 517-483-1410 for current tuition rates.

## Recommended Course Sequence

Semester I (Summer 2022)
MRIT 200
MRIT 229 – Milestone course
MRIT 260
Semester II (Fall 2022)
MRIT 201 – Milestone course
MRIT 220 – Milestone course
MRIT 230
MRIT 261
Semester III (Spring 2023)
MRIT 222
MRIT 232
MRIT 240
MRIT 262

Semester IV (Summer 2023)
MRIT 263
MRIT 295

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## Management C.A.

Career Community: Business

Curriculum Code: 0249

Effective: Fall 2022 – Summer 2027

### Description

Certificate holders may improve their opportunities for advancement in this or a related area. The Certificate of Achievement is often useful in conjunction with another degree in professions such as health careers or computers. Additional education enhances an individual's employment opportunities. Students may complete this certificate as part of the Management and Leadership Associate of Business degree.

### Milestone

Completion of MGMT 223 or MGMT 225 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Contact Information

Contact the Business and Economics Department, Gannon Building, Room 1222, telephone number 517-483-1546 or the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
BUSN 118	Introduction to Business	3 / 3
LABR 200	Intro to Labor Relations	3 / 3
MGMT 200	Creative Thinking for Business	3 / 3
MGMT 224	Human Resource Management	3 / 3
MGMT 228	Organization Behavior	3 / 3
MGMT 231	Developing and Leading Teams	3 / 3
MGMT 234	Diversity in the Workplace	3 / 3

### Program of Study Required Courses, Limited Choice – *Select two*

Course Code	Course Title	Credit / Billing Hours
LEGL 215	Business Law-Basic Principles	3 / 3
MGMT 150	Managing Customer Relations	3 / 3
MGMT 237	Managing/Continual Improvement	3 / 3
MGMT 300	Leading for Possibility	3 / 3

Note:

Students considering completing the Management and Leadership Associate of Business degree should choose LEGL 215 and MGMT 237.

### **Program of Study Required Courses, Limited Choice – Communication and Writing – *Select one***

Course Code	Course Title	Credit / Billing Hours
COMM 110	Communication in the Workplace	3 / 3
ENGL 121	Composition I	4 / 4
ENGL 127	Business Writing	3 / 3
ENGL 131	Honors Composition I	4 / 4

Note:

Students considering completing the Management and Leadership Associate of Business degree should choose ENGL 121 or ENGL 131.

### **Program of Study Required Courses, Limited Choice - Management – *Select one***

Course Code	Course Title	Credit / Billing Hours
MGMT 223	Supervisory Skills	3 / 3
MGMT 225	Principles of Mgmt/Leadership	3 / 3

Note:

Students considering completing the Management and Leadership Associate of Business degree should choose MGMT 225.

### **Minimum Total Credit Hours**

33 credits / 33 billing hours

### **Recommended Course Sequence**

Semester I
BUSN 118
LABR 200
MGMT 224
MGMT 234
Limited Choice

Semester II
MGMT 200
MGMT 223 or 225 – Milestone course
MGMT 228
MGMT 231
Limited Choice
Limited Choice – Communication and Writing

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## **Management and Leadership A.B.**

Career Community: Business

Curriculum Code: 0245

Effective: Fall 2022 – Summer 2027

### **Purpose of Major**

This major is designed for students wishing to work in the field of Management on completion of the Associate of Business degree. A manager leads from all levels of the organization. A manager plans, organizes, delegates, and controls projects from start to finish. The role cuts across all areas of business and organizational life and has as its central purpose the increase of resources: personnel, money, machines, and materials. Managers encourage, coordinate, and lead to achieve company goals. Graduates of this degree may qualify for entry-level positions. Addition of a technical or business specialty increases one's employability. Not all courses in this program transfer to all institutions. Students who also wish to transfer to a four-year institution should select coursework indicated for that institution and may complete the coursework for a Business, Enhanced AB degree. The Business, Enhanced AB option allows students to transfer additional credits toward the Bachelor's degree. This allows completion of credits required for employment and of additional requirements for the Bachelor's. Institutions accepting coursework for the Business, Enhanced AB, Management and Leadership Pathway include Davenport University, Eastern Michigan University, Ferris State University (Business Administration – Professional Track), Northwood University, Oakland University, and Siena Heights University.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of MGMT 225 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Contact Information**

Contact the Business and Economics Department, Gannon Building, Room 1222, telephone number 517-483-1546 or the Academic Advising Department, Gannon Building – Star Zone, telephone number 517-483-1904.

### **General Education – Applied Degrees, Recommended Courses**

Select courses as indicated for specific transfer institutions. These courses are preferred General Education courses listed on Transfer Articulation agreements. The recommended courses in each General Education category also meet Michigan Transfer Agreement (MTA) requirements. If no course is indicated, choose from the list of options under [General Education](#). A minimum grade of 2.0 is required for each General Education course.

- English Composition or Applied English  
Business Career Community courses meet this requirement.



- English Composition (Second Course) or Communications or Applied Communications  
Business Career Community Courses meet this requirement.
- Humanities and Fine Arts or Social Science or Applied Social Science  
Business Career Community Courses meet this requirement.
- Mathematics or Applied Mathematics  
Business Career Community Courses meet this requirement.
- Natural Sciences Lab or Applied Science and Technology Lab  
Business Career Community Courses meet this requirement.

**Business Career Community Required Courses** – *These courses are required for all Business programs. They should be taken before other Program Required or Limited Choice Courses. Some courses meet General Education requirements for Michigan Transfer Agreement (MTA). A minimum of 2.0 is required to transfer to other colleges (some colleges, and some programs within colleges, require a higher grade in a course.)*

Course Code	Course Title	Credit / Billing Hours
ACAD 100	First Year College Experience	1 / 1
ACCG 210	Principles of Financial Accg	4 / 4
BIOL 120 or BIOL 125	Environmental Science Introductory Biology	4 / 6 4 / 5
BUSN 118	Introduction to Business	3 / 3
COMM 110 or COMM 130	Communication in the Workplace Fundamentals Public Speaking	3 / 3 3 / 3
ECON 201	Principles of Economics - Micro	4 / 4
ENGL 121 or ENGL 131	Composition I Honors Composition I	4 / 4 4 / 4
LEGL 215	Business Law – Basic Principles	3 / 3
MATH 119 or MATH 120 or STAT 170	Math – Applications for Living College Algebra Introduction to Statistics	4 / 4 4 / 4 4 / 4
MGMT 225	Principles of Mgmt/Leadership	3 / 3
MKTG 200	Principles of Marketing	3 / 3

Notes:

ACAD 100 may be waived based on the recommendation of a Program Advisor.

For students not considering transfer as an option, MGMT 234, Diversity in the Workplace, may be substituted for ECON 201 using the Course Substitution process. MGMT 234 meets LCC General Education requirements for Applied Degrees – Humanities or Social Science or Applied Social Science. MGMT 234 does not meet Michigan Transfer Agreement (MTA) Social Science requirements for transfer as a General Education course.

For future transfer to:

- Davenport University choose COMM 110 and STAT 170.
- Eastern Michigan University choose STAT 170.
- Ferris State University choose COMM 130 and STAT 170.
- Northwood University and Oakland University choose MATH 120.
- Siena Heights University (Business Administration) choose BIOL 120 and STAT 170.
- Siena Heights University (Professional Communications) choose BIOL 120.

**Program of Study Required Courses** - A minimum of 2.0 is required to transfer to other colleges (some colleges, and some programs within colleges, require a higher grade in a course.)

Course Code	Course Title	Credit / Billing Hours
BUSN 201	International Business	3 / 3
LABR 200	Intro to Labor Relations	3 / 3
MGMT 150	Managing Customer Relations	3 / 3
MGMT 200	Creative Thinking for Business	3 / 3
MGMT 224	Human Resource Management	3 / 3
MGMT 227	Training/Development for Busn	3 / 3
MGMT 228 or MGMT 304	Organization Behavior Organization Development	3 / 3 3 / 3
MGMT 231	Developing and Leading Teams	3 / 3
MGMT 237	Managing/Continual Improvement	3 / 3
MGMT 280 or MGMT 345	Mgmt/Leadership Internship Context and Transformation	3 / 3 3 / 3

### Minimum Total Credit Hours

66 credits / 67 billing hours

### Recommended Course Sequence

Semester I
ACAD 100
BUSN 118
ENGL 121 or ENGL 131
MGMT 225 – Milestone course
MKTG 200

Semester II
BIOL 120 or BIOL 125
BUSN 201
MATH 119, MATH 120, or STAT 170
MGMT 224

Semester III
ECON 201
LEGL 215
MGMT 200
MGMT 228 or MGMT 304

Semester IV
ACCG 210
COMM 110 or COMM 130
MGMT 227
MGMT 280 or MGMT 345

Semester V
LABR 200
MGMT 150
MGMT 231
MGMT 237

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## **Business, Enhanced A.B. Management and Leadership Track**

Career Community: Business

Curriculum Code: 1822

Effective: Fall 2022 – Summer 2027

### **Purpose of Program**

This degree is designed for students wishing to transfer after having completed the Associate in Business, Major in Management and Leadership degree. This Enhanced AB option allows students to transfer additional credits toward the Bachelor's degree. This allows completion of credits required for employment through the AB and completion of additional courses required for the Bachelor's degree, as designated by transfer articulation agreements. Required coursework follows for the Management and Leadership subtracks of the Business, Enhanced AB for students transferring to Davenport University, Eastern Michigan University, Ferris State University, Northwood University, Oakland University, and Siena Heights University.

### **Contact Information**

Before beginning this program of study, students must contact the Business and Economics Department, Gannon Building, Room 1222, telephone number 517-483-1546, or the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

### **Program of Study Required Courses**

Completion of an LCC associate in Business is required for the Business, Enhanced degree. Completion of the AB in [Management and Leadership \(0245\)](#) as required for the specified transfer institution is the most efficient path to completing the Enhanced degree Accounting track. Students who have completed a different degree will need to work with a Program Advisor to create a personalized MAP (My Academic Pathway) in Degree Works to ensure that all requirements are met.

### **Recommended Courses by College/University**

Completing courses as directed meets transfer articulation agreement requirements for each institution.

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*

## **Davenport University (Leadership and Organizational Behavior or Management)**

### **General Education – Transfer (MTA) Courses**

(For the list of options, see [General Education](#))

- Any MTA Humanities course, 3 credits / 3 billing hours

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
ACCG 271	Principles of Finance	3 / 3
GEOG 200	World Regional Geography	4 / 4
MATH 120	College Algebra	4 / 4
MGMT 234	Diversity in the Workplace	3 / 3
MGMT 332	Ethics: Assumpt for the Future	3 / 3

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
ENGL 122	Composition II	4 / 4
ENGL 132	Honors Composition II	4 / 4

### **Minimum Total Credit Hours**

90 credits / 91 billing hours

## **Eastern Michigan University**

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
ENGL 127	Business Writing	3 / 3
MUSC 199	Music Appreciation	3 / 3
STAT 215	Intro to Probability and Stats	4 / 4

### **Program of Study Required Courses, Limited Choice – Select one**

Course Code	Course Title	Credit / Billing Hours
ANTH 270	Cultural Anthropology	3 / 3
COMM 280	Intercultural Communication	3 / 3
GEOG 200	World Regional Geography	4 / 4

### **Program of Study Required Courses, Limited Choice - Select one**

Course Code	Course Title	Credit / Billing Hours
ASTR 201	Introductory Astronomy	4 / 5
CHEM 135	Chemistry in Society	4 / 5
GEOG 221	Physical Geography	4 / 4
ISCI 131	Integrated Physical Science	4 / 6

### **Program of Study Required Courses, Limited Choice – Select one**

Course Code	Course Title	Credit / Billing Hours
ENGL 122	Composition II	4 / 4
ENGL 132	Honors Composition II	4 / 4

### **Program of Study Required Courses, Limited Choice – Select one**

Course Code	Course Title	Credit / Billing Hours
PHIL 151	Intro to Logic & Critical Think	4 / 4
PHIL 152	Introduction to Ethics	4 / 4

### **Minimum Total Credit Hours**

91 credits / 92 billing hours

## **Ferris State University**

### **General Education – Transfer (MTA) Courses**

(For the list of options, see [General Education](#))

- Any non-BIOL MTA Science course, 3 credits / 3 billing hours
- Any non-ECON MTA Social Science course, 3 credits / 3 billing hours
- Two MTA Humanities courses from 2 different disciplines, 6 credits / 6 billing hours

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
LEGL 216	Commercial Transactions	3 / 3

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
ENGL 122	Composition II	4 / 4
ENGL 127	Business Writing	3 / 3
ENGL 132	Honors Composition II	4 / 4

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
MATH 119	Math-Applications for Living	4 / 4
MATH 120	College Algebra	4 / 4

### **Minimum Total Credit Hours**

88 credits / 89 billing hours

## **Northwood University (Management)**

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
CITA 110	Intro to Microsoft Office	3 / 3
MGMT 234	Diversity in the Workplace	3 / 3
MGMT 300	Leading for Possibility	3 / 3
MGMT 329	Advanced Mgmt Communication	3 / 3
MGMT 332	Ethics: Assumpt for the Future	3 / 3
MGMT 335	Managerial Statistics	3 / 3

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
ENGL 122	Composition II	4 / 4
ENGL 132	Honors Composition II	4 / 4

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
HIST 211	U.S. History to 1877	4 / 4
HIST 212	U.S. History: 1877 to Present	4 / 4
HUMS 213	World Civilizations to 1600	4 / 4
HUMS 214	World Civilizations from 1600	4 / 4

### **Minimum Total Credit Hours**

92 credits / 93 billing hours



## **Oakland University**

### **General Education – Transfer (MTA) Courses**

(For the list of options, see [General Education](#))

- Any non-BIOL MTA Science course, 3 credits / 3 billing hours
- Any non-ECON MTA Social Science course, 3 credits / 3 billing hours
- Two MTA Humanities courses from 2 disciplines, 6 credits / 6 billing hours

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
ENGL 127	Business Writing	3 / 3
MATH 141	Calculus with Applications	4 / 4
STAT 215	Intro to Probability and Statistics	4 / 4

### **Program of Study Required Courses, Limited Choice– *Select one***

Course Code	Course Title	Credit / Billing Hours
ENGL 122	Composition II	4 / 4
ENGL 132	Honors Composition II	4 / 4

### **Minimum Total Credit Hours**

93 credits / 94 billing hours

## **Siena Heights University (Business)**

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
ENGL 127	Business Writing	3 / 3

### **Program of Study Required Courses, Limited Choice– *Select one***

Course Code	Course Title	Credit / Billing Hours
ENGL 122	Composition II	4 / 4
ENGL 132	Honors Composition II	4 / 4

### **Program of Study Required Courses, Limited Choice– *Select two***

Course Code	Course Title	Credit / Billing Hours
MKTG 119	Mktg/Manage Your Professional Image	3 / 3
MKTG 221	Consumer Behavior	3 / 3
MKTG 229	Public Relations	3 / 3

### **Program of Study Required Courses, Limited Choice– *Select 6 credits***

- Any combination of MGMT courses (200 level or higher)

### **Minimum Total Credit Hours**

85 credits / 86 billing hours



## **Manufacturing Engineering Technology A.A.S.**

Career Community: Electrical and Manufacturing

Curriculum Code: 1359

Effective: Fall 2022 – Summer 2027

### **Description**

This program prepares individuals to apply technical skills and advanced computer software to the manufacturing of machined components relating to a broad range of industries. Students receive instruction in manual machine tools, computer numerical control (CNC) machine programming and operation, computer-aided manufacturing (CAM) design/programming, manufacturing processes, metrology, metallurgy, geometric dimensioning and tolerancing, three-dimensional engineering design graphics, and parametric modeling. Employment possibilities include engineering firms and manufacturing companies in the automotive, defense, special machinery, and medical components industries to name a few. Students completing this pathway would also qualify for the CNC Machine Technology Certificate of Achievement.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of METD 130 and METM 112 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

Students who have already completed DCTM 102, ELTE 102, HVAC 102, METS 102, or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for TECH 102.

### **Contact Information**

Contact the Trades Technology Program, West Campus Building, Room M103, telephone number 517-483-5338 or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

### **General Education - Applied Degrees, Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*  
ENGL 124, Technical Writing, 3 credits / 3 billing hours
- English Composition (Second Course)/Communications or Applied Communications – *Select one*  
COMM 110, Communication in the Workplace, 3 credits / 3 billing hours
- Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one*  
MGMT 234, Diversity in the Workplace, 3 credits / 3 billing hours

- Mathematics or Applied Mathematics – *Select one*  
MATH 115, Technical Math II, 4 credits / 4 billing hours
- Natural Sciences Lab or Applied Science and Technology Lab – *Select one*  
METM 190, Metallurgy and Heat Treatment, 4 credits / 6 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
METD 100	Basic Mechanical Drafting	3 / 4
METD 110	Mechanical CAD Drafting I	4 / 6
METD 130	Geometric Dimension/Tolerance	4 / 6
METD 220	Basic Unigraphics/NX	4 / 6
METM 108	Machine Tool Operations	4 / 6
METM 112	Introduction to CNC Machining	4 / 6
METM 150	Advanced CNC Machining	4 / 6
METM 195	Quality/Metrology/Inspection	2 / 3
METM 220	Basic Mastercam	4 / 6
METM 221	Advanced Mastercam	4 / 6
METS 115	Intro to Mechanical Systems	4 / 6
TECH 102	General Industry Safety	2 / 3

### Minimum Total Credit Hours

60 credits / 83 billing hours

### Recommended Course Sequence

Semester I
Gen Ed – Mathematics or Applied Mathematics
METD 100
METM 108
TECH 102

Semester II
METD 110
METD 130 – Milestone course
METM 112 – Milestone course
METM 220

Semester III
Gen Ed – English Composition or Applied English
Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab
METM 150
METM 195
METM 221

Semester IV
Gen Ed – English Composition (Second Course)/ Communications or Applied Communications
Gen Ed – Humanities and Fine Arts or Social Sciences or Applied Social Sciences
METD 220
METS 115

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## **Marketing A.B.**

Career Community: Business

Curriculum Code: 0204

Effective: Fall 2022 – Summer 2027

### **Purpose of Major**

This major is designed for students wishing to work in the field of Marketing on completion of the Associate of Business degree. Marketing is the set of activities that aims to satisfy the customer while making a profit. It is concerned with determining need and meeting demand by making goods and services known, available, and affordable. Entry-level personnel may require time in sales before internal promotion into marketing management positions. Graduates of this program are prepared to work in nearly every type of business and organization today. Traditional product marketing management is giving way to areas like nonprofit organization marketing, leading to a diverse job opportunity picture. Not all courses in this program transfer to all colleges. Students who also wish to transfer to a four-year institution should select coursework indicated for that institution and complete the coursework for a Business, Enhanced AB degree. The Business, Enhanced AB option allows students to transfer additional credits toward the Bachelor's degree. This allows completion of credits required for employment and of additional requirements for the Bachelor's. Institutions accepting coursework for Business, Enhanced AB, Marketing track degrees include Davenport University, Eastern Michigan University, Ferris State University (Business Administration – Professional Track), Northwood University, Oakland University, and Siena Heights University.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of MKTG 200 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in this course.

### **Contact Information**

Contact the Business and Economics Department, Gannon Building, Room 1222, telephone number 517-483-1546 or the Academic Advising Department, Gannon Building – Star Zone, telephone number 517-483-1904.

### **General Education – Applied Degree Courses, Recommended Courses**

Select courses as indicated for specific transfer institutions. These courses are preferred General Education courses listed on Transfer Articulation agreements. The recommended courses in each General Education category also meet Michigan Transfer Agreement (MTA) requirements. If no course is indicated, choose from the list of options under [General Education](#). A minimum grade of 2.0 is required for each General Education course.

- English Composition or Applied English  
Business Career Community Courses meet this requirement.

- English Composition (Second Course) or Communications or Applied Communications  
Business Career Community Courses meet this requirement.
- Humanities and Fine Arts or Social Science or Applied Social Science  
Business Career Community Courses meet this requirement.
- Mathematics or Applied Mathematics  
Business Career Community Courses meet this requirement.
- Natural Sciences Lab or Applied Science and Technology Lab  
Business Career Community Courses meet this requirement.

**Business Career Community Required Courses** – *These courses are required for all Business programs. They should be taken before other Program Required or Limited Choice Courses. Some courses meet General Education requirements for Michigan Transfer Agreement (MTA). A minimum of 2.0 is required to transfer to other colleges (some colleges, and some programs within colleges, require a higher grade in a course.)*

Course Code	Course Title	Credit / Billing Hours
ACAD 100	First Year College Experience	1 / 1
ACCG 210	Principles of Financial Accg	4 / 4
BIOL 120 or BIOL 125	Environmental Science Introductory Biology	4 / 6 4 / 5
BUSN 118	Introduction to Business	3 / 3
COMM 110 or COMM 130	Communication in the Workplace Fundamentals Public Speaking	3 / 3 3 / 3
ECON 201	Principles of Economics - Micro	4 / 4
ENGL 121 or ENGL 131	Composition I Honors Composition I	4 / 4 4 / 4
LEGL 215	Business Law – Basic Principles	3 / 3
MATH 119 or MATH 120 or STAT 170	Math – Applications for Living College Algebra Introduction to Statistics	4 / 4 4 / 4 4 / 4
MGMT 225	Principles of Mgmt/Leadership	3 / 3
MKTG 200	Principles of Marketing	3 / 3

Notes:

ACAD 100 may be waived based on the recommendation of a Program Advisor.

For students not considering transfer as an option, MGMT 234, Diversity in the Workplace, may be substituted for ECON 201 using the Course Substitution process. MGMT 234 meets LCC General Education requirements for Applied Degrees – Humanities or Social Science or Applied Social Science. MGMT 234 does not meet Michigan Transfer Agreement (MTA) Social Science requirements for transfer as a General Education course.

For future transfer to:

- Davenport University choose COMM 110 and STAT 170.
- Eastern Michigan University choose STAT 170.
- Ferris State University choose COMM 130 and STAT 170.
- Northwood University and Oakland University choose MATH 120.
- Siena Heights University (Bachelor of Business Administration major) choose BIOL 120 and STAT 170.
- Siena Heights University (Bachelor of Professional Communications major) choose COMM 130.

**Program of Study Required Courses - A minimum of 2.0 is required to transfer to other colleges (some colleges, and some programs within colleges, require a higher grade in a course.)**

Course Code	Course Title	Credit / Billing Hours
MKTG 119	Mktg/Manage Your Profess Image	3 / 3
MKTG 120	Sales	3 / 3
MKTG 130	Retailing	3 / 3
MKTG 140	Introduction to Advertising	3 / 3
MKTG 202	Managerial Marketing	3 / 3
MKTG 204	Marketing Research	3 / 3
MKTG 210	Marketing on the Internet	3 / 3
MKTG 221	Consumer Behavior	3 / 3
MKTG 229	Public Relations	3 / 3

**Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
ACCG 211	Principles of Managerial Accg	4 / 4
MKTG 235	Marketing Internship	3 / 3

### Minimum Total Credit Hours

66 / 67 billing hours

### Recommended Course Sequence

Semester I
ACAD 100
BUSN 118
ENGL 121 or ENGL 131
MKTG 119
MKTG 200 – Milestone course

Semester II
LEGL 215
MATH 119 or MATH 120 or STAT 170
MGMT 225
MKTG 120



Semester III
ACCG 210
MKTG 140
MKTG 204
MKTG 221

Semester IV
COMM 110 or COMM 130
MKTG 130
MKTG 202
MKTG 229

Semester V
BIOL 120 or BIOL 125
ECON 201
MKTG 210
Limited Choice

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## Marketing C.A.

Career Community: Business

Curriculum Code: 0225

Effective: Fall 2022 – Summer 2027

### Purpose of Major

Certificate holders may improve their opportunities for advancement in this or a related area. Additional education enhances an individual's employment opportunities. Students in this curriculum learn the basics of marketing in relation to other business operations. Students may complete this certificate as part of the Marketing Associate of Business degree.

### Milestone

Completion of MKTG 200, with a 2.0 or higher, is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in this course.

### Contact Information

Contact the Business and Economics Department, Gannon Building, Room 1222, telephone number 517-483-1546 or the Academic Advising Department, Gannon Building – Star Zone, telephone number 517-483-1904.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
BUSN 118	Principles of Business	3 / 3
MKTG 119	Mktg/Manage Your Profess Image	3 / 3
MKTG 120	Sales	3 / 3
MKTG 200	Principles of Marketing	3 / 3
MKTG 202	Managerial Marketing	3 / 3

### Program of Study Required Courses, Limited Choice – Communication and Composition – *Select one*

Course Code	Course Title	Credit / Billing Hours
COMM 130	Fundamentals Public Speaking	3 / 3
ENGL 121	Composition I	4 / 4
ENGL 127	Business Writing	3 / 3
ENGL 131	Honors Composition I	4 / 4

Note:

Students considering completing the Marketing Associates of Business degree should choose ENGL 121 or ENGL 131.

**Program of Study Required Courses, Limited Choice - Marketing - *Select four courses, minimum of twelve credits***

Course Code	Course Title	Credit / Billing Hours
MKTG 130	Retailing	3 / 3
MKTG 140	Introduction to Advertising	3 / 3
MKTG 204	Marketing Research	3 / 3
MKTG 210	Marketing on the Internet	3 / 3
MKTG 221	Consumer Behavior	3 / 3
MKTG 229	Public Relations	3 / 3
MKTG 235	Marketing Internship	3 / 3

**Minimum Total Credit Hours**

30 credits / 30 billing hours

**Recommended Course Sequence**

Semester I
BUSN 118
MKTG 119
MKTG 200 – Milestone course
Limited Choice – Composition and Communication
Limited Choice – Marketing

Semester II
MKTG 120
MKTG 202
Limited Choice – Marketing
Limited Choice – Marketing
Limited Choice - Marketing

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## **Business, Enhanced A.B.**

### **Marketing Track**

Career Community: Business

Curriculum Code: 1822

Effective: Fall 2022 – Summer 2027

Revised: 7/8/22

### **Purpose of Major:**

This degree is designed for students wishing to transfer after having completed the Associate in Business, Major in Marketing degree. This Enhanced AB option allows completion of credits required for employment through the AB and completion of additional courses required for the Bachelor's degree, as designated by transfer articulation agreements. Required coursework follows for the Marketing subtracks of the Business, Enhanced AB for students transferring to Davenport University, Eastern Michigan University, Ferris State University, Northwood University, Oakland University, and Siena Heights University.

### **Contact Information**

Before beginning this program of study, students must contact the Business and Economics Department, Gannon Building, Room 1222, telephone number 517-483-1546, or the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

### **Program of Study Required Courses:**

Completion of an LCC associate in Business is required for the Business, Enhanced degree. Completion of the AB in [Marketing \(0204\)](#), as required for the specified transfer institution, is the most efficient path to completing the Enhanced degree Accounting track. Students who have completed a different degree will need to work with a Program Advisor to create a personalized MAP (My Academic Pathway) in Degree Works to ensure that all requirements are met.

### **Recommended Courses by College/University**

Completing courses as directed meets transfer articulation agreement requirements for each institution.

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*

## **Davenport University (Marketing)**

### **General Education – Transfer (MTA) Courses**

(For the list of options, see [General Education](#))

- Any non-ECON MTA Social Science course, 3 credits / 3 billing hours
- Any MTA Humanities course, 3 credits / 3 billing hours

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
ACCG 271	Principles of Finance	3 / 3
MATH 120	College Algebra	4 / 4
MGMT 234	Diversity in the Workplace	3 / 3
MGMT 332	Ethics: Assumpt for the Future	3 / 3

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
ENGL 122	Composition II	4 / 4
ENGL 132	Honors Composition II	4 / 4

### **Minimum Total Credit Hours**

89 credits / 90 billing hours

## **Eastern Michigan University**

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
MUSC 199	Music Appreciation	3 / 3

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
ANTH 270	Cultural Anthropology	3 / 3
COMM 280	Intercultural Communication	3 / 3
GEOG 200	World Regional Geography	4 / 4

### **Program of Study Required Courses, Limited Choice - *Select one***

Course Code	Course Title	Credit / Billing Hours
ASTR 201	Introductory Astronomy	4 / 5
CHEM 135	Chemistry in Society	4 / 5
GEOG 221	Physical Geography	4 / 4
ISCI 131	Integrated Physical Science	4 / 6

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
ENGL 122	Composition II	4 / 4
ENGL 132	Honors Composition II	4 / 4

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
PHIL 151	Intro to Logic & Critical Think	4 / 4
PHIL 152	Introduction to Ethics	4 / 4

### **Minimum Total Credit Hours**

84 credits / 85 billing hours

## **Ferris State University**

### **General Education – Transfer (MTA) Courses**

(For the list of options, see [General Education](#))

- Any non-BIOL MTA Science course, 3 credits / 3 billing hours
- Any non-ECON MTA Social Science course, 3 credits / 3 billing hours
- Two MTA Humanities courses from 2 different disciplines, 6 credits /6 billing hours

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
BUSN 201	International Business	3 / 3
LEGL 216	Commercial Transactions	3 / 3

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
ENGL 122	Composition II	4 / 4
ENGL 127	Business Writing	3 / 3
ENGL 132	Honors Composition II	4 / 4

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
MATH 119	Math-Applications for Living	4 / 4
MATH 120	College Algebra	4 / 4

### **Minimum Total Credit Hours**

91 credits / 92 billing hours

## **Northwood University (Marketing)**

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
CITA 110	Intro to Microsoft Office	3 / 3
MGMT 234	Diversity in the Workplace	3 / 3
MGMT 300	Leading for Possibility	3 / 3
MGMT 329	Advanced Mgmt Communication	3 / 3
MGMT 332	Ethics: Assumpt for the Future	3 / 3
MGMT 335	Managerial Statistics	3 / 3

### **Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
ENGL 122	Composition II	4 / 4
ENGL 132	Honors Composition II	4 / 4

### **Minimum Total Credit Hours**

88 credits / 89 billing hours



## **Oakland University**

### **General Education – Transfer (MTA) Courses**

(For the list of options, see [General Education](#))

- Any non-BIOL MTA Science course, 3 credits / 3 billing hours
- Any non-ECON MTA Social Science course, 3 credits / 3 billing hours
- Two MTA Humanities courses from 2 disciplines, 6 credits / 6 billing hours

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
MATH 141	Calculus with Applications	4 / 4
STAT 215	Intro to Probability and Stats	4 / 4

### **Program of Study Required Courses, Limited Choice– *Select one***

Course Code	Course Title	Credit / Billing Hours
ENGL 122	Composition II	4 / 4
ENGL 132	Honors Composition II	4 / 4

### **Minimum Total Credit Hours**

90 credits / 91 billing hours

## **Siena Heights University (Business)**

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
ENGL 127	Business Writing	3 / 3
MGMT 200	Creative Thinking for Business	3 / 3
MGMT 234	Diversity in the Workplace	3 / 3

### **Program of Study Required Courses, Limited Choice– *Select one***

Course Code	Course Title	Credit / Billing Hours
ENGL 122	Composition II	4 / 4
ENGL 132	Honors Composition II	4 / 4

### **Minimum Total Credit Hours**

79 credits / 80 billing hours



## Massage Therapy C.C.

Career Community: Health and Human Service Careers

Curriculum Code: 1826

Effective: Fall 2022 – Summer 2025

### Description

The Massage Therapy Program prepares an individual in the field of massage and bodywork. Massage therapists may be employed in private practice or in a variety of health care settings, spas, and exercise facilities. This program is accredited by the Commission on Massage Therapy Accreditation (COMTA), 2101 Wilson Blvd, Suite 302. Arlington, VA 22201. The Program is also a school member of the American Massage Therapy Association (AMTA). Successful completion of this program prepares an individual for testing through the Massage and Bodywork Licensing Exam (MBLEx).

### Milestone

Completion of MSGE 131, MSGE 132A, and MSGE 132B with a 2.5 or higher are key components for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Additional Information

Students must complete all required courses with a minimum grade of 2.5 to receive this Certificate of Completion.

Students who are interested in pursuing an associate degree after completing this certificate may complete BIOL 145, or BIOL 201 and BIOL 202, in lieu of MSGE 132A and MSGE 132B. Upon completion, students wishing to pursue an associate degree should declare the Allied Health A.A.S. major. Courses in this certificate program of study may be applied toward that degree.

### Contact Information

Contact the Massage Therapy Program, Health and Human Services Building, Room 108, telephone number 517-483-1410, or the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
MSGE 131	Massage I	2.13 / 4
MSGE 132A	Anatomy/Physiology Massage I	2.13 / 4
MSGE 132B	Anatomy/Physiology Massage II	1.06 / 2
MSGE 137	Medical Terminology in Massage	1.06 / 2
MSGE 139A	Pathology for Massage I	.53 / 1
MSGE 139B	Pathology for Massage II	.53 / 1
MSGE 141	Massage Clinic I	1.33 / 2.5
MSGE 151A	Research Literacy	.80 / 1.5

Course Code	Course Title	Credit / Billing Hours
MSGE 151B	Event Massage	.80 / 1.5
MSGE 151C	Maternal/Infant Massage	.53 / 1
MSGE 151D	Special Populations	.80 / 1.5
MSGE 231	Massage II	2.13 / 4
MSGE 232	Massage III	2.13 / 4
MSGE 235	Licensing Exam Prep	.53 / 1
MSGE 241	Massage Clinic II	1.33 / 2.5
MSGE 242	Massage Clinic III	1.60 / 3
MSGE 252	Energy-Based Modalities	1.06 / 2
MSGE 253	Spa & Clinic Modalities	1.06 / 2
MSGE 254	Busn App for Massage	1.06 / 2
MSGE 256	Clinical Assess for Massage	1.06 / 2
MSGE 258	Career Longevity	1.06 / 2

### Minimum Total Credit Hours

24.72 credits / 46.5 billing hours

### Required Course Sequence – Daytime Cohort

Semester I (Fall 2022)
MSGE 131 – Milestone course
MSGE 132A – Milestone course
MSGE 137
MSGE 139A
MSGE 151A
MSGE 151B
MSGE 258

Semester II (Spring 2023)
MSGE 132B – Milestone course
MSGE 139B
MSGE 141
MSGE 151C
MSGE 231
MSGE 232
MSGE 241
MSGE 256

Semester III (Summer 2023)
MSGE 151D
MSGE 235
MSGE 242
MSGE 252
MSGE 253
MSGE 254

## Required Course Sequence – Evening Cohort

Semester I (Spring 2023)
MSGE 131 – Milestone course
MSGE 132A – Milestone course
MSGE 137
MSGE 139A
MSGE 258

Semester II (Summer 2023)
MSGE 151C
MSGE 151D
MSGE 252

Semester III (Fall 2023)
MSGE 132B – Milestone course
MSGE 139B
MSGE 141
MSGE 151A
MSGE 151B
MSGE 231
MSGE 256

Semester IV (Spring 2024)
MSGE 232
MSGE 235
MSGE 241
MSGE 242
MSGE 253
MSGE 254

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## **Mathematics A.S.**

Career Community: Science and Mathematics

Curriculum Code: 1620

Effective: Fall 2022 – Summer 2027

### **Purpose of Major**

This degree is designed for students who plan to transfer to a four-year university to pursue a Bachelor's of Science degree in Mathematics with a variety of concentrations. Students completing this degree will also satisfy Michigan Transfer Agreement (MTA) between two-year and four-year institutions in Michigan and qualify for an LCC Transfer Studies Certificate of Achievement (1482). This degree includes a set of courses common to all Science and Mathematics majors and many transfer institutions. Students are encouraged to work with an academic advisor and program advisor to explore transfer opportunities.

Not all courses in this pathway transfer to all colleges. Students who wish to transfer to a four-year institution should select coursework indicated for that institution.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of MATH 151 and MATH 152 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

A student must earn a minimum grade of 2.0 in all courses.

### **Contact Information**

Contact the Mathematics Department, Arts and Sciences Building, Room 3203, telephone number 517-483-1092, or the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

### **General Education – Transfer Degrees (MTA) - Recommended Courses**

Select courses as indicated for specific transfer institutions and majors. These courses are preferred General Education courses listed on Transfer Articulation agreements. The recommended courses in each General Education category also meet Michigan Transfer Agreement (MTA) requirements. If no course is indicated, choose from the list of options under [General Education](#).

- English Composition  
ENGL 121 or ENGL 131 meets this requirement.
- English Composition (second course)/Communications  
COMM 130, ENGL 122, or ENGL 132 meets this requirement.

- Humanities and Fine Arts  
Program of Study Required Courses meets this requirement.
- Mathematics  
Program of Study Required Courses meets this requirement.
- Natural Sciences  
CHEM 151, CHEM 161, and BIOL 120, BIOL 127, GEOL 221, GEOL 230, or PHYS 251 meets this requirement.
- Social Sciences  
Career Community and Program of Study Required Courses meets this requirement.

**Science and Math Career Community Courses** – *These courses are required for all Science and Math programs. They should be taken before other Program Required or Limited Choice Courses. Some courses meet General Education requirements for Michigan Transfer Agreement (MTA). A minimum of 2.0 is required for all courses to transfer to other colleges (some colleges, and some programs within colleges, require a higher grade in a course.)*

Course Code	Course Title	Credit / Billing Hours
ACAD 100	First Year College Experience	1 / 1
ANTH 270 or ECON 120 or ECON 201 or EDUC 204 or EDUC 220 or GEOG 120 or GEOG 200 or POLS 120 or POLS 240 or POLS 260 or PSYC 200 or SOCL 120	Cultural Anthropology Power, Authority, and Exchange Principles of Economics: Micro Educational Psychology Introduction to Education Introduction to Geography World Regional Geography American Political System Introduction to Public Policy Comparative Political Systems Introduction to Psychology Introduction to Sociology	3 / 3 4 / 4 4 / 4 3 / 3 3 / 3 3 / 3 4 / 4 3 / 3 3 / 3 4 / 4 4 / 4 4 / 4
BIOL 120 or BIOL 127 or GEOL 221 or GEOL 230 or PHYS 251	Environmental Science Cell Biology Physical Geology Environmental Geology Physics I with Calculus	4 / 6 4 / 6 4 / 6 4 / 6 5 / 7
CHEM 151	General Chemistry Lecture I	4 / 4
CHEM 161	General Chemistry Lab I	1 / 3
COMM 130 or ENGL 122 or ENGL 132	Fundamentals Public Speaking Composition II Honors Composition II	3 / 3 4 / 4 4 / 4
ENGL 121 or ENGL 131	Composition I or Honors Composition I	4 / 4 4 / 4

Course Code	Course Title	Credit / Billing Hours
MATH 120 or MATH 126 or MATH 151	College Algebra Precalculus Calculus I	4 / 4 5 / 5 4 / 4

Notes:

ACAD 100 may be waived based on the recommendation of a Program Advisor.

Students considering adding Secondary Education Certification in Math or Science in order to teach in Michigan Public Schools are strongly encouraged to select EDUC courses as listed to meet the Michigan Transfer Agreement (MTA) Social Science requirement.

For future transfer (all majors) to:

- Central Michigan University, Ferris State University, Grand Valley State University and Michigan State University choose COMM 130, MATH 151, and PHYS 251.
- Eastern Michigan University, University of Michigan Flint, and Western Michigan University choose ENGL 122, MATH 151 and PHYS 251.

For future transfer (Secondary Education Certification) to:

- Central Michigan University, Ferris State University, or Michigan State University choose EDUC 204.
- Eastern Michigan University, Grand Valley State University, University of Michigan Flint, or Western Michigan University choose EDUC 220.

**Program of Study Required Courses** - *Some courses meet General Education requirements for MTA. A minimum of 2.0 is required to transfer to other colleges (some colleges, and some programs within colleges, require a higher grade in a course.)*

Course Code	Course Title	Credit / Billing Hours
CPSC 101	Intro to Computer Science	3 / 3
CPSC 230	Algorithms and Computing w/C++	4 / 4
CPSC 260	Computer Science Structures	4 / 4
MATH 151	Calculus I	4 / 4
MATH 152	Calculus II	4 / 4
MATH 253	Calculus III	4 / 4
MATH 254	Intro to Differential Equations	4 / 4
MATH 260	Linear Algebra	4 / 4
PHIL 151	Intro to Logic & Critical Think	4 / 4
PHYS 251	Physics I with Calculus	5 / 7



## Program of Study Required Courses, Limited Choice – Humanities and Fine Arts -

*Select one.*

Course Code	Course Title	Credit / Billing Hours
HIST 211	U. S. History to 1877	4 / 4
HIST 212	U. S. History: 1877 to Present	4 / 4
MUSC 240	Musical Cultures to 1750	4 / 4
MUSC 241	Musical Cultures 1750-Present	4 / 4

**Program of Study Required Courses, Limited Choice – Social Sciences -** *Select one from a different discipline chosen for the Science and Math Career Community block of courses. Students considering adding Secondary Certification to teach in Michigan Public Schools are strongly encouraged to select PSYC 200.*

Course Code	Course Title	Credit / Billing Hours
ECON 120	Power, Authority and Exchange	4 / 4
GEOG 200	World Regional Geography	4 / 4
POLS 260	Comparative Political Systems	3 / 3
PSYC 200	Introduction to Psychology	4 / 4
SOCL 120	Introduction to Sociology	4 / 4

## Minimum Total Credit Hours

63 credits / 67 billing hours

## Recommended Course Sequence

Semester I
ACAD 100
CHEM 151
CHEM 161
ENGL 121 or ENGL 131
MATH 151 – Milestone course
PHIL 151

Semester II
ANTH 270, ECON 120, ECON 201, EDUC 204, EDUC 220, GEOG 120, GEOG 200, POLS 120, POLS 240, POLS 260, PSYC 200, or SOCL 120
COMM 130, ENGL 122, or ENGL 132
CPSC 101
MATH 152 – Milestone course

Semester III
CPSC 230
MATH 253
PHYS 251
Limited Choices – Social Sciences

Semester IV
CPSC 260
MATH 254
MATH 260
Limited Choices – Humanities and Fine Arts
Electives as needed to meet degree requirements

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## **Mechanical Systems A.A.S.**

Career Community: Electrical and Manufacturing

Curriculum Code: 0173

Effective: Fall 2022 – Summer 2027

### **Description**

Machine maintenance technicians are involved with the repair, maintenance, and installation of industrial equipment. They repair the machinery of industry, solving mechanical problems. The skills necessary for this type of work are many and varied: critical thinking, problem solving, mechanics, math and physics are but a few. Maintenance technicians also need to know how to diagnose hydraulic problems, perform preventative maintenance procedures, and be able to work well with others. Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of METD 150 and METM 108 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

Students who have already completed DCTM 102, ELTE 102, HVAC 102, METS 102, or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for TECH 102. Any of these courses may also be used to fulfill the prerequisite for the ELTE and METS courses.

Students may substitute ELTE 129 and ELTE 130 for ELTE 131.

### **Contact Information**

Contact the Trades Technology Program at the West Campus Building, Room M103, telephone number 517-483-5338 or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

### **General Education - Applied Degrees, Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*  
ENGL 124, Technical Writing, 3 credits / 3 billing hours
- English Composition (Second Course)/Communications or Applied Communications – *Select one*  
COMM 110, Communication in the Workplace, 3 credits / 3 billing hours

- Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one*  
MGMT 234, Diversity in the Workplace, 3 credits / 3 billing hours
- Mathematics or Applied Mathematics – *Select one*  
MATH 115, Technical Math II, 4 credits / 4 billing hours
- Natural Sciences Lab or Applied Science and Technology Lab – *Select one*  
METM 190, Metallurgy and Heat Treatment, 4 credits / 6 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
ELTE 108	Practical Electricity I	2 / 3
ELTE 109	Practical Electricity II	2 / 3
ELTE 131	Machine Controls I	4 / 5
METD 150	Industrial Blueprint Reading	3 / 3
METM 108	Machine Tool Operations	4 / 6
METS 110	Mechanical Power Transmissions	4 / 6
METS 120	Industrial Pneumatics	4 / 6
METS 130	Industrial Hydraulics	4 / 6
METS 140	Rigging	3 / 4.5
METS 160	Introduction to Robotics	3 / 4.5
METS 210	Lubrication and Bearings	4 / 6
METS 250	Gen. Prevent/Predictive Maint	3 / 4.5
TECH 102	General Industry Safety	2 / 3
WELD 103	Combination Welding	4 / 6

### Minimum Total Credit Hours

63 credits / 85.5 billing hours

### Recommended Course Sequence

Semester I
Gen Ed – Mathematics or Applied Mathematics
ELTE 108 (First 8 weeks)
ELTE 109 (Second 8 weeks)
METD 150 – Milestone course
METS 120
TECH 102

Semester II
ELTE 131
METS 110
METS 130
METS 160

Semester III
Gen Ed – English Composition or Applied English
Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab
METM 108 – Milestone course
METS 210

Semester IV
Gen Ed – English Composition (Second Course)/ Communications and Applied Communications
Gen Ed – Humanities and Fine Arts or Social Sciences or Applied Social Sciences
METS 140
METS 250
WELD 103

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## Mechanical Systems C.A.

Career Community: Electrical and Manufacturing

Curriculum Code: 0147

Effective: Fall 2022 – Summer 2027

### Description

This program provides technical knowledge and skills in the adjustment, maintenance, part replacement, and repair of tools, equipment and machines. It prepares an individual for an entry-level position.

### Milestone

Completion of METD 150 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in this course.

### Additional Information

Students who have already completed DCTM 102, ELTE 102, HVAC 102, METS 102, or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for TECH 102. Any of these courses may also be used to fulfill the prerequisite for the ELTE and METS courses.

Students may substitute ELTE 129 and ELTE 130 for ELTE 131.

### Contact Information

Contact the Trades Technology Program at the West Campus Building, Room M103, telephone number 517-483-5338 or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
ELTE 108	Practical Electricity I	2 / 3
ELTE 109	Practical Electricity II	2 / 3
ELTE 131	Machine Controls I	4 / 5
MATH 115	Technical Math II	4 / 4
METD 150	Industrial Blueprint Reading	3 / 3
METS 110	Mechanical Power Transmissions	4 / 6
METS 120	Industrial Pneumatics	4 / 6
METS 130	Industrial Hydraulics	4 / 6
METS 160	Introduction to Robotics	3 / 4.5
TECH 102	General Industry Safety	2 / 3

### Minimum Total Credit Hours

32 credits / 43.5 billing hours

## Recommended Course Sequence

Semester I
ELTE 108 (First 8 weeks)
ELTE 109 (Second 8 weeks)
MATH 115
METD 150 – Milestone course
METS 120
TECH 102

Semester II
ELTE 131
METS 110
METS 130
METS 160

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## **Mechatronics - Multi-Skilled Maintenance Technology**

### **A.A.S.**

Career Community: Electrical and Manufacturing

Curriculum Code: 1780

Effective: Fall 2022– Summer 2027

### **Description**

A Mechatronics—Multi-Skilled Maintenance Technician will have knowledge of electrical, electronic, computer, mechanical, fluid power, robotic and programmable logic controller systems. Mechatronics Technicians install, maintain, troubleshoot, test, and repair technologically diverse equipment in industries such as manufacturing, aerospace, automotive, medical, material processing, consumer products, and defense systems.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of ELTE 108, METD 150, and METS 125 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

Students who have already completed DCTM 102, ELTE 102, HVAC 102, METS 102, or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for TECH 102. Any of these courses may also be used to fulfill the prerequisite for the ELTE and METS courses.

### **Contact Information**

Visit the Center for Manufacturing Excellence website, or in person at West Campus Building, 5708 Cornerstone Drive, Lansing MI 48917, Room M103, telephone number 517-483-1104 or by [email](mailto:manufacturing@lcc.edu) (manufacturing@lcc.edu).

### **General Education - Applied Degrees, Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*  
ENGL 124, Technical Writing, 3 credits / 3 billing hours
- English Composition (Second Course)/Communications or Applied Communications – *Select one*  
COMM 110, Communication in the Workplace, 3 credits / 3 billing hours
- Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one*  
MGMT 234, Diversity in the Workplace, 3 credits / 3 billing hours



- Mathematics or Applied Mathematics – *Select one*  
MATH 115, Technical Math II, 4 credits / 4 billing hours
- Natural Sciences Lab or Applied Science and Technology Lab – *Select one*  
PHYS 200, Intro to Applied Physics, 4 credits / 5 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
ELTE 108	Practical Electricity I	2 / 3
ELTE 129	Machine Controls I-A	2 / 2.5
ELTE 130	Machine Controls I-B	2 / 2.5
ELTE 132	Control Panel Assembly	2 / 3
ELTE 260	Programmable Controllers I	4 / 6
METD 150	Industrial Blueprint Reading	3 / 3
METM 108	Machine Tool Operations	4 / 6
METS 110	Mechanical Power Transmissions	4 / 6
METS 125	Intro to Hydraulics/ Pneumatics	4 / 6
METS 145	Automated Systems	3 / 4.5
METS 160	Introduction to Robotics	3 / 4.5
METS 250	Gen. Prevent/Predictive Maint	3 / 4.5
METS 260	Advanced Robotics Capstone	3 / 4.5
TECH 102	General Industry Safety	2 / 3
WELD 108	Welding for Non-Majors	4 / 6

### Minimum Total Credit Hours

62 credits / 83 billing hours

### Recommended Course Sequence

Semester I
Gen Ed – Mathematics or Applied Mathematics
ELTE 108 (First 8 weeks) – Milestone course
ELTE 129 (Second 8 weeks)
METD 150 – Milestone course
METS 160
TECH 102

Semester II
ELTE 130 (First 8 weeks)
ELTE 132 (Second 8 weeks)
METM 108
METS 125 – Milestone course
METS 145

Semester III
Gen Ed – English Composition or Applied English
Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab
ELTE 260
METS 110

Semester IV
Gen Ed – English Composition (Second Course)/ Communications or Applied Communications
Gen Ed – Humanities and Fine Arts or Social Sciences or Applied Social Sciences
METS 250
WELD 108

Semester V (Summer)
METS 260

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## Medical Assistant C.A.

Career Community: Health and Human Service Careers

Curriculum Code: 1811

Effective: Fall 2022 – Summer 2024

### Description

The purpose of this program is to produce educated, highly skilled, credentialed medical assistants to meet the needs of our community in its many ambulatory care settings. This three-semester program is designed for each student to successfully achieve all of the competencies listed on the American Medical Technologists (AMT) Medical Assistant Educational Review Board (MAERB) Master Competency list. The focus is on credentialing requirements, including a 160-hour practicum which prepares the student for gainful employment. Upon successful completion of the certificate of achievement students are eligible to take the Registered Medical Assistant exam to become nationally credentialed.

### Milestone

Completion of MEDA 110 and MEDA 156 with a 2.5 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Additional Information

Students must complete all courses with a minimum grade of 2.5 to progress to the next semester and receive this certificate.

NCHE 102, AHA BLS Provider CPR, is a co-requisite requirement for MEDA 166. It is a 5-hour non-credit seminar course, which is flat-rated and not covered by financial aid.

### Contact Information

Contact the Community Health Services Education Program, Health and Human Services Building, Room 108, telephone number 517-483-1410, or the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904. Students should also visit the Health and Human Services Division website for more information.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
MEDA 110	Intro MA Med Terms & Pathology	5 / 5
MEDA 126	MA Administrative Skills	5 / 6
MEDA 135	MA Pharmacology & Med Math	2 / 2
MEDA 145	Legal & Ethical Concepts	2 / 2
MEDA 156	MA Clinical Procedures I	7 / 11
MEDA 166	MA Clinical Procedures II	5 / 7
MEDA 175	MA Certification Review	3 / 3
MEDA 177	MA Practicum Immersion	3 / 3

## Minimum Total Credit Hours

32 credits / 39 billing hours

## Required Course Sequence

Semester I (Fall 2022)
MEDA 110 – Milestone course
MEDA 135
MEDA 156 – Milestone course
Semester II (Spring 2023)
MEDA 126
MEDA 145
MEDA 166
NCHE 102
Semester III (Summer 2023)
MEDA 175
MEDA 177

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## Medical Insurance Billing and Coding C.C.

Career Community: Health and Human Service Careers

Curriculum Code: 1488

Effective: Fall 2022 – Summer 2024

### Description

This curriculum introduces the student to insurance billing, diagnostic and procedure coding for physician and facilities billing as well as comprehensive billing directions for commercial insurances and worker's compensation. Students will also learn to record charges/payments/information; schedule appointments; ICD-10-CM and CPT coding; produce claim forms and patient statements; submit claims electronically; and build office databases. Students following the Suggested Course Sequence at the end of this guide may complete this certificate in one year. Upon successful completion of the program, students are eligible to take various billing and coding certification exams.

### Milestone

Completion of CHSE 123 with a 2.5 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Additional Information

Students must complete all courses with a minimum grade of 2.5 to receive this Certificate of Completion.

Upon completion, students wishing to pursue an associate degree should declare the Allied Health A.A.S. major. Courses in this certificate program of study may be applied toward that degree.

### Contact Information

Contact the Community Health Services Education Programs, Health and Human Services Building, Room 108, telephone number 517-483-1410, or the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
CHSE 120	Medical Terminology	4 / 4
CHSE 123	Medical Ins Billing/Coding I	4 / 4
CHSE 124	Medical Ins Billing/Coding II	4 / 4
CHSE 125	Comp-Med Ins Billing/Coding	2 / 2
CHSE 127	Medical Ins Billing/Coding III	3 / 3
CHSE 130	Medical Ins Bill/Code Extern	3 / 3
CHSE 131	Electronic Hlth Records Intro	2 / 2

## Minimum Total Credit Hours

22 credits / 22 billing hours

## Recommended Course Sequence

Semester I (Fall)
CHSE 120
CHSE 123 – Milestone course
CHSE 131
Semester II (Spring)
CHSE 124
CHSE 125
CHSE 127
Semester III (Summer)
CHSE 130

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## Microsoft Office Specialist C.C.

Career Community: Computer Technology and Networking

Curriculum Code: 0841

Effective: Fall 2022 – Summer 2027

### Description

Completion of this certificate demonstrates competency in Microsoft Office programs and prepares students for the optional Microsoft Certified Applications Specialist (MCAS) exams. The Microsoft certification credential is a globally recognized standard demonstrating software skills widely used in current office environments. Preparation is included for MCAS exams for Word, Excel, Access, PowerPoint and Outlook. Students completing this certificate may use the credits towards the Computer Support Specialist Associate of Business Degree (0713).

### Milestone

Completion of CITA 115 and CITA 119 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Contact Information

Contact the Computer Information Technologies Program at the West Campus Building, Room M103, telephone number 517-267-6406 or Student Services West Campus, West Campus Building, Room M016, telephone number 517-267-5452.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
CITA 115	Microsoft PowerPoint	3 / 3
CITA 119	Microsoft Word	3 / 3
CITA 126	Microsoft Excel	3 / 3
CITA 133	Microsoft Access Database	3 / 3
CITA 140	Microsoft Outlook	3 / 3
CITA 219	Advanced Microsoft Word	3 / 3
CITA 226	Microsoft Excel–Advanced	3 / 3

### Minimum Total Credit Hours

21 credits / 21 billing hours

### Recommended Course Sequence

Semester I
CITA 115 – Milestone course
CITA 119 – Milestone course
CITA 126
CITA 133

Semester II
CITA 140
CITA 219
CITA 226

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## **Mid-Michigan Police Academy C.C.**

Career Community: Public Service Careers

Curriculum Code: 1707

Effective: Fall 2022 – Summer 2023

### **Description**

The Mid-Michigan Police Academy at Lansing Community College is a 17-week basic police training program designed to meet or exceed state mandated certification requirements set by the Michigan Commission on Law Enforcement Standards (MCOLES) for preparing individuals for a career in law enforcement. Within the 17 weeks, more than 700 hours are utilized to provide training in 126 different topic areas. The curriculum includes topics such as criminal law and procedure, investigations, patrol procedures, human relations, conflict mediation, firearms, CSI, precision driving, use of lethal and non-lethal force, defensive tactics, report writing, traffic enforcement, and crime prevention. The emphasis in this academy is placed upon practical and hands-on training techniques. All courses for this program must be completed in a single semester. Students completing this certificate may use the credits towards the Criminal Justice, Law Enforcement Associate in Applied Science Degree (1210).

### **Additional Information**

This is a selective admission program. In order to be considered as a candidate for this program, students must meet basic admission requirements beyond those required for admission to the College. All of the courses for this program are open only to students officially admitted to the Police Academy Program.

### **Contact Information**

The admission and/or program requirements for this program may change each academic year. For the most recent and complete information about admission requirements, contact the Police Academy Office in the Public Service Careers Program, West Campus Building, Room M127, telephone number 517-483-5253 or contact the LCC Admissions Office, Gannon Building – StarZone, telephone number 517-483-1254.

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
CJUS 270	Police Academy I	11 / 14
CJUS 271	Police Academy II	14 / 21
PFFT 114	Advanced Circuit Training	2 / 3
PFHW 120	Health and Wellness for Police	.5 / .5

### **Minimum Total Credit Hours**

27.5 credits / 38.5 billing hours

## Recommended Course Sequence

Semester I
CJUS 270
CJUS 271
PFFT 114
PFHW 120

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## Mobile Application Developer C.A.

Career Community: Computer Technology Networking

Curriculum Code: 1712

Effective: Fall 2022 – Summer 2027

Revised: 6/28/22

### Description

This certificate provides students with an understanding of mobile applications (apps) and how these applications are utilized and integrated to meet specific business needs. The coursework builds a solid foundation of software development skills and introduces the specific skills needed for developing mobile applications. Students will also develop skills in the design of Android and iOS software systems, using appropriate technologies, architectures and techniques. This course work may be applied toward completion of the Computer Programmer/Analyst, Associate of Business degree (0113).

### Milestone

Completion of CITP 130 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in this course.

### Contact Information

Contact the Computer Information Technologies Program at the West Campus Building, Room M103, telephone number 517-267-6406 or Student Services West Campus, West Campus Building, Room M016, telephone number 517-267-5452.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
CITP 110	Intro to Programming-Python	4 / 4
CITP 130	Intro to Mobile App Devel	3 / 3
CITP 180	Intro to C#.NET Programming	4 / 4
CITP 230	Mobile App Devel for Android	4 / 4
CITP 235	Mobile App Devel for Apple	4 / 4
CITW 150	Internet Literacy	3 / 3
CITW 160	Web Development HTML & CSS	3 / 3

### Program of Study Required Courses, Limited Choice - *Select three or four courses for a minimum of nine credits*

Course Code	Course Title	Credit / Billing Hours
CITD 120	SQL Concepts	3 / 3
CITF 140	Information Technology Ethics	3 / 3
CITP 140	Software Testing	3 / 3
CITP 190	Intro to Programming in JAVA	4 / 4
CITP 220	Game Design & Development	2 / 4

Course Code	Course Title	Credit / Billing Hours
CITW 165	Web Development JavaScript	3 / 3
CITW 185	Web Development PHP & MySQL	4 / 4

### Minimum Total Credit Hours

34 credits / 34 billing hours

### Recommended Course Sequence

Semester I
CITP 110
CITW 150
Limited Choice

Semester II
CITP 130 – Milestone course
CITP 180
CITW 160
Limited Choice

Semester III
CITP 230
CITP 235
Limited Choice

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## **Music Transfer A.M.**

Career Community: Music

Curriculum Code: 1827

Effective: Fall 2022 – Summer 2027

### **Purpose of Major**

This degree is designed for students who wish to transfer to a four-year college or university to pursue a Bachelor's degree in this area, either through a Bachelor of Arts degree with a major in music or a Bachelor of Music degree. Students who complete this degree will also satisfy the Michigan Transfer Agreement (MTA) between two-year and four-year institutions in Michigan and will also qualify for an LCC Transfer Studies Certificate of Achievement (1482). In addition, students will complete the Musicianship Studies Certificate of Completion (1352). Not all courses in this pathway transfer to all colleges. Students who also wish to transfer to a four-year institution should select coursework indicated for that institution and may complete the coursework for an Enhanced Associate degree. The Enhanced Associate option allows completion of credits required for employment and of additional requirements for the Bachelor's degree.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of MUSC 157 and MUSC 168 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

A student must earn a minimum grade of 2.0 in all courses.

### **General Education – Applied Degrees, Recommended Courses**

Select courses as indicated for specific transfer institutions. These courses are preferred General Education courses listed on Transfer Articulation agreements. If no course is indicated, choose any listed course, or choose from the list of options under [General Education](#).

- English Composition or Applied English  
ENGL 121 or ENGL 131 will meet this requirement.
- English (Second Course)/Communications or Applied Communications  
COMM 130, ENGL 122, or ENGL 132 will meet this requirement.
- Humanities and Fine Arts or Social Sciences or Applied Social Sciences  
MUSC 241 will meet this requirement.
- Mathematics or Applied Mathematics  
MATH 119, MATH 120, or STAT 170 will meet this requirement.

- Natural Sciences Lab or Applied Science and Technology Lab Program of Study Required Courses will meet this requirement.

**Music Career Community Required Courses** – *These courses are required for all Music programs. They should be taken before other Program Required or Limited Choice Courses. Some courses meet General Education requirements for Michigan Transfer Agreement (MTA).*

Course Code	Course Title	Credit / Billing Hours
ACAD 100	First Year College Experience	1 / 1
COMM 130 or ENGL 122 or ENGL 132	Fundamentals Public Speaking Composition II Honors Composition II	3 / 3 4 / 4 4 / 4
ENGL 121 or ENGL 131	Composition I Honors Composition I	4 / 4 4 / 4
MATH 119 or MATH 120 or STAT 170	Math – Applications for Living College Algebra Introduction to Statistics	4 / 4 4 / 4 4 / 4
MUSC 101 or MUSC 108 or MUSC 121 or MUSC 122 or MUSC 123 or MUSC 124	Vocal Jazz & Pop Ensemble Concert Choir Percussion Ensemble Rock Band Jazz Ensemble Multi-Instrumental Music Ensem	1 / 3 1 / 3 1 / 3 1 / 3 1 / 3 1 / 3
MUSC 138	Keyboard Harmony I	2 / 3
MUSC 157 and MUSC 109	Applied Lessons I Studio Class	2 / 2 1 / 1
MUSC 158 and MUSC 109	Applied Lessons II Studio Class	2 / 2 1 / 1
MUSC 163	Aural Skills I	1 / 2
MUSC 164	Aural Skills II	1 / 2
MUSC 168	Rudiments of Music	3 / 3
MUSC 193	Music Theory I	4 / 4
MUSC 197	Music Tech 1 Home Studio Prod	2 / 3
MUSC 241	Musical Cultures 1750-Present	4 / 4
MUSC 257 and MUSC 109	Applied Lesson III Studio Class	2 / 2 1 / 1

Notes:

- ACAD 100 may be waived based on the recommendation of a Program Advisor.
- Select one ensemble per semester, with MUSC 109 and MUSC 157, 158, 257, or 258. Ensembles may be repeated

For future transfer to:

- Central Michigan University choose ENGL 122, and MATH 119 or MATH 120.  
For BA/BS – Choral, choose MUSC 108 (4 times);  
For BA/BS – Instrumental, BA/BS – Music, BM – Orchestral Instruments, or BM – Piano, choose MUSC 121 or 122 or 123 or 124 (4 times);  
For BM – Theory/Composition, choose MUSC 121 or 122 or 123 or 124 (4 times);  
For BM – Voice, choose MUSC 108 (4 times).
- Eastern Michigan University and University of Michigan Flint choose ENGL 122, and MATH 119 or MATH 120.  
For BA – Instrumental, or BM – Instrumental Performance, choose MUSC 121 or 122 or 123 or 124 (4 times);  
For BA – Vocal, or BM – Vocal Performance, choose MUSC 101 or MUSC 108 (4 times).
- Grand Valley State University and Michigan State University choose COMM 130 and MATH 120.  
For BA – Music, or BM – Instruments, choose MUSC 101 or 108 or 121 or 122 or 123 or 124 (4 times);  
For BM – Voice, choose MUSC 101 or 108 (4 times).
- Michigan State University choose COMM 130, and MATH 119 or MATH 120.  
For BA – Music, or BM – Performance, choose MUSC 101 or 108 or 121 or 122 or 123 or 124 (4 times);  
For BM – Composition, choose MUSC 101 or 108 or 121 or 122 or 123 or 124 (4 times).
- UM Flint choose ENGL 122, and MATH 119 or MATH 120.  
For BA – General Music, or BM – Performance, choose MUSC 101 or 108 or 121 or 122 or 123 or 124 (4 times).
- Western Michigan University choose ENGL 122 and MATH 119.  
For BM – any major, choose MUSC 101 or 108 or 121 or 122 or 123 or 124 (4 times).

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
ANTH 270	Cultural Anthropology	3 / 3
COMM 280	Intercultural Communication	3 / 3
MUSC 199 or MUSC 240	Music Appreciation Musical Cultures to 1750	3 / 3 4 / 4
MUSC 258 and MUSC 109	Applied Lesson IV Studio Class	2 / 2 1 / 1
PFHW 123	Human Nutrition	3 / 3

For future transfer to:

- Central Michigan University, Eastern Michigan University, Grand Valley State University, Michigan State University, and University of Michigan Flint choose MUSC 240.
- Western Michigan University choose MUSC 199.

### Program of Study Required Courses, Limited Choice – Humanities and Fine Arts

– Select one, as indicated for each transfer institution and major. If a specific course is not noted, select any recommended course.

Course Code	Course Title	Credit / Billing Hours
FREN 121 or GRMN 121	Elementary French I Elementary German I	4 / 4 4 / 4
HUMS 211	Art History to the Renaissance	4 / 4
HUMS 212	Art Hist from the Renaissance	4 / 4

For future transfer to:

- Central Michigan University, BM in Voice, choose FREN 121 or GRMN 121.
- Eastern Michigan University, BA in Music, or BM in Performance Instrumental, choose HUMS 211 or HUMS 212.
- Eastern Michigan University, BM in Performance Vocal, choose FREN 121 or GRMN 121.
- Grand Valley State University, BA in Music or BM – Voice, choose FREN 121 or GRMN 121.

### Program of Study Required Courses, Limited Choice – Natural Sciences – Select one.

Course Code	Course Title	Credit / Billing Hours
ASTR 201	Introductory Astronomy	4 / 5
BIOL 120	Environmental Science	4 / 6
BIOL 125	Introductory Biology	4 / 5
CHEM 135	Chemistry in Society	4 / 5
GEOG 221	Physical Geography	4 / 4
GEOL 230	Environmental Geology	4 / 6
ISCI 131	Integrated Physical Science	4 / 6
PHYS 120	The Art of Physics	4 / 5

### Program of Study Required Courses - Limited Choices – Select a minimum of one course as recommended for each transfer institution and major focus.

Course Code	Course Title	Credit / Billing Hours
ENGL 211	World Literature I	4 / 4
ENGL 212	World Literature II	4 / 4
FREN 122 or GRMN 122	Elementary French II Elementary German II	4 / 4 4 / 4
HUMS 120	Masterpieces of Art & Music	4 / 4
HUMS 160	Mythology	4 / 4
HUMS 213	World Civilizations to 1600	4 / 4
HUMS 214	World Civilizations from 1600	4 / 4
MUSC 144	Beginning Piano I	2 / 2
MUSC 145	Beginning Piano II	2 / 2
MUSC 155	Class Voice Commercial I	2 / 3
MUSC 156	Class Voice Commercial II	2 / 3



Course Code	Course Title	Credit / Billing Hours
MUSC 280	Private Composition	1 / 1
MUSC 292	Arranging & Songwriting	3 / 3

For future transfer to:

- Central Michigan University, BA/BS - Choral, choose MUSC 155 and MUSC 156.
- Central Michigan University, BA/BS – Instrumental, BA/BS – Music, BM – Orchestral Instruments, or BM - Piano, choose MUSC 144 and MUSC 145.
- Central Michigan University, BM – Theory/Composition, choose MUSC 144, MUSC 145, and MUSC 292.
- Central Michigan University, BM – Voice, choose FREN 122 or GRMN 122, MUSC 144, and MUSC 145.
- Eastern Michigan University, BA – Instrumental, or BM – Instrumental Performance, choose ENGL 211 or 212 or HUMS 120 or 160.
- Eastern Michigan University, BA – Vocal, or BM – Vocal Performance, choose ENGL 211 or 212 or HUMS 120 or 160 or 213 or 214, and FREN 122 or GRMN 122.
- Grand Valley State University, BM – Voice, choose FREN 122 or GRMN 122.
- Michigan State University, BM – Composition, choose MUSC 144, MUSC 145, and MUSC 280.

### Minimum Total Credit Hours

64 credits / 76 billing hours

### Recommended Course Sequence

Semester I
ACAD 100
ENGL 121 or 131
MUSC 101 or 108 or 121 or 122 or 123 or 124
MUSC 109
MUSC 157 – Milestone course
MUSC 168 – Milestone course
MUSC 197

Semester II
COMM 130 or ENGL 122 or ENGL 132
MATH 119 or MATH 120 or STAT 170
MUSC 101 or 108 or 121 or 122 or 123 or 124
MUSC 109
MUSC 138
MUSC 158
MUSC 163
MUSC 193

Semester III
ANTH 270 or COMM 280
MUSC 101 or 108 or 121 or 122 or 123 or 124
MUSC 109
MUSC 164
MUSC 194
MUSC 241
MUSC 257
Limited Choice - Natural Sciences

Semester IV
ANTH 270 or COMM 280
MUSC 101 or 108 or 121 or 122 or 123 or 124
MUSC 109
MUSC 199 or 240
MUSC 258
PFHW 123
Limited Choice – Humanities and Fine Arts
Limited Choice

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## **Music G.A.**

Career Community: Music

Curriculum Code: 1828

Effective: Fall 2022 – Summer 2027

### **Purpose of Major:**

This degree is designed for students wishing to work in any Music-related field. The degree includes a common set of courses applicable to all Music majors and to many transfer institutions. Students beginning their college study in this degree program are encouraged to work with academic and program advisors throughout their first few semesters of study to determine their specific major area and transfer destination (if transfer is a goal). Students may select the Music A.M., Music Education/Pre-Music Therapy A.M., Music Industry A.M., or an Associate of Music degree that leads directly to employment in the Music Industry field and also may transfer to Ferris State University in the Bachelor of Science degree with major in Music and Entertainment Business. Not all courses in this pathway transfer to all colleges. Students who also wish to transfer to a four-year institution should select coursework indicated for that institution and may complete the coursework for an Enhanced Associate degree. The Enhanced Associate option allows students to transfer additional credits (depending on institution) toward the Bachelor's degree. This allows completion of credits required for employment and of additional requirements for the Bachelor's degree.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of MUSC 157 and MUSC 168 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Contact Information**

Contact the Communications and the Arts Department, Gannon Building, Room 1222, telephone number 517-483-1546.

### **General Education – Applied Degrees - Recommended Courses**

Select courses as indicated for specific transfer institutions. These courses are preferred General Education courses listed on Transfer Articulation agreements. The recommended courses in each General Education category also meet Michigan Transfer Agreement (MTA) requirements. If no course is indicated, choose any listed course or choose from the list of options under [General Education](#). A minimum grade of 2.0 is required for each General Education course.

- English Composition or Applied English  
ENGL 121 or ENGL 131 meets this requirement.
- English Composition (second course)/Communications or Applied Communications  
COMM 130, ENGL 122, or ENGL 132 meets this requirement.
- Humanities and Fine Arts or Social Sciences or Applied Social Sciences - *Select one*  
MUSC 241 meets this requirement.
- Mathematics or Applied Mathematics - *Select one.*  
MATH 119 or MATH 120 or STAT 170 meets this requirement.
- Natural Sciences Lab or Applied Science and Technology Lab - *Select one*  
ASTR 201, BIOL 120, BIOL 125, CHEM 135, GEOG 221, GEOL 230, or ISCI 131 meets this requirement.

**Music Career Community Required Courses** – *These courses are required for all Music programs. They should be taken before other Program Required or Limited Choice Courses. Some courses meet General Education requirements for LCC General Education – Applied Degrees and Michigan Transfer Agreement (MTA). A minimum of 2.0 is required to meet LCC degree requirements for General Education courses and for all courses to transfer to other colleges (some colleges, and some programs within colleges, require a higher grade in a course.)*

Course Code	Course Title	Credit / Billing Hours
ACAD 100	First Year College Experience	1 / 1
COMM 130 or ENGL 122 or ENGL 132	Fundamentals Public Speaking Composition II Honors Composition II	3 / 3 4 / 4 4 / 4
ENGL 121 or ENGL 131	Composition I Honors Composition I	4 / 4 4 / 4
MATH 119 or MATH 120 or STAT 170	Math – Applications for Living College Algebra Introduction to Statistics	4 / 4 4 / 4 4 / 4
MUSC 101 or MUSC 108 or MUSC 121 or MUSC 122 or MUSC 123 or MUSC 124	Vocal Jazz & Pop Ensemble Concert Choir Percussion Ensemble Rock Band Jazz Ensemble Multi-Instrumental Music Ensem	1 / 3 1 / 3 1 / 3 1 / 3 1 / 3 1 / 3
MUSC 138	Keyboard Harmony I	2 / 3
MUSC 157 and MUSC 109	Applied Lesson I Studio Class	2 / 2 1 / 1
MUSC 158 and	Applied Lesson II	2 / 2

Course Code	Course Title	Credit / Billing Hours
MUSC 109	Studio Class	1 / 1
MUSC 163	Aural Skills I	1 / 2
MUSC 164	Aural Skills II	1 / 2
MUSC 168	Rudiments of Music	3 / 3
MUSC 193	Music Theory I	4 / 4
MUSC 197	Music Tech 1 Home Studio Prod	2 / 2
MUSC 241	Musical Cultures 1750-Present	4 / 4
MUSC 257 and MUSC 109	Applied Lesson III Studio Class	2 / 2 1 / 1

Notes:

- ACAD 100 may be waived based on the recommendation of a Program Advisor.
- Select one ensemble per semester, with MUSC 109 and MUSC 157, 158, or 257. Ensembles may be repeated.

For future transfer to:

- Central Michigan University choose ENGL 122, and MATH 119 or MATH 120.
- Ferris State University choose COMM 130, and MATH 119 or MATH 120.
- Grand Valley State University and Michigan State University choose COMM 130 and MATH 120.
- Eastern Michigan University and University of Michigan Flint choose ENGL 122 and MATH 120.
- Western Michigan University choose ENGL 122 and MATH 119.

**Program of Study Required Courses, Limited Choices – Natural Sciences Lab or Applied Science and Technology Lab – *Select one***

Course Code	Course Title	Credit / Billing Hours
ASTR 201	Introductory Astronomy	4 / 5
BIOL 120	Environmental Science	4 / 6
BIOL 125	Introductory Biology	4 / 5
CHEM 135	Chemistry in Society	4 / 5
GEOG 221	Physical Geography	4 / 4
GEOG 230	Environmental Geology	4 / 6
ISCI 131	Integrated Physical Science	4 / 6

**Program of Study Required Courses, Limited Choices** - *Select a minimum of 13 credits to reach the 60 total credits required for the degree. Work with an Academic Advisor or Program Advisor to select the most appropriate courses or to select a field-specific major or transfer major that meets your educational and career goals. Some courses meet General Education requirements for Michigan Transfer Agreement (MTA). A minimum of 2.0 is required to transfer to other colleges (some colleges, and some programs within colleges, require a higher grade in a course.)*

Course Code	Course Title	Credit / Billing Hours
ANTH 270	Cultural Anthropology	3 / 3
BUSN 118	Introduction to Business	3 / 3
COMM 280	Intercultural Communication	3 / 3
DANC 101 or DANC 102 or DANC 103 or DANC 104	Beginning Ballet Beginning Modern Beginning Jazz Beginning Tap	2 / 3 2 / 3 2 / 3 2 / 3
DMAC 121	Digital Audio Production II	4 / 4
DMAC 122	Audio Recording I	4 / 4
EDUC 204	Educational Psychology	3 / 3
EDUC 220	Introduction to Education	3 / 3
EDUC 230	Intro to Special Education	3 / 3
ENGL 211	World Literature I	4 / 4
ENGL 212	World Literature II	4 / 4
HUMS 211	Art History to the Renaissance	4 / 4
HUMS 212	Art Hist from the Renaissance	4 / 4
MGMT 225	Principles Mgmt/Leadership	3 / 3
MKTG 200	Principles of Marketing	3 / 3
MUSC 106	Private Music Lesson	2 / 2
MUSC 143	Beginning Piano I - Summer	1 / 1
MUSC 144	Beginning Piano I	2 / 2
MUSC 145	Beginning Piano II	2 / 2
MUSC 155	Class Voice Commercial I	2 / 3
MUSC 156	Class Voice Commercial II	2 / 3
MUSC 188	Class Guitar	2 / 2
MUSC 194	Music Theory II	4 / 4
MUSC 199	Music Appreciation	3 / 3
MUSC 237	Musical Theater Performance	2 / 3
MUSC 240	Musical Cultures to 1750	4 / 4
MUSC 246	Appreciation of Jazz	2 / 2
MUSC 247	History and Culture of Rock	2 / 2
MUSC 255	Music Business & Management	4 / 4
MUSC 258 and MUSC 109	Applied Lesson IV Studio Class	2 / 2 1 / 1
MUSC 270	Rock Guitar	2 / 2
MUSC 280	Private Composition	1 / 1

Course Code	Course Title	Credit / Billing Hours
MUSC 292	Arranging & Songwriting	3 / 3
MUSC 296	Music Internship	3 / 3
MUSC 298	Music Tech 2 Advanced Studio	3 / 3
PFHW 123	Human Nutrition	3 / 3
PHIL 151	Intro to Logic & Critical Think	4 / 4
PHIL 152	Introduction to Ethics	4 / 4
PHYS 120	The Art of Physics	4 / 5
PSYC 200	Introduction to Psychology	4 / 4
PSYC 221	Child Psychology	3 / 3
PSYC 250	Abnormal Psychology	3 / 3
RELG 150	Intro to World Religions	4 / 4

Note:

If selecting MUSC 258, take with MUSC 109 and an Ensemble class.

### Minimum Total Credits Hours

60 credits / 71 billing hours

### Recommended Course Sequence

#### College-ready Full-time

Semester I (Fall)
ACAD 100 (if waived, substitute Career Community course) ENGL 121 or ENGL 131 MUSC 101 or 108 or 121 or 122 or 123 or 124 MUSC 109 MUSC 157 – Milestone course MUSC 168 – Milestone course MUSC 197

Semester II (Spring)
COMM 130 or ENGL 122 or ENGL 132 MATH 119 or MATH 120 or STAT 170 MUSC 101 or 108 or 121 or 122 or 123 or 124 MUSC 109 MUSC 138 MUSC 158 MUSC 163 MUSC 193

<b>Semester III (Fall)</b>
MUSC 101 or 108 or 121 or 122 or 123 or 124 MUSC 109 MUSC 164 MUSC 194 MUSC 241 MUSC 257 Limited Choice - Natural Science or Applied Science and Technology Lab
Students who have decided on an academic program within the Music Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.

<b>Semester IV</b>
Limited Choice courses for students completing the Music GA

### College-ready Part-time

<b>Semester I (Fall)</b>
ACAD 100 (if waived, substitute Career Community course) ENGL 121 or ENGL 131 MUSC 101 or 108 or 121 or 122 or 123 or 124 MUSC 109 MUSC 157 – Milestone course MUSC 168 – Milestone course

<b>Semester II (Spring)</b>
MATH 119 or MATH 120 or STAT 170 MUSC 101 or 108 or 121 or 122 or 123 or 124 MUSC 109 MUSC 158 MUSC 197

<b>Semester III (Summer – optional)</b>
COMM 130 or ENGL 122 or ENGL 132

<b>Semester IV (Fall)</b>
COMM 130 or ENGL 122 or ENGL 132 (if no Summer enrollment) MUSC 101 or 108 or 121 or 122 or 123 or 124 MUSC 109 MUSC 163 MUSC 193 MUSC 257

<b>Semester V (Spring)</b>
MUSC 101 or 108 or 121 or 122 or 123 or 124



Semester V (Spring)
MUSC 109 MUSC 164 MUSC 194 MUSC 258
Students who have decided on an academic program within the Music Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.

Semester VI (Fall)
MUSC 138 MUSC 241
Students who have decided on an academic program within the Music Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.
Limited Choice courses for students completing the Music GA

Semester VII
Limited Choice courses for students completing the Music GA

### **MATH 097/MATH 109**

Semester I (Fall)
ACAD 100 (if waived, substitute Career Community course) ENGL 121 MUSC 101 or 108 or 121 or 122 or 123 or 124 MUSC 109 MUSC 157 – Milestone course MUSC 168 – Milestone course MUSC 197

Semester II (Spring)
MATH 119 or STAT 170 (with MATH 097 if needed), or MATH 109 MUSC 101 or 108 or 121 or 122 or 123 or 124 MUSC 109 MUSC 138 MUSC 158 MUSC 163 MUSC 193

Semester III (Summer – optional)
COMM 130 or ENGL 122 or ENGL 132 MATH 120 (if MATH 109) If MATH 119 or STAT 170 (with MATH 097 if needed)

Semester III (Summer – optional)
Students who have decided on an academic program within the Music Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.

Semester IV (Fall)
COMM 130 or ENGL 122 or ENGL 132 (if no Summer enrollment) MATH 120 (if no Summer enrollment and MATH 109) MUSC 101 or 108 or 121 or 122 or 123 or 124 MUSC 109 MUSC 164 MUSC 194 MUSC 257
Students who have decided on an academic program within the Music Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.

Semester V
Limited Choice courses for students completing the Music GA

Note: MATH 097 and MATH 109 are developmental prerequisites and do not count toward program credit totals.

### **MATH 106**

Semester I (Fall)
ACAD 100 (if waived, substitute Career Community course) ENGL 121 MUSC 101 or 108 or 121 or 122 or 123 or 124 MUSC 109 MUSC 157 – Milestone course MUSC 168 – Milestone course MUSC 197

Semester II (Spring)
MATH 106 MUSC 101 or 108 or 121 or 122 or 123 or 124 MUSC 109 MUSC 138 MUSC 158 MUSC 163 MUSC 193

<b>Semester III (Summer – optional)</b>
COMM 130 or ENGL 122 or ENGL 132 MATH 119 or STAT 170 (with MATH 097 if needed), or MATH 109

<b>Semester IV (Fall)</b>
COMM 130 or ENGL 122 or ENGL 132 (if no Summer enrollment) MATH 109 (if no Summer enrollment) or MATH 120 (if MATH 109 taken during Summer) or MATH 119 or STAT 170 (with MATH 097 if needed), if no Summer enrollment MUSC 101 or 108 or 121 or 122 or 123 or 124 MUSC 109 MUSC 164 MUSC 194 MUSC 241 (if MATH 119 or STAT 170) MUSC 257
Students who took MATH 119 or STAT 170 and have decided on an academic program within the Music Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.

<b>Semester V (Spring)</b>
MUSC 241 (if MATH 120)
Students who have decided on an academic program within the Music Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.
Limited Choice courses for students completing the Music GA

<b>Semester VI</b>
Limited Choice courses for students completing the Music GA

Note: MATH 106 is a developmental prerequisite and does not count toward program credit totals.

### **ENGL 099**

<b>Semester I (Fall)</b>
ACAD 100 (if waived, substitute Career Community course) ENGL 099 ENGL 121 MUSC 101 or 108 or 121 or 122 or 123 or 124 MUSC 109 MUSC 157 – Milestone course MUSC 168 – Milestone course

Semester II (Spring)
MATH 119 or MATH 120 or STAT 170 MUSC 101 or 108 or 121 or 122 or 123 or 124 MUSC 109 MUSC 138 MUSC 158 MUSC 163 MUSC 193

Semester III (Summer – optional)
COMM 130 or ENGL 122 or ENGL 132

Semester IV (Fall)
COMM 130 or ENGL 122 or ENGL 132 (if no Summer enrollment) MUSC 101 or 108 or 121 or 122 or 123 or 124 MUSC 109 MUSC 164 MUSC 194 MUSC 197 MUSC 241 MUSC 257
Students who have decided on an academic program within the Music Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.

Semester V
Limited Choice courses for students completing the Music GA

Note: ENGL 099 is a developmental prerequisite and does not count toward program credit totals.

### **ENGL 099 and MATH 097/MATH 109**

Semester I (Fall)
ACAD 100 (if waived, substitute Career Community course) ENGL 099 ENGL 121 MUSC 101 or 108 or 121 or 122 or 123 or 124 MUSC 109 MUSC 157 – Milestone course MUSC 168 – Milestone course

Semester II (Spring)
MATH 119 or STAT 170 (with MATH 097 if needed), or MATH 109 MUSC 101 or 108 or 121 or 122 or 123 or 124 MUSC 109 MUSC 138 MUSC 158 MUSC 163 MUSC 193

Semester III (Summer – optional)
COMM 130 or ENGL 122 or ENGL 132 MATH 120 (if MATH 109)

Semester IV (Fall)
COMM 130 or ENGL 122 or ENGL 132 (if no Summer enrollment) MATH 120 (if MATH 109 and no Summer enrollment) MUSC 101 or 108 or 121 or 122 or 123 or 124 MUSC 109 MUSC 197 MUSC 241 (If MATH 119 or STAT 170, with MATH 097 if needed) MUSC 257
Students who took MATH 119 or STAT 170 and have decided on an academic program within the Music Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.

Semester V (Spring)
MUSC 241 (if MATH 120)
Students who have decided on an academic program within the Music Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.
Limited Choice courses for students completing the Music GA

Semester VI
Limited Choice courses for students completing the Music GA

Note: ENGL 099, MATH 097, and MATH 109 are developmental prerequisite and do not count toward program credit totals.

### **ENGL 099 and MATH 106**

Semester I (Fall)
ACAD 100 (if waived, substitute Career Community course) ENGL 099 ENGL 121 MUSC 101 or 108 or 121 or 122 or 123 or 124 MUSC 109

Semester I (Fall)
MUSC 157 – Milestone course MUSC 168 – Milestone course

Semester II (Spring)
MATH 106 MUSC 101 or 108 or 121 or 122 or 123 or 124 MUSC 109 MUSC 158 MUSC 163 MUSC 193

Semester III (Summer – optional)
COMM 130 or ENGL 122 or ENGL 132 MATH 119 or STAT 170 (with MATH 097 if needed), or MATH 109

Semester IV (Fall)
COMM 130 or ENGL 122 or ENGL 132 (if no Summer enrollment) MATH 119 or STAT 170 (with MATH 097 if needed), or MATH 109 (if no Summer enrollment) MATH 120 (if MATH 109 taken during Summer) MUSC 101 or 108 or 121 or 122 or 123 or 124 MUSC 109 MUSC 164 MUSC 194 MUSC 241 (if MATH 119 or STAT 170 {with MATH 097 if needed} taken during Summer) MUSC 257

Semester V (Spring)
MATH 120 (if no Summer enrollment) MUSC 138 MUSC 197 MUSC 241 (if no Summer enrollment)
Students who have decided on an academic program within the Music Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.
Limited Choice courses for students completing the Music GA

Semester VI
Limited Choice courses for students completing the Music GA

Note: ENGL 099 and MATH 106 are developmental prerequisite and do not count toward program credit totals.

**ENGL 098**

<b>Semester I (Fall)</b>
ACAD 100 (if waived, substitute Career Community course) ENGL 098 MUSC 101 or 108 or 121 or 122 or 123 or 124 MUSC 109 MUSC 157 – Milestone course MUSC 168 – Milestone course
<b>Semester II (Spring)</b>
ENGL 121 (if 2.5 in ENGL 098) or ENGL 099 and ENGL 121 (if below 2.5 in ENGL 098) MATH 119 or 120 or STAT 170 (if no ENGL 099) MUSC 101 or 108 or 121 or 122 or 123 or 124 MUSC 109 MUSC 138 MUSC 158 MUSC 197 (if no ENGL 099)
<b>Semester III (Summer – optional)</b>
COMM 130 or ENGL 122 or ENGL 132 MATH 119 or MATH 120 or STAT 170 (if ENGL 099)
<b>Semester IV (Fall)</b>
COMM 130 or ENGL 122 or 132 (if no Summer enrollment) MATH 119 or MATH 120 or STAT 170 (if ENGL 099 and no Summer enrollment) MUSC 101 or 108 or 121 or 122 or 123 or 124 MUSC 109 MUSC 197 (if ENGL 099 and no Summer enrollment) MUSC 241 MUSC 257
<b>Semester V (Spring)</b>
MUSC 163 MUSC 193 Add MUSC courses in consultation with a Program Advisor.
<b>Semester VI (Fall)</b>
MUSC 164 MUSC 194
Students who have decided on an academic program within the Music Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.
Limited Choice courses for students completing the Music GA

Semester VII
Limited Choice courses for students completing the Music GA

Note: ENGL 098 is a developmental prerequisite and does not count toward program credit totals.

### **ENGL 098 and MATH 097/MATH 109**

Semester I (Fall)
ACAD 100 (if waived, substitute Career Community course) ENGL 098 MUSC 101 or 108 or 121 or 122 or 123 or 124 MUSC 109 MUSC 157 – Milestone course MUSC 168 – Milestone course

Semester II (Spring)
ENGL 121 (if 2.5 in ENGL 098) or ENGL 099 and ENGL 121 (if below 2.5 in ENGL 098) MATH 119 or STAT 170 (with MATH 097 if needed), or MATH 109 (if no ENGL 099) MUSC 101 or 108 or 121 or 122 or 123 or 124 MUSC 109 MUSC 138 MUSC 158

Semester III (Summer – optional)
COMM 130 or ENGL 122 or ENGL 132 MATH 119 or STAT 170 (with MATH 097 if needed), or MATH 109 (if ENGL 099) MATH 120 (if MATH 109 and no ENGL 099)

Semester IV (Fall)
COMM 130 or ENGL 122 or ENGL 132 (if no Summer enrollment) MATH 119 or STAT 170 (MATH 097 if needed), or MATH 109 (if ENGL 099 and no Summer enrollment) MATH 120 (if ENGL 099, and MATH 109 taken during Summer) MUSC 101 or 108 or 121 or 122 or 123 or 124 MATH 109 MUSC 197 MUSC 241 (if Summer enrollment) MUSC 257

Semester V (Spring)
MATH 120 (if MATH 109 and no Summer enrollment) MUSC 163 MUSC 193 MUSC 241 (if no Summer enrollment) If Summer enrollment, add MUSC courses in consultation with a Program Advisor.



Semester VI (Fall)
MUSC 164 MUSC 194
Students who have decided on an academic program within the Music Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.
Limited Choice courses for students completing the Music GA

Semester VII
Limited Choice courses for students completing the Music GA

Note: ENGL 098, MATH 097 and MATH 109 are developmental prerequisite and do not count toward program credit totals.

### **ENGL 098 and MATH 106**

Semester I (Fall)
ACAD 100 (if waived, substitute Career Community course) ENGL 098 MUSC 101 or 108 or 121 or 122 or 123 or 124 MUSC 109 MUSC 157 – Milestone course MUSC 168 – Milestone course

Semester II (Spring)
ENGL 121 (if 2.5 in ENGL 098) or ENGL 099 and ENGL 121 (if below 2.5 in ENGL 098) MATH 106 MUSC 101 or 108 or 121 or 122 or 123 or 124 MUSC 138 MUSC 109 MUSC 158 MUSC 197 (if no ENGL 099)

Semester III (Summer – optional)
COMM 130 or ENGL 122 or ENGL 132 MATH 119 or STAT 170 (with MATH 097 if needed), or MATH 109

Semester IV (Fall)
COMM 130 or ENGL 122 or 132 (if no Summer enrollment) MATH 119 or STAT 170 (with MATH 097 if needed), or MATH 109 (if no Summer enrollment) MATH 120 (if MATH 109 taken during Summer) MUSC 101 or 108 or 121 or 122 or 123 or 124 MUSC 109 MUSC 163 MUSC 193

Semester IV (Fall)
MUSC 197 (if ENGL 099) MUSC 241 (if MATH 119 or STAT 170 {with MATH 097 if needed} taken during Summer) MUSC 257
Semester V (Spring)
MATH 120 (if no Summer enrollment) MUSC 164 MUSC 194 MUSC 241 (if MATH 120 and no Summer enrollment)
Students who have decided on an academic program within the Music Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.
Limited Choice courses for students completing the Music GA
Semester VI
Limited Choice courses for students completing the Music GA

Note: ENGL 098 and MATH 106 are developmental prerequisite and do not count toward program credit totals.

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## **Music Education/Pre-Music Therapy A.M.**

Career Community: Music

Curriculum Code: 1829

Effective: Fall 2022 – Summer 2027

### **Purpose of Major**

The purpose of this major is to prepare students to enter a Bachelor's of Music Education program, leading to K-12 certification to teach music in Michigan schools or to enter the Music Therapy programs at Eastern Michigan University or Western Michigan University. Not all courses in this pathway transfer to all colleges. Students who also wish to transfer to a four-year institution should select coursework indicated for that institution and may complete the coursework for an Enhanced Associate degree. The Enhanced Associate option allows completion of credits required for employment and of additional requirements for the Bachelor's degree.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of MUSC 157 and MUSC 168 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

A student must earn a minimum grade of 2.0 in all courses.

### **General Education – Applied Degrees, Recommended Courses**

Select courses as indicated for specific transfer institutions. These courses are preferred General Education courses listed on Transfer Articulation agreements. If no course is indicated, choose from the list of options under [General Education](#).

- English Composition or Applied English  
ENGL 121 or ENGL 131 meets this requirement.
- English Composition (second course)/Communications or Applied Communications  
COMM 130, ENGL 122, or ENGL 132 meets this requirement.
- Humanities and Fine Arts or Social Sciences or Applied Social Sciences  
MUSC 241 meets this requirement.
- Mathematics or Applied Mathematics  
MATH 119, MATH 120, or STAT 170 meets this requirement.
- Natural Sciences Lab or Applied Sciences and Technology Lab  
Program of Study Required Courses meets this requirement.

**Music Career Community Required Courses** – *These courses are required for all Music programs. They should be taken before other Program Required or Limited Choice Courses. Some courses meet General Education requirements for Michigan Transfer Agreement (MTA).*

Course Code	Course Title	Credit / Billing Hours
ACAD 100	First Year College Experience	1 / 1
COMM 130 or ENGL 122 or ENGL 132	Fundamentals Public Speaking Composition II Honors Composition II	3 / 3 4 / 4 4 / 4
ENGL 121 or ENGL 131	Composition I or Honors Composition I	4 / 4 4 / 4
MATH 119 or MATH 120 or STAT 170	Math – Applications for Living College Algebra Introduction to Statistics	4 / 4 4 / 4 4 / 4
MUSC 101 or MUSC 108 or MUSC 121 or MUSC 122 or MUSC 123 or MUSC 124	Vocal Jazz & Pop Ensemble Concert Choir Percussion Ensemble Rock Band Jazz Ensemble Multi-Instrumental Music Ensem	1 / 3 1 / 3 1 / 3 1 / 3 1 / 3 1 / 3
MUSC 138	Keyboard Harmony I	2 / 3
MUSC 157 and MUSC 109	Applied Lessons I Studio Class	2 / 2 1 / 1
MUSC 158 and MUSC 109	Applied Lessons II Studio Class	2 / 2 1 / 1
MUSC 163	Aural Skills I	1 / 2
MUSC 164	Aural Skills II	1 / 2
MUSC 168	Rudiments of Music	3 / 3
MUSC 193	Music Theory I	4 / 4
MUSC 197	Music Tech 1 Home Studio Prod	2 / 3
MUSC 241	Musical Cultures 1750-Present	4 / 4
MUSC 257 and MUSC 109	Applied Lesson III Studio Class	2 / 2 1 / 1

Notes:

- ACAD 100 may be waived based on the recommendation of a Program Advisor.
- Select one ensemble per semester, with MUSC 109 and MUSC 157, 158, 257, and 258. Ensembles may be repeated

For future transfer to:

- Central Michigan University choose COMM 130 and STAT 170.  
For Music Education Choral and Music Education General Music, choose MUSC 108 (4 times).
- Eastern Michigan University choose ENGL 122 and MATH 120.  
For Music Education Instrumental, choose MUSC 121 or MUSC 124 (4 times);

For Music Education Vocal, choose MUSC 108 (4 times);  
 For Music Therapy, choose MUSC 101 or 108 (four times), or MUSC 101 or 108 (two times) and MUSC 121 or 122 or 123 or 124 (two times).

- Grand Valley State University and Michigan State University choose COMM 130 and MATH 120.

For Music Education choose MUSC 101 or MUSC 108 or MUSC 121 or MUSC 122 or MUSC 123 or MUSC 124 (4 times).

- University of Michigan Flint choose ENGL 122 and MATH 120.  
 For Music Education Instrumental choose MUSC 121 (4 times).

- Western Michigan University ENGL 122 and MATH 120  
 For Music Education Choral choose MUSC 108 (4 times).

For Music Education Instrumental choose MUSC 121 (4 times).

For Music Therapy choose MUSC 101 or 108 or 121 or 122 or 123 or 124 (4 times).

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
MUSC 194	Music Theory II	4 / 4
MUSC 199 or MUSC 240	Music Appreciation Musical Cultures to 1750	3 / 3 4 / 4
MUSC 258 and MUSC 109	Applied Lesson IV Studio Class	2 / 2 1 / 1

For future transfer to:

- Central Michigan University, Eastern Michigan University, Michigan State University, and University of Michigan Flint choose MUSC 240.
- Grand Valley State University and Western Michigan University choose MUSC 199.

**Program of Study Required Courses, Limited Choice – Natural Sciences** – *Select two as indicated for each transfer institution and major; one must be a lab course. If specific courses are not indicated, choose any two courses from different disciplines.*

Course Code	Course Title	Credit / Billing Hours
ASTR 201	Introductory Astronomy	4 / 5
BIOL 120	Environmental Science	4 / 6
BIOL 125	Introductory Biology	4 / 5
CHEM 135	Chemistry in Society	4 / 5
GEOG 221	Physical Geography	4 / 4
GEOL 230	Environmental Geology	4 / 6
ISCI 131	Integrated Physical Science	4 / 6
PFHW 123	Human Nutrition	3 / 3
PHYS 120	The Art of Physics	4 / 5

For future transfer to:

- Central Michigan University (Music Education) choose BIOL 120 and one non-BIOL recommended course.
- Eastern Michigan University (Music Education) choose one from BIOL 120 or 125 or PFHW 123 and one from ISCI 131 and ASTR 201 or CHEM 135 or GEOL 221 or 230 or PHYS 120.
- Eastern Michigan University and Western Michigan University (Music Therapy) choose BIOL 125 and PFHW 123.

**Program of Study Required Courses, Limited Choice – Social Sciences** – *Select PSYC 200 and one EDUC course as indicated for each transfer institution and major.*

Course Code	Course Title	Credit / Billing Hours
EDUC 204	Educational Psychology	3 / 3
EDUC 220	Introduction to Education	3 / 3
EDUC 230	Intro to Special Education	3 / 3
PSYC 200	Introduction to Psychology	4 / 4

For future transfer to:

- Central Michigan University (Music Education) choose EDUC 220.
- Eastern Michigan University (Music Education or Music Therapy) choose EDUC 230.
- Grand Valley State University (Music Education) choose EDUC 220.
- Michigan State University, University of Michigan Flint, and Western Michigan University (Music Education or Music Therapy) choose EDUC 204.

**Program of Study Required Courses – Limited Choice** – *Select one course as indicated for each transfer institution.*

Course Code	Course Title	Credit / Billing Hours
DANC 101 or DANC 102 or DANC 103 or DANC 104	Beginning Ballet Beginning Modern Beginning Jazz Beginning Tap	2 / 3 2 / 3 2 / 3 2 / 3
ENGL 122 or ENGL 132	Composition II Honors Composition II	4 / 4 4 / 4
MUSC 155	Class Voice Commercial I	2 / 3

For future transfer to:

- Central Michigan University, Music Education Choral, and Music Education General Music, choose ENGL 122.
- Eastern Michigan University, Music Education Vocal, choose MUSC 155.
- Western Michigan University, Music Therapy, choose DANC 101 or 102 or 103 or 104.

## Minimum Total Credit Hours

68 credits / 81 billing hours

## Recommended Course Sequence

Semester I
ACAD 100
ENGL 121 or 131
MUSC 101 or 108 or 121 or 122 or 123 or 124
MUSC 109
MUSC 157 – Milestone course
MUSC 168 – Milestone course
MUSC 197

Semester II
COMM 130 or ENGL 122 or ENGL 132
MATH 119 or MATH 120 or STAT 170
MUSC 101 or 108 or 121 or 122 or 123 or 124
MUSC 109
MUSC 138
MUSC 158
MUSC 163
MUSC 193

Semester III
MUSC 101 or 108 or 121 or 122 or 123 or 124
MUSC 109
MUSC 164
MUSC 194
MUSC 257
Limited Choice - Natural Sciences
Limited Choice

Semester IV
MUSC 101 or 108 or 121 or 122 or 123 or 124
MUSC 109
MUSC 199 or 240
MUSC 258
Limited Choice – Social Sciences

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## **Music, Enhanced A.M.**

Career Community: Music

Curriculum Code: 1835

Effective: Fall 2022 – Summer 2027

**(still in the review process)**





## **Music Industry A.M.**

Career Community: Music

Curriculum Code: 1830

Effective: Fall 2022 – Summer 2027

### **Purpose of Major**

The purpose of this major is to prepare students to work in the field of Music Industry on completion of the Associate degree. This ever-evolving field, commercial music, offers opportunities in Popular Music Performance, Composition and Arrangement, Music Production, and Music Business. Additionally, upon graduation, students will be prepared to teach music, either independently or through training centers. This degree also offers students the option to transfer to Ferris State University to complete their Bachelor's Degree in Music Industry. Students wishing to transfer to Ferris State University and complete credits beyond the A.M., to transfer toward their Bachelor's Degree, should complete the Enhanced A.M. degree upon completion of the A.M. degree. Not all courses in this program transfer to all colleges. Students should work with an academic advisor and program advisor as they enroll each semester.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of MUSC 157 and MUSC 168 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Contact Information**

Contact the Communications and the Arts Department, Gannon Building, Room 1222, telephone number 517-483-1546.

### **Additional Information**

Students must be enrolled in one ensemble per semester for a total of four credits.

### **General Education – Applied Degree Courses - Recommended Courses**

Select courses as indicated for specific transfer institutions. These courses are preferred General Education courses listed on Transfer Articulation agreements. If no course is indicated, choose from the list of options under [General Education](#).

- English Composition – *Select one*  
ENGL 121 or ENGL 131 meets this requirement.
- English Composition (Second Course) or Communications or Applied Communications  
COMM 130, ENGL 122 or ENGL 132 meets this requirement.

- Humanities and Fine Arts or Social Science or Applied Social Science  
MUSC 241 meets this requirement.
- Mathematics or Applied Mathematics  
MATH 119, MATH 120 or STAT 170 meets this requirement.
- Natural Sciences Lab or Applied Science and Technology Lab  
BIOL 120 meets this requirement.

**Music Career Community Courses** – *These courses are required for all Music programs. They should be taken before other Program Required or Limited Choice Courses. Some courses meet General Education requirements for Michigan Transfer Agreement (MTA). A minimum of 2.0 is required to meet LCC degree requirements for General Education courses and for all courses to transfer to other colleges (some colleges, and some programs within colleges, require a higher grade in a course.)*

Course Code	Course Title	Credit / Billing Hours
ACAD 100	First Year College Experience	1 / 1
COMM 130 or ENGL 122 or ENGL 132	Fundamentals Public Speaking Composition II Honors Composition II	3 / 3 4 / 4 4 / 4
ENGL 121 or ENGL 131	Composition I Honors Composition I	4 / 4 4 / 4
MATH 119 or MATH 120 or STAT 170	Math – Applications for Living College Algebra Introduction to Statistics	4 / 4 4 / 4 4 / 4
MUSC 101 or MUSC 108 or MUSC 121 or MUSC 122 or MUSC 123 or MUSC 124	Vocal Jazz & Pop Ensemble Concert Choir Percussion Ensemble Rock Band Jazz Ensemble Multi-Instrumental Music Ensem	1 / 3 1 / 3 1 / 3 1 / 3 1 / 3 1 / 3
MUSC 138	Keyboard Harmony I	2 / 3
MUSC 157 and MUSC 109	Applied Lessons I Studio Class	2 / 2 1 / 1
MUSC 158 and MUSC 109	Applied Lessons II Studio Class	2 / 2 1 / 1
MUSC 163	Aural Skills I	1 / 2
MUSC 164	Aural Skills II	1 / 2
MUSC 168	Rudiments of Music	3 / 3
MUSC 193	Music Theory I	4 / 4
MUSC 197	Music Tech 1 Home Studio Prod	2 / 3
MUSC 241	Musical Cultures 1750-Present	4 / 4
MUSC 257 and MUSC 109	Applied Lesson III Studio Class	2 / 2 1 / 1

Notes:

ACAD 100 may be waived based on the recommendation of a Program Advisor.

Select one ensemble per semester, with MUSC 109 and MUSC 157, 158, 257, and 258.  
Ensembles may be repeated.

For future transfer to Ferris State University, choose COMM 130 and MATH 119 or MATH 120.

**Program of Study Required Courses - Some courses meet General Education requirements for Michigan Transfer Agreement (MTA). A minimum of 2.0 is required to meet degree requirements for General Education courses and for all courses to transfer to other colleges (some colleges, and some programs within colleges, require a higher grade in a course.)**

Course Code	Course Title	Credit / Billing Hours
BIOL 120	Environmental Science	4 / 6
MUSC 194 or MUSC 292	Music Theory II Arranging & Songwriting	4 / 4 3 / 3
MUSC 255	Music Business & Management	4 / 4
MUSC 258 and MUSC 109	Applied Lesson IV Studio Class	2 / 2 1 / 1
MUSC 296	Music Internship	3 / 3

**Program of Study Required Courses, Limited Choices – Select a minimum of one course to reach a total of 60 credits for the degree. A minimum of 2.0 is required to meet for all courses to transfer to other colleges (some colleges, and some programs within colleges, require a higher grade in a course.)**

Course Code	Course Title	Credit / Billing Hours
BUSN 118	Introduction to Business	3 / 3
DMAC 121	Digital Audio Production II	4 / 4
DMAC 122	Audio Recording I	4 / 4
MGMT 223	Supervisory Skills	3 / 3
MKTG 200	Principles of Marketing	3 / 3
MUSC 298	Music Tech 2 Advanced Studio	3 / 3

For future transfer to Ferris State University, choose MGMT 223 and MKTG 200

### **Minimum Total Credit Hours**

62 credits / 76 billing hours

## Recommended Course Sequence

Semester I
ACAD 100
ENGL 121 or 131
MUSC 101 or 108 or 121 or 122 or 123 or 124
MUSC 109
MUSC 157
MUSC 168
MUSC 197

Semester II
MATH 119 or MATH 120 or STAT 170
MUSC 101 or 108 or 121 or 122 or 123 or 124
MUSC 109
MUSC 138
MUSC 158
MUSC 163
MUSC 193

Semester III
COMM 130 or ENGL 122 or 132
MUSC 101 or 108 or 121 or 122 or 123 or 124
MUSC 109
MUSC 164
MUSC 194 or 292
MUSC 255
MUSC 257

Semester IV
BIOL 120
MUSC 101 or 108 or 121 or 122 or 123 or 124
MUSC 109
MUSC 258
MUSC 241
MUSC 296
Limited Choice

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## Music Technology C.C.

Career Community: Music

Curriculum Code: 1358

Effective: Fall 2022 – Summer 2027

### Description

The Music Technology Certificate of Completion combines practical and applied coursework in audio production, recording, MIDI composition, music fundamentals, and keyboard skills. Students develop technical and creative skills in the field of music and sound through access to state of the art sound recording and electronic music studios. Diverse opportunities exist to develop performance skills.

### Milestone

Completion of MUSC 168 and MUSC 197 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Contact Information

Contact the Communication, Media and the Arts Department, Gannon Building, Room 1222, telephone number 517-483-1546.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
DMAC 121	Digital Audio Production II	4 / 4
DMAC 122	Audio Recording I	4 / 4
MUSC 168	Rudiments of Music	3 / 3
MUSC 197	Music Tech 1 Home Studio Prod	2 / 3
MUSC 298	Music Tech 2 Advanced Studio	3 / 3

### Program of Study Required Courses, Limited Choice – *Select one*

Course Code	Course Title	Credit / Billing Hours
MUSC 138	Keyboard Harmony I	2 / 3
MUSC 144	Beginning Piano I	2 / 2

### Minimum Total Credit Hours

18 credits / 19 billing hours

## Recommended Course Sequence

Semester I
MUSC 168 – Milestone course
MUSC 197 – Milestone course

Semester II
DMAC 121
MUSC 298
Limited Choice

Semester III
DMAC 122

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## Musicianship Studies C.C.

Career Community: Music

Curriculum Code: 1352

Effective: Fall 2022 – Summer 2027

### Description

The Certificate of Completion in Musicianship Studies provides basic training in music theory, aural skills, keyboard harmony, solo and ensemble performance for: a) students preparing to transfer to college or university Music programs; b) qualifying dual-enrolled high school or home school students; or c) those seeking to reinforce their own professional musical competencies. The focus is on skills acquisition most necessary for successfully meeting audition and music placement requirements. Students may also apply all courses in this curriculum toward other degrees in Music. Not all courses in this program transfer to all colleges.

### Milestone

Completion of MUSC 157 and MUSC 168 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Additional Information

In order to meet the prerequisites for some Music major courses, students must complete the following requirements:

- a. Interview with a Performing Arts advisor to discuss curriculum requirements, musical repertoires and audition procedures.
- b. Perform an audition on an instrument or voice to be adjudicated by LCC Music faculty.
- c. Take a Music Theory Placement Test covering music reading skills and basic harmony.

### Contact Information

Contact the Communication, Media and the Arts Department, Gannon Building, Room 1222, telephone number 517-483-1546.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
MUSC 109*	Studio Class	1 / 1 (2 / 2)
MUSC 138	Keyboard Harmony I	2 / 3
MUSC 157	Applied Lesson I	2 / 2
MUSC 158	Applied Lesson II	2 / 2
MUSC 163	Aural Skills I	1 / 2
MUSC 168	Rudiments of Music	3 / 3
MUSC 193	Music Theory I	4 / 4
MUSC 197	Music Tech 1 Home Studio Prod	2 / 3

\*MUSC 109 must be taken twice

**Program of Study Required Courses, Limited Choice** - Select one each semester.

Courses may be duplicated.

Course Code	Course Title	Credit / Billing Hours
MUSC 101	Vocal Jazz & Pop Ensemble	1 / 3
MUSC 108	Concert Choir	1 / 3
MUSC 121	Percussion Ensemble	1 / 3
MUSC 122	Rock Band	1 / 3
MUSC 123	Jazz Ensemble	1 / 3
MUSC 124	Multi-Instrumental Music Ensem	1 / 3

**Minimum Total Credit Hours**

20 credits / 27 billing hours

**Recommended Course Sequence**

Semester I
MUSC 109
MUSC 157 – Milestone course
MUSC 168 – Milestone course
MUSC 197
Limited Choice

Semester II
MUSC 109
MUSC 138
MUSC 158
MUSC 163
MUSC 193
Limited Choice

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*





## **Neurodiagnostic Technology A.A.S.**

Career Community: Health and Human Service Careers

Curriculum Code: 1812

Effective: Fall 2022 – Summer 2024

### **Description**

Neurodiagnostic Technology is the medical diagnostic field devoted to the recording and study of electrical activity in the brain and nervous system. Neurodiagnostic Technologists (EDT) are highly skilled professionals trained to perform electroencephalograms (EEG's) in medical facilities and outpatient centers under the direct supervision of a health care provider. The EEG program not only is designed to foster the skills and knowledge necessary for competent practice, but also places emphasis on professional attitudes, values and behaviors that encourage the professional growth of the individual student. Clinical learning experiences are provided by affiliating hospitals, clinics and other outpatient facilities. Didactic learning experiences occur in supportive college course work delivered through an online environment and laboratory practice. Both are equally important to the development of the competent Neurodiagnostic Technologist. The Neurodiagnostic Technology Program has been developed to be consistent with standards and requirements of the Commission on Accreditation of Allied Health Education Programs (CAAHEP). Upon completion of the EEG program graduates will be eligible to take the American Board of Registration in Electroencephalographic (ABRET) exam. Upon passing the ABRET exam, Neurodiagnostic Technologists have earned their Registered Electroencephalographic Technologist (R.EEG T) Certification.

Courses in this program are offered through the Michigan Community College Association/ Michigan Colleges Online, and taught by various colleges in the Educational Programs in Collaboration (EPiC) consortium.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of NDXT 120, NDXT 132, and NDXT 200 with a 2.5 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

Students must complete all non-NDXT courses prior to submitting their application for Program Approval. Courses in semesters I and II must be completed with a minimum 2.0 grade, with the exception of the General Education English Composition (second course)/Communications or Applied Communications requirement which must be completed with a minimum 2.5 grade. First semester NDXT courses require Program Approval. Applications must be submitted by May 15 and are available by contacting the Program Office at 517-483-1410. Once Program Approval is received, all students must complete each NDXT course with a minimum 2.5 grade to continue in the program and receive this degree. Students may not progress to the next semester until they have successfully completed all of the courses in the previous sequenced semester.

30 general NDXT credits may be awarded for a current Registered Electroencephalographic Technologist (R.EEG T) Certification and may be applied to the 30 required NDXT credits. For information regarding Licensure and Certification credit go to [Transfer Equivalencies – Licensure and Certification](#).

### Contact Information

Contact the Medical Imaging Program, Health and Human Services Building, Room 108, telephone number 517-483-1410, or the Academic Advising Department, Gannon Building – StarZone, telephone number 517-483-1904.

### General Education – Applied Degrees, Recommended Courses

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours  
ENGL 122, Composition II, 4 credits / 4 billing hours  
ENGL 131, Honors Composition I, 4 credits / 4 billing hours  
ENGL 132, Honors Composition II, 4 credits / 4 billing hours
- English Composition (second course)/Communications or Applied Communications Program of Study Required Courses for Admission will meet this requirement.
- Humanities and Fine Arts or Social Sciences or Applied Social Sciences Program of Study Required Courses for Admission will meet this requirement.
- Mathematics or Applied Mathematics Program of Study Required Courses for Admission will meet this requirement.
- Natural Sciences Lab or Applied Science and Technology Lab Program of Study Required Courses for Admission will meet this requirement.

### Program of Study Required Courses for Admission, Limited Choice – English Composition (second course)/Communications

– *Select one. This selection also satisfies the General Education English Composition (second course)/Communications or Applied Communications requirement.*

Course Code	Course Title	Credit / Billing Hours
COMM 110	Communication in the Workplace	3 / 3
COMM 120	Dynamics of Communication	3 / 3
COMM 130	Fundamentals Public Speaking	3 / 3
COMM 240	Interpersonal Communication	3 / 3

**Program of Study Required Courses for Admission, Limited Choice – Natural Sciences** – *Select one. This selection also satisfies the General Education Natural Sciences Lab or Applied Science and Technology Lab requirement.*

Course Code	Course Title	Credit / Billing Hours
BIOL 145	Intro Anatomy and Physiology	4 / 6
BIOL 201 and 202	Human Anatomy and Human Physiology	8 / 11

**Program of Study Required Courses for Admission** – *MATH 119 (or any course from the General Education Mathematics College Algebra category) satisfies the General Education Mathematics or Applied Mathematics requirement. PSYC 200 satisfies the General Education Humanities and Fine Arts or Social Sciences or Applied Social Sciences requirement.*

Course Code	Course Title	Credit / Billing Hours
CHSE 117	Health Law and Ethics	2 / 2
CHSE 120	Medical Terminology	4 / 4
MATH 119	Math – Applications for Living	4 / 4
PFHW 163	Healthy Lifestyles	2 / 3
PSYC 200	Intro to Psychology	4 / 4
SOCL 120	Introduction to Sociology	4 / 4

**Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
NDXT 100	Neuroanatomy and Physiology	3 / 0*
NDXT 101	Neurodiagnostic Procedures	3 / 0*
NDXT 102	EEG Applications	3 / 0*
NDXT 120	EEG Pre-Clinical Preparation	3 / 0*
NDXT 130	Principles of EEG	2 / 0*
NDXT 131	Electricity Principles/Safety	1 / 0*
NDXT 132	EEG Instrumentation I	2 / 0*
NDXT 200	EEG Procedures & Pathology I	1 / 0*
NDXT 201	EEG Instrumentation II	2 / 0*
NDXT 202	EEG Quality Control	1 / 0*
NDXT 220	EEG Clinical Practice I	3 / 0*
NDXT 221	EEG Clinical Practice II	3 / 0*
NDXT 230	EEG Procedures & Pathology II	1 / 0*
NDXT 231	EEG Procedures & Pathology III	1 / 0*
NDXT 232	EEG Procedures & Pathology IV	1 / 0*

**Minimum Total Credit Hours**

61 credits / 34 billing hours\*

\*NDXT courses follow the Michigan Community College Association/Michigan Colleges Online tuition rates, and are not included in billing hours. Please contact the Medical Imaging Program at 517-483-1410 for current tuition rates.

## Recommended Course Sequence

Semester I (Fall)
Gen Ed -English Composition/Applied English
MATH 119 (or other Gen Ed Mathematics College Algebra course)
PFHW 163
PSYC 200
SOCL 120

Semester II (Spring)
BIOL 145 or (BIOL 201 and BIOL 202)
CHSE 117
CHSE 120
COMM 110, 120, 130, or 240

Semester III (Fall)
NDXT 100
NDXT 101
NDXT 102
NDXT 120 – Milestone course

Semester IV (Spring)
NDXT 130
NDXT 131
NDXT 132 – Milestone course
NDXT 200 – Milestone course
NDXT 201
NDXT 202
NDXT 220

Semester V (Summer)
NDXT 221
NDXT 230
NDXT 231
NDXT 232

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## **Neurodiagnostic Technology C.A.**

Career Community: Health and Human Service Careers

Curriculum Code: 1808

Effective: Fall 2022 – Summer 2023

### **Description**

This certificate is designed only for hospital-based training with an approved health care provider. Neurodiagnostic Technology is the medical diagnostic field devoted to the recording and study of electrical activity in the brain and nervous system. Neurodiagnostic Technologists (EDT) are highly skilled professionals trained to perform electroencephalograms (EEG's) in medical facilities and outpatient centers under the direct supervision of a health care provider. The EEG program is designed not only to foster the skills and knowledge necessary for competent practice, but also places emphasis on professional attitudes, values and behaviors that encourage the professional growth of the individual student.

Clinical learning experiences are provided by affiliating hospitals, clinics and other outpatient facilities. Didactic learning experiences occur in supportive college course work delivered through an online environment and laboratory practice. Both are equally important to the development of the competent Neurodiagnostic Technologist.

Courses in this program are offered through the Michigan Community College Association/ Michigan Colleges Online, and taught by various colleges in the Educational Programs in Collaboration (EPiC) consortium.

### **Milestone**

Completion of NDXT 120, NDXT 132, and NDXT 200 with a 2.5 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

The Neurodiagnostic Technology Program has been developed to be consistent with standards and requirements of the Commission on Accreditation of Allied Health Education Programs (CAAHEP). Upon successful completion of the EEG program graduates will be eligible to take the American Board of Registration in Electroencephalographic (ABRET) exam. Upon passing the ABRET exam, Neurodiagnostic Technologists have earned their R.EEG T.

First semester NDXT courses require Program Approval. Students who are not part of a hospital-based training program must follow the Neurodiagnostic Technology A.A.S. curriculum (#1812). All NDXT courses must be completed with a minimum 2.5 grade to continue in the program and receive this certificate. Students may not progress to the next semester until they have successfully completed all of the courses in the previous sequenced semester.

## Contact Information

Contact the Health and Human Services Division, Health and Human Services Building, Room 108, telephone number 517-483-1410, or the Academic Advising Department, Gannon Building – StarZone, telephone number 517-483-1904.

## Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
NDXT 100	Neuroanatomy and Physiology	3 / 0*
NDXT 101	Neurodiagnostic Procedures	3 / 0*
NDXT 102	EEG Applications	3 / 0*
NDXT 120	EEG Pre-Clinical Preparation	3 / 0*
NDXT 130	Principles of EEG	2 / 0*
NDXT 131	Electricity Principles/Safety	1 / 0*
NDXT 132	EEG Instrumentation I	2 / 0*
NDXT 200	EEG Procedures & Pathology I	1 / 0*
NDXT 201	EEG Instrumentation II	2 / 0*
NDXT 202	EEG Quality Control	1 / 0*
NDXT 220	EEG Clinical Practice I	3 / 0*
NDXT 221	EEG Clinical Practice II	3 / 0*
NDXT 230	EEG Procedures & Pathology II	1 / 0*
NDXT 231	EEG Procedures & Pathology III	1 / 0*
NDXT 232	EEG Procedures & Pathology IV	1 / 0*

## Minimum Total Credit Hours

30 credits / 0 billing hours\*

\*NDXT courses follow the Michigan Community College Association/Michigan Colleges Online tuition rates, and are not included in billing hours. Please contact the Medical Imaging Program at 517-483-1410 for current tuition rates.

## Recommended Course Sequence

Semester I (Fall)
NDXT 100
NDXT 101
NDXT 102
NDXT 120 – Milestone course

Semester II (Spring)
NDXT 130
NDXT 131
NDXT 132 – Milestone course
NDXT 200 – Milestone course
NDXT 201
NDXT 202
NDXT 220

Semester III (Summer)
NDXT 221
NDXT 230
NDXT 231
NDXT 232

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## **Nursing - PN Option C.A.**

Career Community: Health and Human Service Careers

Curriculum Code: 0235

Effective: Fall 2022 – Fall 2023

### **Description**

The Nursing Program at Lansing Community College is nationally accredited by the Accreditation Commission for Education in Nursing, Inc., 3343 Peachtree Road NE, Suite 850, Atlanta, Georgia 30326, 404-975-5000, and is approved by the Michigan Board of Nursing. It utilizes the career ladder concept. The practical nurse program is offered in a 2-year Traditional or 2nd Degree track. The 2nd Degree track is available for students with a bachelor's degree. There are specific prerequisites required for entry into the program. Building on these prerequisites, once admitted a student completing Semester I and Semester II of the program receives a Certificate of Achievement and is eligible to take the national examination for Practical Nurse (PN), which is the National Council Licensing Examination-Practical Nurse (NCLEX-PN).

The Practical Nurse (PN) Program prepares an individual to, with supervision from the Registered Nurse, implement a plan of care for clients in a variety of healthcare settings often working in long-term care. The education and scope of practice of the PN is determined by state law. The student must successfully complete this Certificate of Achievement and the National Council Licensing Examination-Practical Nurse (NCLEX-PN) to practice as a practical nurse.

### **Milestone**

Completion of NURS 201 with a 3.0 or higher, and BIOL 201 and BIOL 202 with a 2.5 or higher, is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

This is a selective admission program. In order to be considered as a candidate for this program, students must meet admission requirements beyond those required for admission to the college. Students are admitted using the Nursing RN Option A.A.S. Pathway (please see curriculum code 0222). All courses required for admission must be completed by the deadlines posted on the Nursing Program website. Students must achieve a minimum grade of 2.5 in each of the courses required for admission to the Nursing Program with the exception of NURS 201, which requires a minimum grade of 3.0. Once admitted, a student may not begin a new semester in the Nursing Program until they have successfully completed all of the NURS courses listed in the previous sequenced semester with a minimum grade of 3.0.



## Contact Information

The admission and/or graduation requirements for this program may change each academic year. The program requirements below apply only to those students who have been admitted to the program for the 2022/2023 academic year. For the most current information, interested students should contact the Nursing Program, Health and Human Services Building, Room 108, telephone number 517-483-1410, [selective admissions email](#), or the Academic Advising Department, Gannon Building – StarZone, telephone number 517-483-1904.

## Program of Study Required Courses for Admission

Course Code	Course Title	Credit / Billing Hours
BIOL 201	Human Anatomy	4 / 6
BIOL 202	Human Physiology	4 / 5
NURS 201	Patient-Centered Care	3 / 3
PFHW 163	Healthy Lifestyles	2 / 3

## Program of Study Required Course for Admission, Limited Choice – English

**Composition** – *Select one. This requirement can be waived with proof of an earned associate degree (or higher) from an accredited college or university.*

Course Code	Course Title	Credit / Billing Hours
ENGL 121	Composition I	4 / 4
ENGL 122	Composition II	4 / 4
ENGL 131	Honors Composition I	4 / 4
ENGL 132	Honors Composition II	4 / 4

## Program of Study Required Course for Admission, Limited Choice - Mathematics

– Select one. (Any course from the General Education Mathematics College Algebra category may also be selected.)

Course Code	Course Title	Credit / Billing Hours
MATH 119	Math - Applications for Living	4 / 4
STAT 170	Introduction to Statistics	4 / 4
STAT 215	Intro to Probability and Stats	4 / 4

## Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
NURS 211	Intro to Nursing Practice	8 / 13.25
NURS 212	Concepts of Pharmacology	3 / 3.5
NURS 221	Nursing Practice I	6 / 10.75
NURS 222	Childbearing Families	4 / 5.5

## Minimum Total Credit Hours

42 credits / 58 billing hours

## Recommended Course Sequence for Admission

Semester I
BIOL 201 – Milestone course
BIOL 202 – Milestone course
NURS 201 – Milestone course
PFHW 163

Semester II
Program of Study Required Course for Admission – English Composition
Program of Study Required Course for Admission – Mathematics

## Recommended Course Sequence

Semester III
NURS 211
NURS 212

Semester IV
NURS 221
NURS 222

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## **Nursing - RN Option A.A.S.**

Career Community: Health and Human Service Careers

Curriculum Code: 0222

Effective Dates: Fall 2022 –Fall 2025

### **Description**

The Nursing Program at Lansing Community College is nationally accredited by the Accreditation Commission for Education in Nursing, Inc., 3343 Peachtree Road NE, Suite 850, Atlanta, Georgia 30326, 404-975-5000, and is approved by the Michigan Board of Nursing. It utilizes the career ladder concept. There are specific prerequisites required for entry into the registered nurse program. The program is offered in a 2-year Traditional, 2nd Degree, or Advanced Standing track. The 2nd Degree track is available for students with a bachelor's degree. A practical nurse, paramedic, or respiratory therapist with a current license may gain entry into the Advanced Standing track.

The Registered Nurse (RN) Program prepares the individual to care for clients of all ages in a variety of health care settings. As an essential member of the health care team, the RN is responsible for developing, implementing, and evaluating a plan of care for clients. The RN is required to assist clients in achieving their health goals through effective communication, decision making, problem-solving, management, and technological skills. Registered nurses work in hospitals, clinics, offices, nursing homes, and home health care settings, in addition to schools, research facilities, and community agencies. The education and scope of practice of the RN is determined by state law. The student must successfully complete this program and the National Council Licensing Examination-Registered Nurse (NCLEX-RN) to practice as a registered nurse.

Students admitted in the 2-Year and 2nd Degree tracks will complete Practical Nurse (PN) coursework during the first two semesters of the program. The Practical Nurse (PN) certificate program prepares an individual to, with supervision from the Registered Nurse, implement a plan of care for clients in a variety of healthcare settings often working in long-term care. The education and scope of practice of the PN is determined by state law. The student must successfully complete the Certificate of Achievement and the National Council Licensing Examination-Practical Nurse (NCLEX-PN) to practice as a practical nurse.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of NURS 201 with a 3.0 or higher, and BIOL 201 and BIOL 202 with a 2.5 or higher, is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

This is a selective admission program. In order to be considered as a candidate for this program, students must meet admission requirements beyond those required for admission to the college. All courses listed below for Semesters I and II must be completed by the deadlines

posted on the Nursing Program website. Students must achieve a minimum grade of 2.5 in each of the courses required for admission to the Nursing Program with the exception of NURS 201, which requires a minimum grade of 3.0. Once admitted, a student may not begin a new semester in the Nursing Program until they have successfully completed all of the NURS courses listed in the previous sequenced semester with a minimum grade of 3.0.

### Contact Information

The admission and/or graduation requirements for this program may change each academic year. The program requirements below apply only to those students who have been admitted to the program for the 2022/2023 academic year. For the most current and complete information, interested students should contact the Nursing Program, Health and Human Services Building, Room 108, telephone number 517-483-1410, [selective admissions email](#), or the Academic Advising Department, Gannon Building – StarZone, telephone number 517-483-1904.

### General Education – Applied Degrees, Recommended Courses

(For the full list of options, see [General Education](#))

- English Composition or Applied English  
Program of Study Required Course for Admissions – English Composition will meet this requirement.
- English Composition (second course)/Communications or Applied Communications  
Program of Study Required Course for Admissions – English Composition (second course)/Communications or Applied Communications will meet this requirement.
- Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one. This requirement can be waived with proof of an earned associate degree (or higher) from an accredited college or university.*  
 ANTH 271, Medical Anthropology, 3 credits / 3 billing hours  
 COMM 280, Intercultural Communication, 3 credits / 3 billing hours  
 MGMT 234, Diversity in the Workplace, 3 credits / 3 billing hours  
 SOCL 120, Introduction to Sociology, 4 credits / 4 billing hours
- Mathematics or Applied Mathematics  
Program of Study Required Course for Admission - Mathematics will meet this requirement.
- Natural Sciences Lab or Applied Science and Technology Lab  
Program of Study Required Courses for Admission will meet this requirement.

**Program of Study Required Courses for Admission** - *BIOL 201 and BIOL 202 will also satisfy the General Education - Natural Sciences Lab or Applied Science and Technology Lab requirement.*

Course Code	Course Title	Credit / Billing Hours
BIOL 201	Human Anatomy	4 / 6
BIOL 202	Human Physiology	4 / 5

Course Code	Course Title	Credit / Billing Hours
BIOL 203	Microbiology	3 / 3
NURS 201	Patient-Centered Care	3 / 3
PFHW 163	Healthy Lifestyles	2 / 3

### **Program of Study Required Course for Admission, Limited Choice – English**

**Composition** – *Select one. This course will also satisfy the General Education - English Composition requirement. This requirement can be waived with proof of an earned associate degree (or higher) from an accredited college or university.*

Course Code	Course Title	Credit / Billing Hours
ENGL 121	Composition I	4 / 4
ENGL 122	Composition II	4 / 4
ENGL 131	Honors Composition I	4 / 4
ENGL 132	Honors Composition II	4 / 4

### **Program of Study Required Course for Admission, Limited Choice – English Composition (second course)/Communications or Applied Communications –**

*Select one. This course will also satisfy the General Education - English Composition (second course)/Communications or Applied Communications requirement. This requirement can be waived with proof of an earned associate degree (or higher) from an accredited college or university.*

Course Code	Course Title	Credit / Billing Hours
COMM 110	Communication in the Workplace	3 / 3
COMM 120	Dynamics of Communication	3 / 3
COMM 130	Fundamentals Public Speaking	3 / 3
COMM 240	Interpersonal Communication	3 / 3

### **Program of Study Required Course for Admission, Limited Choice - Mathematics**

*Select one. This course will satisfy the General Education - Mathematics or Applied Mathematics requirement. (Any course from the General Education Mathematics College Algebra category may also be selected.)*

Course Code	Course Title	Credit / Billing Hours
MATH 119	Math - Applications for Living	4 / 4
STAT 170	Introduction to Statistics	4 / 4
STAT 215	Intro to Probability and Stats	4 / 4

### **Recommended Course for Admission**

Course Code	Course Title	Credit / Billing Hours
BIOL 204	Microbiology Laboratory	1 / 3

### **Minimum Total Admission Credit Hours**

30 credits / 34 billing hours

## Recommended Course Sequence for Admission

*(Sequence may be determined based on prerequisites for the courses. To obtain current prerequisite information, search for the course in Banner and select "View Catalog Entry".)*

Semester I
BIOL 201 – Milestone course
COMM 110, 120, 130, or 240
ENGL 121, 122, 131, or 132
MATH 119, STAT 170, or 215
PFHW 163

Semester II
Gen Ed - Humanities and Fine Arts or Social Sciences or Applied Social Sciences
BIOL 202 – Milestone course
BIOL 203
BIOL 204 (Recommended)
NURS 201 – Milestone course

## 2-Year Track and 2nd Degree Track Pathway

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
NURS 211	Intro to Nursing Practice	8 / 13.25
NURS 212	Concepts of Pharmacology	3 / 3.5
NURS 221	Nursing Practice I	6 / 10.75
NURS 222	Childbearing Families	4 / 5.5
NURS 231	Nursing Practice II	6 / 10
NURS 232	Children and Their Families	4 / 5.5
NURS 241	Nursing Practice III	5 / 10.75
NURS 242	Professional Practice	3 / 3

### Minimum Total Credit Hours

69 credits / 96.25 billing hours (includes Admission requirement credits)

### Required Course Sequence for 2-Year Track and 2nd Degree Track

*(Sequence may be determined based on prerequisites for the courses. To obtain current prerequisite information, search for the course in Banner and select "View Catalog Entry".)*

Semester III
NURS 211
NURS 212

Semester IV
NURS 221
NURS 222

Semester V
NURS 231
NURS 232

Semester VI
NURS 241
NURS 242

### Advanced Standing Track Pathway

Credits granted for Practical Nurse, Paramedic, or Respiratory Therapist License: 12

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
NURS 210	Transition to Prof Nursing	6 / 10.5
NURS 212	Concepts of Pharmacology	3 / 3.5
NURS 231	Nursing Practice II	6 / 10
NURS 232	Children and Their Families	4 / 5.5
NURS 241	Nursing Practice III	5 / 10.75
NURS 242	Professional Practice	3 / 3

### Minimum Total Credit Hours

69 credits / 77.25 billing hours (includes Admission requirement and licensure credits)

### Required Course Sequence for Advanced Standing Track

*(Sequence may be determined based on prerequisites for the courses. To obtain current prerequisite information, search for the course in Banner and select "View Catalog Entry".)*

Semester III
NURS 210
NURS 212

Semester IV
NURS 231
NURS 232

Semester V
NURS 241
NURS 242

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## **Paramedic C.A.**

Career Community: Health and Human Service Careers

Curriculum Code: 0272

Effective: Fall 2022 – Summer 2024

### **Description**

This certificate is for individuals with a valid State of Michigan EMT License. The program provides education and training for advanced techniques of administering care in life-threatening conditions. Paramedics are employed by advanced life support ambulance services and in emergency departments and critical care units of hospitals. State licensing is required. All Emergency Medical Services courses are approved by the Michigan Department of Health and Human Services. The Paramedic Program is accredited by the Commission on Accreditation of Allied Health Education Programs, 25400 US Highway 19 North, Suite 158, Clearwater, FL 33763, in conjunction with the Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions.

### **Milestone**

Completion of PARA 221, PARA 231, PARA 241, PARA 251, and PARA 261 with a 2.5 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

Registration for PARA 221, PARA 231, PARA 241, PARA 251, and PARA 261 requires Program Approval. The application deadline is July 1 for the full-time cohort that begins in the Fall, and December 1 for the part-time cohort that begins in the Spring. The application and current information regarding program requirements are available through the [LCC EMS webpage](#).

Students may not begin a new semester in the Paramedic Program until they have successfully completed all of the PARA courses listed in the previous semester. To earn the Certificate of Achievement, a grade of 2.5 or above is required in PARA 221, 231, 241, 251 and 261, and a grade of 3.0 or above is required in all other PARA courses.

The BIOL course(s) must be completed with a minimum grade of 2.5 within 8 years of the application deadline and by the end of LCC's summer semester for the full-time cohort or the end of fall semester for the part-time cohort. The BIOL 201 and 202 option is recommended for transferability into other health care programs and colleges.

### **Contact Information**

The program approval and/or graduation requirements for this program may change each academic year. The program requirements below apply only to those students who begin the program during the 2022-2023 academic year. For the most current and complete information, contact the Paramedic Program, Health and Human Services Building, Room 108, telephone number 517-483-1410, or the Academic Advising Department, Gannon Building – StarZone, telephone number 517-483-1904.



**Program of Study Required Courses for Admission, Limited Choice – Select one**

Course Code	Course Title	Credit / Billing Hours
BIOL 145	Intro Anatomy and Physiology	4 / 6
BIOL 201 and 202	Human Anatomy and Human Physiology	8 / 11 (total)

**Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
PARA 221	Paramedic Medical Trauma I	4 / 4
PARA 222	Paramedic Medical Trauma II	4 / 4
PARA 231	Paramedic Cardiology I	2.5 / 2.5
PARA 232	Paramedic Cardiology II	2.5 / 2.5
PARA 241	Paramedic Pharmacology I	2.5 / 2.5
PARA 242	Paramedic Pharmacology II	2.5 / 2.5
PARA 251	Paramedic Skills I	2.5 / 7.5
PARA 252	Paramedic Skills II	2.5 / 7.5
PARA 261	Paramedic Clinical I	3 / 4
PARA 262	Paramedic Clinical II	3 / 4
PARA 263	Paramedic Internship	4 / 4

**Minimum Total Credit Hours**

37 credits / 51 billing hours

**Required Course Sequence – Full-time Cohort**

Semester I
BIOL 145 or (BIOL 201 and 202)

Semester II (Fall)
PARA 221 – Milestone course
PARA 231 – Milestone course
PARA 241 – Milestone course
PARA 251 – Milestone course
PARA 261 – Milestone course

Semester III (Spring)
PARA 222
PARA 232
PARA 242
PARA 252
PARA 262

Semester IV (Summer)
PARA 263

## Required Course Sequence – Part-time Cohort

Semester I
BIOL 145 or (BIOL 201 and 202)
Semester II (Spring)
PARA 221 – Milestone course
PARA 231 – Milestone course
PARA 241 – Milestone course
Semester III (Summer)
PARA 251 – Milestone course
PARA 261 – Milestone course
Semester IV (Fall)
PARA 222
PARA 232
PARA 242
Semester V (Spring)
PARA 252
PARA 262
Semester VI (Summer)
PARA 263

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## Patient Care Technician C.C.

Career Community: Health and Human Service Careers

Curriculum Code: 1784

Effective: Fall 2022 – Summer 2023

### Description

This certificate curriculum will prepare an individual for employment as a patient care technician in a hospital or other acute care delivery setting. Students will learn the knowledge and skills needed in order to provide safe basic patient care, including basic phlebotomy and EKG. Upon successful completion students are eligible to take the National Certification exam for Patient Care Technicians.

### Milestone

Completion of CHSE 108 with a 2.5 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Additional Information

Students must complete all courses with a minimum grade of 2.5 to receive this certificate.

Students wishing to pursue an associate degree, should declare the Allied Health A.A.S. major. Courses in this program of study may be applied toward that degree.

### Contact Information

Contact the Community Health Services Education Program, Health and Human Services Building, Room 108, telephone number 517-483-1410, or the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
CHSE 108	Long-Term Care Nurse Aide	4 / 6.5
CHSE 151	Patient Care Technician	6 / 9.25

### Minimum Total Credit Hours

10 credits / 15.75 billing hours

### Recommended Course Sequence

Semester I
CHSE 108 – Milestone course

Semester II
CHSE 151

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## Personal Trainer C.A.

Career Community: Health and Human Service Careers

Curriculum Code: 1705

Effective: Fall 2022 – Summer 2027

### Description

After successful completion of this certificate individuals are prepared to take a Personal Trainer Certification Exam by a National Commission for Certifying Agencies (NCCA) accrediting organization, such as American Council on Exercise®(ACE), American College of Sports Medicine®(ACSM), National Academy of Sports Medicine (NASM), or National Strength and Conditioning Association (NCSA). Once the Personal Trainer certification is obtained, individuals are prepared for jobs as a Personal Trainer and are eligible to take the Level 1 Exercise is Medicine® (EIM) credential exam through the American College of Sports Medicine (ACSM). This curriculum is the second certificate in the Kinesiology Program curriculum. Courses for this certificate may be applied toward the Lansing Community College Kinesiology Associate in Applied Science Degree.

### Milestone

In addition to the required Math course, completion of BIOL 145, or BIOL 201 and BIOL 202, with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Contact Information

Contact the Kinesiology Program, Health and Human Services Building, Room 108, telephone number 517-483-1410, or the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
PFFT 109	Introduction to Fitness	1 / 2
PFHW 163	Healthy Lifestyles	2 / 3
PFKN 106	Group Fitness Instructor Prep	3 / 4
PFKN 170	Foundations of Kinesiology	3 / 3
PFKN 200	Exercise Physiology	3 / 3
PFKN 201	Exercise Physiology Lab	1 / 2
PFKN 208	Biomechanics	3 / 3
PFKN 250	Measurements in Kinesiology	3 / 4
PFKN 260	Growth and Motor Behavior	3 / 3
PFKN 270	Personal Trainer Preparation	4 / 5
PFKN 280	Kinesiology Internship	3 / 3
PFWT 112	Intro to Weight Training	1 / 2

**Program of Study Required Courses, Limited Choice – Biology** – *Select one. Students planning to transfer to a four-year institution must take BIOL 201 and 202.*

Course Code	Course Title	Credit / Billing Hours
BIOL 145	Intro Anatomy and Physiology	4 / 6
BIOL 201 and 202	Human Anatomy and Human Physiology	8 / 11 (total)

**Program of Study Required Courses, Limited Choice – English/Communications** – *Select one. Students planning to pursue a bachelor degree are encouraged to complete ENGL 122.*

Course Code	Course Title	Credit / Billing Hours
COMM 110	Communication in the Workplace	3 / 3
COMM 120	Dynamics of Communication	3 / 3
COMM 130	Fundamentals Public Speaking	3 / 3
ENGL 122	Composition II	4 / 4

**Program of Study Required Courses, Limited Choice – Mathematics** – *Select one. Students planning to pursue a bachelor degree are encouraged to complete a MATH course.*

Course Code	Course Title	Credit / Billing Hours
MATH 120	College Algebra	4 / 4
MATH 122	Trigonometry	4 / 4
MATH 126	Precalculus	5 / 5
MATH 151	Calculus I	4 / 4
STAT 170	Introduction to Statistics	4 / 4

**Program of Study Required Courses, Limited Choice – Personal Trainer**– *Select one*

Course Code	Course Title	Credit / Billing Hours
PFHW 123	Human Nutrition	3 / 3
PFHW 181	Stress Management	1 / 1
PFKN 205	Sport & Exercise Psychology	3 / 3
PFKN 210	Athletic Training Principles	3 / 4

### Minimum Total Credit Hours

42 credits / 51 billing hours

### Recommended Course Sequence

Semester I (Fall)
PFFT 109
PFHW 163
PFKN 170
BIOL 145 or 201 – Milestone course
Limited Choice – Mathematics

Semester II (Spring)
BIOL 202 (if selected BIOL 201/202) – Milestone course
PFKN 106
PFKN 200
PFKN 201
PFKN 250
PFWT 112
Limited Choice – Personal Trainer

Semester III (Fall)
PFKN 208
PFKN 260
PFKN 270
PFKN 280
Limited Choice – English/Communications

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## Pharmacy Technician C.C.

Career Community: Health and Human Service Careers

Curriculum Code: 1024

Effective: Fall 2022 – Summer 2023

### Description

This certificate curriculum is designed to introduce students to the skills necessary for a pharmacy technician position in a hospital or retail pharmacy. Students will be prepared to function with knowledge and accuracy in preparing, dispensing and control of drugs in either setting. Upon successful completion, students are prepared for the technical portion of the Pharmacy Technician Certification Board National Certification Exam. Review of certification and exam requirements, along with additional requirements, will be needed prior to taking the exam.

### Milestone

Completion of CHSE 235 with a 2.5 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Additional Information

Students must complete all courses with a minimum grade of 2.5 to receive this certificate.

Students wishing to pursue an associate degree, should declare the Allied Health A.A.S. major. Courses in this program of study may be applied toward that degree.

### Contact Information

Contact the Community Health Services Education Program, Health and Human Services Building, Room 108, telephone number 517-483-1410, or the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
CHSE 235	Pharmacy Technician	4 / 4
CHSE 236	Pharmacy Technician Externship	3 / 3

### Minimum Total Credit Hours

7 credits / 7 billing hours



## Required Course Sequence

Semester I
CHSE 235 – Milestone course

Semester II
CHSE 236

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## Philosophy A.A.

Career Community: History, Humanities, and English

Curriculum Code: 0159

Effective: Fall 2022 – Summer 2027

### Description

This degree is designed for students who intend to transfer to a four-year college or university to pursue a baccalaureate degree in this subject area. Students completing this curriculum will also satisfy the Michigan Transfer Agreement (MTA) between two-year and four-year institutions in Michigan and qualify for an LCC Transfer Studies Certificate of Achievement (1482).

### Milestone

In addition to the required General Education courses in Math and English, completion of PHIL 151 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in the courses.

### Additional Information

A student must earn a minimum grade of 2.0 in all courses.

### Contact Information

Contact the Social Science and Humanities Department, Arts and Sciences Building, Room 2203, telephone number 517-483-1061, or the Academic Advising Department, Gannon Building – StarZone, telephone number 517-483-1904.

### General Education – Transfer Degrees (MTA), Recommended Courses

(For the full list of options, see [General Education](#))

- English Composition – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours  
ENGL 131, Honors Composition I, 4 credits / 4 billing hours
- English Composition (second course) or Communications – *Select one*  
ENGL 122, Composition II, 4 credits / 4 billing hours  
ENGL 132, Honors Composition II, 4 credits / 4 billing hours
- Humanities and Fine Arts – *Select one, from a discipline other than PHIL*  
ENGL 200, Introduction to Literature, 3 credits / 3 billing hours  
HIST 211, U.S. History to 1877, 4 credits / 4 billing hours  
HIST 212, U.S. History: 1877 to Present, 4 credits / 4 billing hours  
RELG 150, Intro to World Religions, 4 credits / 4 billing hours

- Mathematics – *Select one*  
 MATH 119, Math Applications for Living, 4 credits / 4 billing hours  
 MATH 120, College Algebra, 4 credits / 4 billing hours  
 STAT 170, Introduction to Statistics, 4 credits / 4 billing hours  
 STAT 215, Intro to Probability and Stats, 4 credits / 4 billing hours
- Natural Sciences – *Select two, each from a different discipline, one must be a lab course*  
 ASTR 201, Introductory Astronomy, 4 credits / 5 billing hours  
 BIOL 120, Environmental Science, 4 credits / 6 billing hours  
 BIOL 125, Introductory Biology, 4 credits / 5 billing hours  
 CHEM 135, Chemistry in Society, 4 credits / 5 billing hours  
 GEOG 221, Physical Geography, 4 credits / 4 billing hours  
 GEOL 221, Physical Geology, 4 credits / 6 billing hours  
 ISCI 131, Integrated Physical Science, 4 credits / 6 billing hours  
 PHYS 120, The Art of Physics, 4 credits / 5 billing hours
- Social Sciences – *Select two, each from a different discipline*  
 ECON 120, Power, Authority and Exchange, 4 credits / 4 billing hours  
 EDUC 220, Introduction to Education, 3 credits / 3 billing hours  
 GEOG 200, World Regional Geography, 4 credits / 4 billing hours  
 POLS 120, American Political System, 4 credits / 4 billing hours  
 SOCL 120, Introduction to Sociology, 4 credits / 4 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
PHIL 101	Introduction to Philosophy	3 / 3
PHIL 151	Intro to Logic & Critical Think	4 / 4

### Program of Study Required Courses, Limited Choice – *Select two*

Course Code	Course Title	Credit / Billing Hours
PHIL 152	Introduction to Ethics	4 / 4
PHIL 211	Philosophy: Ancient & Medieval	4 / 4
PHIL 212	Philosophy: Modern & Contemporary	4 / 4

### Elective Courses, Recommended Choices – *Select courses to reach the minimum 60 total credits required for this degree. (For the full list of options, see [AA and AS Degree Electives](#))*

Course Code	Course Title	Credit / Billing Hours
ENGL 211	World Literature I	4 / 4
ENGL 212	World Literature II	4 / 4
FREN 121	Elementary French I	4 / 4
FREN 122	Elementary French II	4 / 4
GRMN 121	Elementary German I	4 / 4
GRMN 122	Elementary German II	4 / 4
HUMS 120	Masterpieces of Art & Music	4 / 4

Course Code	Course Title	Credit / Billing Hours
HUMS 140	Art of Being Human	4 / 4
HUMS 160	Mythology	4 / 4
HUMS 211	Art History to the Renaissance	4 / 4
HUMS 212	Art Hist from the Renaissance	4 / 4
HUMS 213	World Civilizations to 1600	4 / 4
HUMS 214	World Civilizations from 1600	4 / 4
RELG 211	Asian Religions and Traditions	4 / 4
RELG 212	Judaism, Christianity & Islam	4 / 4

### Minimum Total Credit Hours

60 credits / 61 billing hours

### Recommended Course Sequence

Semester I
MTA English Composition
MTA Mathematics
MTA Social Sciences
PHIL 101

Semester II
MTA English Comp (2nd course) or Communications
MTA Natural Sciences
MTA Social Sciences
PHIL 151 – Milestone course

Semester III
MTA Humanities and Fine Arts
MTA Natural Sciences
Limited Choice
Electives as needed for total credits

Semester IV
Limited Choice
Electives as needed for total credits

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## Phlebotomy Technician C.C.

Career Community: Health and Human Service Careers

Curriculum Code: 1010

Effective: Fall 2022 – Summer 2024

### Description

This certificate curriculum is designed to prepare an individual to function as a phlebotomy technician. It will provide the knowledge, skills, and externship experience that is necessary to safely and skillfully obtain a blood specimen from a patient. A phlebotomist may work in a variety of settings such as hospitals, outpatient labs, physicians' offices, or clinics.

### Milestone

Completion of CHSE 143 with a 2.5 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in the course.

### Additional Information

Students must enroll in CHSE 144 within one year of completing CHSE 143 with a minimum grade of 2.5. CHSE 144 must also be completed with a minimum grade of 2.5 to receive this certificate.

Students wishing to pursue an associate degree, should declare the Allied Health A.A.S. major. Courses in this program of study may be applied toward that degree.

### Contact Information

Contact the Community Health Services Education Program, Health and Human Services Building, Room 108, telephone number 517-483-1410, or the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
CHSE 143	Phlebotomy Technician	2 / 3
CHSE 144	Phlebotomy Externship	4 / 4

### Minimum Total Credit Hours

6 credits / 7 billing hours

### Recommended Course Sequence

Semester I
CHSE 143 – Milestone course
Semester II
CHSE 144

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## Photography C.C.

Career Community: Art, Design, and Media

Curriculum Code: 0963

Effective: Fall 2022 – Summer 2027

### Description

This certificate is designed to provide students with the necessary technical knowledge and skills needed to qualify for entry level photographic support positions.

### Milestone

Completion of PHOT 112 and PHOT 114 with a 2.0 or higher are key components for success in completing this program. Knowledge obtained in these courses may be the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Contact Information

Contact the Communication, Media and the Arts Department, Gannon Building, Room 1222, telephone number 517-483-1546 or the Academic Advising Department, Gannon Building – StarZone, telephone number 517-483-1904.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
PHOT 111	Digital Photography I	3 / 3
PHOT 112	Digital Imag for Photographers	4 / 4
PHOT 113	Lighting Concepts and Applic	3 / 3
PHOT 114	Advanced Photographic Imaging	4 / 4
PHOT 119	Intermediate Lighting	3 / 3
PHOT 212	Advanced Still/Video Projects	3 / 3
PHOT 213	Portrait Photography	3 / 3

### Minimum Total Credit Hours

23 credits / 23 billing hours

### Recommended Course Sequence

Semester I
PHOT 111
PHOT 112 – Milestone course
PHOT 113

Semester II
PHOT 114 – Milestone course
PHOT 119

Semester III
PHOT 212
PHOT 213

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## Political Science A.A.

Career Community: Social Sciences

Curriculum Code: 0750

Effective: Fall 2022 – Summer 2027

### Description

This degree is designed for students who intend to transfer to a four-year college or university to pursue a baccalaureate degree in this subject area. Students completing this curriculum will also satisfy the Michigan Transfer Agreement (MTA) between two-year and four-year institutions in Michigan and qualify for an LCC Transfer Studies Certificate of Achievement (1482).

### Milestone

In addition to the required General Education courses Math and English, completion of POLS 201 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in the courses.

### Additional Information

A student must earn a minimum grade of 2.0 in all courses.

### Contact Information

Contact the Social Science and Humanities Department in the Arts & Sciences Building, Room 2203, telephone number 517-483-1061 or the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

### General Education – Transfer Degrees (MTA), Recommended Courses

(For the full list of options, see [General Education](#))

- English Composition – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours  
ENGL 131, Honors Composition I, 4 credits / 4 billing hours
- English Composition (second course) or Communications – *Select one*  
ENGL 122, Composition II, 4 credits / 4 billing hours  
ENGL 132, Honors Composition II, 4 credits / 4 billing hours
- Humanities and Fine Arts – *Select two, each from a different discipline*  
ENGL 211, World Literature I, 4 credits / 4 billing hours  
HIST 220, Michigan History, 4 credits / 4 billing hours  
HUMS 213, World Civilizations to 1600, 4 credits / 4 billing hours  
HUMS 214, World Civilizations from 1600, 4 credits / 4 billing hours  
PHIL 151, Intro to Logic & Critical Think, 4 credits / 4 billing hours  
PHIL 152, Introduction to Ethics, 4 credits / 4 billing hours  
RELG 150, Intro to World Religions, 4 credits / 4 billing hours

- Mathematics – *Select one*  
 MATH 119, Math Applications for Living, 4 credits / 4 billing hours  
 MATH 120, College Algebra, 4 credits / 4 billing hours  
 STAT 170, Introduction to Statistics, 4 credits / 4 billing hours
- Natural Sciences – *Select two, each from a different discipline, one must be a lab course*  
 ASTR 201, Introductory Astronomy, 4 credits / 5 billing hours  
 BIOL 120, Environmental Science, 4 credits / 6 billing hours  
 BIOL 125, Introductory Biology, 4 credits / 5 billing hours  
 CHEM 135, Chemistry in Society, 4 credits / 5 billing hours  
 GEOG 221, Physical Geography, 4 credits / 4 billing hours  
 GEOL 221, Physical Geology, 4 credits / 6 billing hours  
 ISCI 131, Integrated Physical Science, 4 credits / 6 billing hours  
 PHYS 120, The Art of Physics, 4 credits / 5 billing hours
- Social Sciences – *Select one from a discipline other than POLS*  
 ECON 120, Power, Authority and Exchange, 4 credits / 4 billing hours  
 ECON 201, Principles of Economics-Micro, 4 credits / 4 billing hours  
 PSYC 200, Introduction to Psychology, 4 credits / 4 billing hours  
 SOCL 120, Introduction to Sociology, 4 credits / 4 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
POLS 120	American Political System	4 / 4
POLS 121	State and Local Government	4 / 4
POLS 201	Intro to Political Science	3 / 3
POLS 240	Introduction to Public Policy	3 / 3
POLS 260	Comparative Political Systems	3 / 3
POLS 270	International Relations	3 / 3

**Elective Courses, Recommended Choices** – *Select courses to reach the minimum 60 total credits required for this degree.* (For the full list of options, see [AA and AS Degree Electives](#))

Course Code	Course Title	Credit / Billing Hours
ECON 260	Comparative Economic Systems	3 / 3
GEOG 200	World Regional Geography	4 / 4
GEOG 202	Geography of North America	3 / 3
HIST 211	U.S. History to 1877	4 / 4
HIST 212	U.S. History: 1877 to Present	4 / 4
HIST 220	Michigan History	4 / 4
HUMS 213	World Civilizations to 1600	4 / 4
HUMS 214	World Civilizations from 1600	4 / 4
LEGL 215	Business Law-Basic Principles	3 / 3
POLS 250	Campaigns & Elections	3 / 3
PSYC 200	Introduction to Psychology	4 / 4
SOCL 255	Contemporary Social Problems	3 / 3

## Minimum Total Credit Hours

60 credits / 61 billing hours

## Recommended Course Sequence

Semester I
MTA English Composition
MTA Humanities and Fine Arts
POLS 120
POLS 201 – Milestone course
Electives as needed for total credits

Semester II
MTA English Comp (2nd course) or Communications
MTA Mathematics
MTA Social Sciences
POLS 121

Semester III
MTA Natural Sciences
POLS 260
POLS 270
Electives as needed for total credits

Semester IV
MTA Humanities and Fine Arts
MTA Natural Sciences
POLS 240
Electives as needed for total credits

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## **Powerplant Maintenance Technology A.A.S.**

Career Community: Transportation

Curriculum Code: 0745

Effective: Fall 2022 – Summer 2027

### **Description**

Powerplant Maintenance Technicians maintain aircraft in accordance with the Federal Aviation Regulations. Technicians perform inspections, repairs and alterations to aircraft powerplants, propellers and their related systems. In addition, they troubleshoot the operation of induction, cooling, exhaust, fuel metering, ignition, electrical, starting, lubrication propeller and other associated systems. Powerplant maintenance technicians are employed throughout the world maintaining aircraft for major air carriers, commuter airlines, air freight operators, corporate flight departments, fixed base operators and a variety of other specialized aviation businesses. Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of AVGM 111, AVGM 112, AVGM 113, and AVGM 114, with a 2.0 or higher is a key component for success in this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Contact Information**

Contact the Aviation Technology Program at the Mason-Jewett Field, 661 Aviation Drive, Mason, telephone number 517-483-1406.

### **General Education - Applied Degrees, Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours  
ENGL 124, Technical Writing, 3 credits / 3 billing hours  
ENGL 127, Business Writing, 3 credits / 3 billing hours
- English Composition (Second Course)/Communications or Applied Communications – *Select one*  
COMM 110, Communication in the Workplace, 3 credits / 3 billing hours  
COMM 120, Dynamics of Communication, 3 credits / 3 billing hours  
COMM 130, Fundamentals Public Speaking, 3 credits / 3 billing hours

- Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one*  
 HUMS 213, World Civilizations to 1600, 4 credits / 4 billing hours  
 HUMS 214, World Civilizations from 1600, 4 credits / 4 billing hours  
 MGMT 234, Diversity in the Workplace, 3 credits / 3 billing hours  
 SOCL 120, Introduction to Sociology, 4 credits / 4 billing hours
- Mathematics/Applied Mathematics – *Select one*  
 MATH 117, Math for Business, 4 credits / 4 billing hours  
 MATH 119, Math - Applications for Living, 4 credits / 4 billing hours
- Natural Sciences Lab or Applied Science and Technology Lab – *Select one*  
 ASTR 201, Introductory Astronomy, 4 credits / 5 billing hours  
 BIOL 120, Environmental Science, 4 credits / 6 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
AVAF 212	Aircraft Electrical II	4 / 5.75
AVGM 111	Aviation General I	4 / 5
AVGM 112	Aviation General II	6 / 8
AVGM 113	Aviation General III	4 / 5
AVGM 114	Materials and Processes	5 / 7
AVPP 241	Reciprocating Engine	8 / 11.25
AVPP 251	Reciprocating Engine Systems	2 / 2.5
AVPP 253	Reciprocating Ignition Systems	5 / 6.75
AVPP 255	Reciprocating Induction Sys	4 / 5.5
AVPP 257	Aircraft Propeller Systems	4 / 5.5
AVPP 259	Turbine Engine I	4 / 5.5
AVPP 261	Turbine Engine II	4 / 5.5
AVPP 263	Turbine Engine Systems	2 / 2.75
AVPP 265	Powerplant Instruments	2 / 2.5
AVPP 267	Powerplant Certification	1 / 1.5

### Minimum Total Credit Hours

76 credits / 98 billing hours

### Recommended Course Sequence

Semester I (Fall)
AVGM 111 – Milestone course
AVGM 112 – Milestone course
AVGM 113 – Milestone course
AVGM 114 – Milestone course

Semester II (Spring)
AVPP 251
AVPP 253
AVPP 255
AVPP 257
AVPP 259

Semester III (Summer)
AFAF 212
AVPP 261
AVPP 263
AVPP 265
AVPP 267

Semester IV (Fall)
Gen Ed – English Composition or Applied English
Gen Ed – Mathematics or Applied Mathematics
AVPP 241

Semester V (Spring)
Gen Ed – English Composition (Second Course)/Communications or Applied Communications
Gen Ed – Humanities and Fine Arts or Social Sciences or Applied Social Sciences
Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab

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# Powerplant Maintenance Technology C.A.

Career Community: Transportation

Curriculum Code: 1035

Effective: Fall 2022 – Summer 2027

## Description

This certificate of achievement enables a non-licensed individual to expand their knowledge of powerplant maintenance practices used to maintain aircraft engines in accordance with the Title 14 Code of Federal Aviation Regulations. While enrolled in this program, students will learn the basic science and technical knowledge necessary to repair and maintain modern aerospace vehicle powerplants. Graduates will have demonstrated technical abilities in the following areas: reciprocating and turbine engine overhaul and repair, ignition and fuel system maintenance and repair, engine electrical system diagnosis and repair, and engine inspections. Completion of this certificate may be applied to the Airframe and Powerplant License provided the student meets the requirements of the Federal Aviation Regulation Part 147.

## Milestone

Completion of AVPP 241 and AVPP 259 with a 2.0 or higher is a key component for success in this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

## Contact Information

Contact the Aviation Technology Program at the Mason-Jewett Field, 661 Aviation Drive, Mason, telephone number 517-483-1406.

## Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
AVAF 212	Aircraft Electrical II	4 / 5.75
AVPP 241	Reciprocating Engine	8 / 11.25
AVPP 251	Reciprocating Engine Systems	2 / 2.5
AVPP 253	Reciprocating Ignition Systems	5 / 6.75
AVPP 255	Reciprocating Induction Sys	4 / 5.5
AVPP 257	Aircraft Propeller Systems	4 / 5.5
AVPP 259	Turbine Engine I	4 / 5.5
AVPP 261	Turbine Engine II	4 / 5.5
AVPP 263	Turbine Engine Systems	2 / 2.75
AVPP 265	Powerplant Instruments	2 / 2.5
AVPP 267	Powerplant Certification	1 / 1.5

## Minimum Total Credit Hours

40 credits / 55 billing hours

## Recommended Course Sequence

Semester I (Fall)
AVPP 241 – Milestone course
Semester II (Spring)
AVPP 251
Semester III (Summer)
AVAF 212
Semester IV (Spring)
AVPP 253
AVPP 255
AVPP 257
AVPP 259 – Milestone course
Semester V (Summer)
AVPP 261
AVPP 263
AVPP 265
AVPP 267

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## **Pre-Professional Health Studies A.S.**

Career Community: Health and Human Service Careers

Curriculum Code: 0754

Effective: Fall 2022 – Summer 2027

### **Description**

This degree is designed for students who intend to transfer to a four-year college or university to pursue a baccalaureate degree in this subject area. Students completing this curriculum will also satisfy the Michigan Transfer Agreement (MTA) between two-year and four-year institutions in Michigan and qualify for an LCC Transfer Studies Certificate of Achievement (1482).

### **Milestone**

In addition to the required General Education courses in Math and English, completion of BIOL 127, BIOL 128, CHEM 151, and CHEM 162 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses may be the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

A student must earn a minimum grade of 2.0 in all courses.

### **Contact Information**

Contact the Science Department in the Arts and Sciences Building, Room 3203, telephone number 517-483-1092, or the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

### **General Education - Transfer Degrees (MTA), Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours  
ENGL 131, Honors Composition I, 4 credits / 4 billing hours
- English Composition (second course) or Communications – *Select one*  
ENGL 122, Composition II, 4 credits / 4 billing hours  
ENGL 132, Honors Composition II, 4 credits / 4 billing hours  
COMM 110, Communication in the Workplace, 3 credits / 3 credits  
COMM 120, Dynamics of Communication, 3 credits / 3 credits  
COMM 130, Fundamentals Public Speaking, 3 credits / 3 credits

- Humanities and Fine Arts – *Select two, each from a different discipline*  
 HIST 211, U.S. History to 1877, 4 credits / 4 billing hours  
 HIST 212, U.S. History: 1877 to Present, 4 credits / 4 billing hours  
 HUMS 120, Masterpieces of Art & Music, 4 credits / 4 credits  
 HUMS 213, World Civilizations to 1600, 4 credits / 4 billing hours  
 HUMS 214, World Civilizations from 1600, 4 credits / 4 billing hours  
 PHIL 152, Introduction to Ethics, 4 credits / 4 billing hours  
 RELG 150, Intro to World Religions, 4 credits / 4 billing hours
- Mathematics  
 Program of Study Required Courses will meet this requirement.
- Natural Sciences  
 Program of Study Required Courses will meet this requirement.
- Social Sciences – *Select two, each from a different discipline*  
 GEOG 200, World Regional Geography, 4 credits / 4 billing hours  
 PSYC 200, Introduction to Psychology, 4 credits / 4 billing hours  
 SOCL 120, Introduction to Sociology, 4 credits / 4 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
BIOL 127	Cell Biology	4 / 6
BIOL 128	Organismal Biology	4 / 6
CHEM 151	General Chemistry Lecture I	4 / 4
CHEM 152	General Chemistry Lecture II	3 / 3
CHEM 161	General Chemistry Lab I	1 / 3
CHEM 162	General Chemistry Lab II	1 / 3
CHEM 251	Organic Chemistry Lecture I	4 / 4
CHEM 252	Organic Chemistry Lecture II	4 / 4
CHEM 272	Organic Chemistry Laboratory	2 / 6
MATH 126	Precalculus	5 / 5

**Elective Courses, Recommended Choices** – *Select courses to reach the minimum 60 total credits required for this degree.* (For the full list of options, see [AA and AS Degree Electives](#))

Course Code	Course Title	Credit / Billing Hours
MATH 141	Calculus with Applications	4 / 4
MATH 151	Calculus I	4 / 4
PHYS 221	Introductory Physics I	4 / 6

### Minimum Total Credit Hours

60 credits / 72 billing hours

## Recommended Course Sequence

Semester I
MTA English Composition
CHEM 151 – Milestone course
CHEM 161
MATH 126
Semester II
MTA English Comp (2nd course) or Communications
MTA Social Sciences
BIOL 128 – Milestone course
CHEM 152
CHEM 162 – Milestone course
Semester III
MTA Humanities and Fine Arts
MTA Social Sciences
BIOL 127 – Milestone course
CHEM 251
Semester IV
MTA Humanities and Fine Arts
CHEM 252
CHEM 272
Electives as needed for total credits

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## Psychology A.A.

Career Community: Social Sciences

Curriculum Code: 0215

Effective: Fall 2022 – Summer 2027

### Description

This degree is designed for students who intend to transfer to a four-year college or university to pursue a baccalaureate degree in this subject area. Students completing this curriculum will also satisfy the Michigan Transfer Agreement (MTA) between two-year and four-year institutions in Michigan and qualify for an LCC Transfer Studies Certificate of Achievement (1482).

### Milestone

In addition to the required General Education courses in Math and English, completion of PSYC 200 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses may be the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Additional Information

A student must earn a minimum grade of 2.0 in all courses.

### Contact Information

Contact the Social Science and Humanities Department, Arts and Sciences Building, Room 2203, telephone number 517-483-1061, or the Academic Advising Department, Gannon Building – StarZone, telephone number 517-483-1904.

### General Education – Transfer Degrees (MTA), Recommended Courses

(For the full list of options, see [General Education](#))

- English Composition – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours  
ENGL 131, Honors Composition I, 4 credits / 4 billing hours
- English Composition (second course) or Communications – *Select one*  
COMM 120, Dynamics of Communication, 3 credits / 3 billing hours  
ENGL 122, Composition II, 4 credits / 4 billing hours  
ENGL 132, Honors Composition II, 4 credits / 4 billing hours
- Humanities and Fine Arts – *Select two, each from a different discipline*  
HIST 211, U.S. History to 1877, 4 credits / 4 billing hours  
HIST 212, U.S. History: 1877 to Present, 4 credits / 4 billing hours  
HUMS 213, World Civilizations to 1600, 4 credits / 4 billing hours  
HUMS 214, World Civilizations from 1600, 4 credits / 4 billing hours  
PHIL 151, Intro to Logic & Critical Think, 4 credits / 4 billing hours  
PHIL 152, Introduction to Ethics, 4 credits / 4 billing hours  
RELG 150, Intro to World Religions, 4 credits / 4 billing hours

- Mathematics – *Select one, Students wanting to transfer to MSU should select MATH 120.*  
MATH 120, College Algebra, 4 credits / 4 billing hours  
STAT 170, Introduction to Statistics, 4 credits / 4 billing hours
- Natural Sciences – *Select two, each from a different discipline, one must be a **lab** course*  
**BIOL 120**, Environmental Science, 4 credits / 6 billing hours  
**BIOL 125**, Introductory Biology, 4 credits / 5 billing hours  
CHEM 125, Basic Chemistry, 4 credits / 4 billing hours  
**CHEM 135**, Chemistry in Society, 4 credits / 5 billing hours  
**ISCI 131**, Integrated Physical Science, 4 credits / 6 billing hours  
PFHW 123, Human Nutrition, 3 credits / 3 billing hours
- Social Sciences – *Select one from a discipline other than PSYC*  
ANTH 270, Cultural Anthropology, 3 credits / 3 billing hours  
GEOG 200, World Regional Geography, 4 credits / 4 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
PSYC 200	Introduction to Psychology	4 / 4
PSYC 202	Psychology of Personality	3 / 3
PSYC 203	Social Psychology	3 / 3
PSYC 250	Abnormal Psychology	3 / 3

**Program of Study Required Courses** – *Select one. Students planning to transfer to MSU or EMU should take PSYC 221; all other students should take PSYC 205.*

Course Code	Course Title	Credit / Billing Hours
PSYC 205	Human Growth and Development	3 / 3
PSYC 221	Child Psychology	3 / 3

**Elective Courses, Recommended Choices** – *Select courses to reach the minimum 60 total credits required for this degree. (For the full list of options, see [AA and AS Degree Electives](#))*

Course Code	Course Title	Credit / Billing Hours
PHIL 151	Intro to Logic & Critical Think	4 / 4
PSYC 175	Psyc of Death: Prep for Living	3 / 3
PSYC 180	Intro to Positive Psychology	3 / 3
PSYC 209	Cognitive Psychology	3 / 3
PSYC 210	Brain and Behavior	3 / 3
PSYC 221	Child Psychology	3 / 3
PSYC 222	Adolescent Psychology	3 / 3
PSYC 240	Psychology of Human Sexuality	3 / 3
SOCL 120	Introduction to Sociology	4 / 4

### Minimum Total Credit Hours

60 credits / 61 billing hours

## Recommended Course Sequence

Semester I
MTA English Composition
MTA Mathematics
PSYC 200 – Milestone course
Electives as needed for total credits

Semester II
MTA English Comp (2nd course) or Communications
MTA Natural Sciences
PSYC 202
PSYC 203
Electives as needed for total credits

Semester III
MTA Humanities and Fine Arts
MTA Natural Sciences
PSYC 205 or PSYC 221
Electives as needed for total credits

Semester IV
MTA Humanities and Fine Arts
MTA Social Sciences
PSYC 250
Electives as needed for total credits

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## **Radiologic Technology A.A.S.**

Career Community: Health and Human Service Careers

Curriculum Code: 0196

Effective: Fall 2022 – Summer 2024

### **Description**

Radiologic technologists, also called radiographers, operate X-ray equipment under the direction of a physician, taking radiographs of internal parts of the body. Most often radiologic technologists are employed in hospitals, clinics and physician offices. Graduates of the program will be eligible for examination by the American Registry of Radiologic Technologists (ARRT). Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course. This program is accredited by the Joint Review Committee on Education in Radiologic Technology, 20 N Wacker Drive, Suite 2850, Chicago, IL 60606-3182.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of IRXT 111 with a 2.5 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

This is a selective admission program. In order to be considered as a candidate for this program, students must meet basic admission requirements beyond those required for admission to the college. The BIOL course(s), CHSE 117, and MATH 119 or higher (or STAT 170 or STAT 215) must be completed or in progress by the May 1 Radiologic Technology Program admission application deadline. Students must achieve a minimum grade of 2.5 in each of the courses required for admission to the program. Although not required, it is strongly recommended that students also complete all General Education requirements and CHSE 120 before entry into the program. Students are admitted for the fall semester only. Once admitted, a student may not begin a new semester in the Radiologic Technology Program until they have successfully completed all of the IRXT courses listed in the previous sequenced semester with a minimum grade of 2.5.

### **Contact Information**

The admission and/or graduation requirements for this program may change each academic year. The program requirements below apply only to those students who have been admitted to the program for the 2022/2023 academic year. For the most current information, interested students should contact the Radiologic Technology Program, Health and Human Services Building, Room 108, telephone number 517-483-1410, or the Academic Advising Department, Gannon Building – StarZone, telephone number 517-483-1904.

## General Education – Applied Degrees, Recommended Courses

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours  
ENGL 122, Composition II, 4 credits / 4 billing hours  
ENGL 131, Honors Composition I, 4 credits / 4 billing hours  
ENGL 132, Honors Composition II, 4 credits / 4 billing hours
- English Composition (second course)/Communications or Applied Communications  
Program of Study Required Courses for Admission will meet this requirement.
- Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one*  
COMM 280, Intercultural Communication, 3 credits / 3 billing hours  
SOCL 120, Introduction to Sociology, 4 credits / 4 billing hours
- Mathematics or Applied Mathematics  
Program of Study Required Courses for Admission will meet this requirement.
- Natural Sciences Lab or Applied Science and Technology Lab  
Program of Study Required Courses for Admission will meet this requirement.

### Program of Study Required Course for Admission

Course Code	Course Title	Credit / Billing Hours
CHSE 117	Health Law and Ethics	2 / 2

### Program of Study Required Courses for Admission, Limited Choice – English Composition (second course)/Communications – *Select one. This course will satisfy the General Education English Composition (second course)/Communications requirement.*

Course Code	Course Title	Credit / Billing Hours
COMM 110	Communication in the Workplace	3 / 3
COMM 120	Dynamics of Communication	3 / 3
COMM 130	Fundamentals Public Speaking	3 / 3
COMM 240	Interpersonal Communication	3 / 3

### Program of Study Required Courses for Admission, Limited Choice –

**Mathematics** – *Select one. This course will satisfy the General Education Mathematics or Applied Mathematics requirement. (Any course from the General Education Mathematics College Algebra category may also be selected.)*

Course Code	Course Title	Credit / Billing Hours
MATH 119	Math - Applications for Living	4 / 4
MATH 120	College Algebra	4 / 4
STAT 170	Introduction to Statistics	4 / 4
STAT 215	Intro to Probability and Stats	4 / 4



**Program of Study Required Course for Admission, Limited Choice – Natural Sciences Lab** – *Select one. This course will satisfy the General Education Natural Sciences Lab or Applied Science and Technology Lab requirement.*

Course Code	Course Title	Credit / Billing Hours
BIOL 145	Intro Anatomy and Physiology	4 / 6
BIOL 201 and 202	Human Anatomy and Human Physiology	8 / 11 (total)

**Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
CHSE 120	Medical Terminology	4 / 4
IRXT 105	Introduction to Imaging	2 / 2
IRXT 111	Radiographic Positioning I	6 / 6
IRXT 112	Radiographic Positioning II	6 / 6
IRXT 116	Patient Care in Radiography	2 / 3
IRXT 140	Image Analysis	2 / 2
IRXT 144	Digital Imaging and Exposure	2 / 2
IRXT 170	Clinical Practice I	4 / 4
IRXT 172	Clinical Practice II	6 / 6
IRXT 200	Intro to Radiologic Pathology	2 / 2
IRXT 214	Comprehensive Experience I	6 / 6
IRXT 215	Comprehensive Experience II	6 / 6
IRXT 222	Radiobiology and Protection	2 / 2
IRXT 224	Radiologic Physics	4 / 4
IRXT 280	Radiologic Tech Board Review	2 / 2

**Program of Study Recommended Course**

Course Code	Course Title	Credit / Billing Hours
IRXT 240	Sectional Anatomy	2 / 2

**Minimum Total Credit Hours**

76 credits / 79 billing hours

**Recommended Course Sequence**

Semester I
Program of Study Required Course for Admission, Limited Choice – Mathematics
BIOL 145 or (BIOL 201 and BIOL 202)
COMM 110, 120, 130, or 240

Semester II
Gen Ed - English Composition or Applied English
Gen Ed - Humanities and Fine Arts or Social Sciences or Applied Social Sciences
CHSE 117
CHSE 120

Semester III (Fall)
IRXT 105
IRXT 111 – Milestone course
IRXT 116

Semester IV (Spring)
IRXT 112
IRXT 140
IRXT 144
IRXT 170

Semester V (Summer)
IRXT 172
IRXT 240 (Recommended)

Semester VI (Fall)
IRXT 214
IRXT 222
IRXT 224

Semester VII (Spring)
IRXT 200
IRXT 215
IRXT 280

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## Religious Studies A.A.

Career Community: History, Humanities, and English

Curriculum Code: 0751

Effective: Fall 2022 – Summer 2027

### Description

This degree is designed for students who intend to transfer to a four-year college or university to pursue a baccalaureate degree in this subject area. Students completing this curriculum will also satisfy the Michigan Transfer Agreement (MTA) between two-year and four-year institutions in Michigan and qualify for an LCC Transfer Studies Certificate of Achievement (1482).

### Milestone

In addition to the required General Education courses in Math and English, completion of RELG 230 and RELG 232 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Additional Information

A student must earn a minimum grade of 2.0 in all courses.

### Contact Information

Contact the Social Science and Humanities Department, Arts and Sciences Building, Room 2203, telephone number 517-483-1061, or the Academic Advising Department, Gannon Building – StarZone, telephone number 517-483-1904.

### General Education – Transfer Degrees (MTA), Recommended Courses

(For the full list of options, see [General Education](#))

- English Composition – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours  
ENGL 131, Honors Composition I, 4 credits / 4 billing hours
- English Composition (second course)/Communications – *Select one*  
ENGL 122, Composition II, 4 credits / 4 billing hours  
ENGL 132, Honors Composition II, 4 credits / 4 billing hours
- Humanities and Fine Arts  
Program of Study Required courses will meet this requirement
- Mathematics – *Select one*  
MATH 119, Math Applications for Living, 4 credits / 4 billing hours  
MATH 120, College Algebra, 4 credits / 4 billing hours  
STAT 170, Introduction to Statistics, 4 credits / 4 billing hours  
STAT 215, Intro to Probability and Stats, 4 credits / 4 billing hours

- Natural Sciences – *Select two, each from a different discipline, one must be a lab course*  
 ASTR 201, Introductory Astronomy, 4 credits / 5 billing hours  
 BIOL 120, Environmental Science, 4 credits / 6 billing hours  
 BIOL 125, Introductory Biology, 4 credits / 5 billing hours  
 CHEM 135, Chemistry in Society, 4 credits / 5 billing hours  
 GEOG 221, Physical Geography, 4 credits / 4 billing hours  
 GEOL 221, Physical Geology, 4 credits / 6 billing hours  
 GEOL 230, Environmental Geology, 4 credits / 6 billing hours  
 ISCI 131, Integrated Physical Science, 4 credits / 6 billing hours  
 PHYS 120, The Art of Physics, 4 credits / 5 billing hours
- Social Sciences – *Select two, each from a different discipline*  
 EDUC 204, Educational Psychology, 3 credits / 3 billing hours  
 EDUC 220, Introduction to Education, 3 credits / 3 billing hours  
 GEOG 200, World Regional Geography, 4 credits / 4 billing hours  
 PSYC 200, Introduction to Psychology, 4 credits / 4 billing hours  
 SOCL 120, Introduction to Sociology, 4 credits / 4 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
RELG 210	Comparative Religions	3 / 3
RELG 230	Introduction to Christianity	3 / 3
RELG 232	Introduction to Islam	3 / 3

### Program of Study Required Courses, Limited Choice - Humanities – *Select three*

Course Code	Course Title	Credit / Billing Hours
HUMS 160	Mythology	4 / 4
PHIL 152	Introduction to Ethics	4 / 4
RELG 211	Asian Religions and Traditions	4 / 4
RELG 241	Old Testament Literature	4 / 4

### Elective Courses, Recommended Choices – *Select courses to reach the minimum 60 total credits required for this degree. (For the full list of options, see [AA and AS Degree Electives](#))*

Course Code	Course Title	Credit / Billing Hours
HUMS 140	Art of Being Human	4 / 4
HUMS 211	Art History to the Renaissance	4 / 4
HUMS 214	World Civilizations from 1600	4 / 4
HUMS 215	American Cultural Experience	4 / 4
HUMS 260	Ancient Egypt	4 / 4
PHIL 101	Introduction to Philosophy	3 / 3
PHIL 211	Philosophy: Ancient & Medieval	4 / 4
RELG 150	Intro to World Religions	4 / 4
RELG 242	New Testament Literature	4 / 4

## Minimum Total Credit Hours

60 credits / 61 billing hours

## Recommended Course Sequence

Semester I
MTA English Composition
MTA Mathematics
MTA Social Sciences
RELG 210

Semester II
MTA English Comp (2nd course)/Communications
MTA Natural Science
MTA Social Science
RELG 230 – Milestone course

Semester III
MTA Natural Science
RELG 232 – Milestone course
Limited Choice
Electives as needed for total credits

Semester IV
Limited Choice
Limited Choice
Electives as needed for total credits

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## Robotics and Automated Technology C.A.

Career Community: Electrical and Manufacturing

Curriculum Code: 1605

Effective: Fall 2022 – Summer 2027

### Description

A student who completes this certificate will be exposed to the elements of automated systems design and installation needed to obtain employment in various settings including those within the manufacturing and industrial sectors. Students will be able to maintain, troubleshoot, test, and repair modern-day equipment having a technologically diverse design.

### Milestone

Completion of ELTE 108 and ELTE 129 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Additional Information

Students who have already completed DCTM 102, ELTE 102, HVAC 102, METS 102, or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for TECH 102. Any of these courses may also be used to fulfill the prerequisite for the ELTE and METS courses.

### Contact Information

Contact the Center for Manufacturing Excellence at the West Campus Building, 5708 Cornerstone Drive, Lansing MI 48917, Room M103, telephone number 517-483-1104 or by [email](mailto:manufacturing@lcc.edu) (manufacturing@lcc.edu).

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
ELTE 108	Practical Electricity I	2 / 3
ELTE 129	Machine Controls I-A	2 / 2.5
ELTE 130	Machine Controls I-B	2 / 2.5
ELTE 132	Control Panel Assembly	2 / 3
MATH 115	Technical Math II	4 / 4
METD 150	Industrial Blueprint Reading	3 / 3
METM 108	Machine Tool Operations	4 / 6
METS 125	Intro to Hydraulics/Pneumatics	4 / 6
METS 145	Automated Systems	3 / 4.5
METS 160	Introduction to Robotics	3 / 4.5
TECH 102	General Industry Safety	2 / 3

### Minimum Total Credit Hours

31 credits / 42 billing hours

## Recommended Course Sequence

Semester I
ELTE 108 (First 8 weeks) – Milestone course
ELTE 129 (Second 8 weeks) – Milestone course
MATH 115
METD 150
METS 160
TECH 102

Semester II
ELTE 130 (First 8 weeks)
ELTE 132 (Second 8 weeks)
METM 108
METS 125
METS 145

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## Robotics and Automated Technology C.C.

Career Community: Electrical and Manufacturing

Curriculum Code: 1789

Effective: Fall 2022 – Summer 2027

### Description

A student who completes this certificate will have the skills necessary for an entry level position in robotics and automated systems. Students will be able to write and edit programs on industrial robots and repair and maintain fluid power systems.

### Milestone

Completion of ELTE 108 and METS 160 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Additional Information

Students who have already completed DCTM 102, ELTE 102, HVAC 102, METS 102, or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for TECH 102. Any of these courses may also be used to fulfill the prerequisite for the ELTE and METS courses.

### Contact Information

Contact the Center for Manufacturing Excellence at the West Campus Building, 5708 Cornerstone Drive, Lansing MI 48917, Room M103, telephone number 517-483-1104 or by [email](mailto:manufacturing@lcc.edu) (manufacturing@lcc.edu).

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
ELTE 108	Practical Electricity I	2 / 3
ELTE 129	Machine Controls 1-A	2 / 2.5
METD 150	Industrial Blueprint Reading	3 / 3
METS 125	Intro to Hydraulics/Pneumatics	4 / 6
METS 160	Introduction to Robotics	3 / 4.5
TECH 102	General Industry Safety	2 / 3

### Minimum Total Credit Hours

16 credits / 22 billing hours



## Recommended Course Sequence

Semester I
ELTE 108 (First 8 weeks) – Milestone course
METS 160 – Milestone course
TECH 102

Semester II
ELTE 129 (Second 8 weeks)
METD 150
METS 125

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## Sales Specialist C.A.

Career Community: Business

Curriculum Code: 0242

Effective: Fall 2022 – Summer 2027

### Purpose of Major

Students in this curriculum begin to learn sales skills to enhance their performance on the job. Selling is more than getting a customer to buy a product. It is a system that involves understanding and meeting needs, educating on possibilities, and developing lasting relationships. This certificate may help prepare a student for entry-level customer service positions. Students may complete this certificate as part of the Field Sales and Marketing Associate of Business degree.

### Milestone

Completion of MKTG 200, with a 2.0 or higher, is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in this course.

### Contact Information

Contact the Business and Economics Department, Gannon Building, Room 1222, telephone number 517-483-1546 or the Academic Advising Department, Gannon Building – Star Zone, telephone number 517-483-1904.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
BUSN 118	Introduction to Business	3 / 3
CITA 110 or CITF 110	Intro to Microsoft Office or Intro Computer Info Systems	3 / 3 3 / 3
COMM 110 or COMM 130	Communication in the Workplace or Fundamentals Public Speaking	3 / 3 3 / 3
MGMT 150	Managing Customer Relations	3 / 3
MKTG 119	Mktg/Manage Your Profess Image	3 / 3
MKTG 120	Sales	3 / 3
MKTG 200	Principles of Marketing	3 / 3

#### Note:

Students considering completion of the Field Sales and Marketing Associate of Business degree with future transfer options:

- CITA 110 is preferred for transfer to Oakland University or Northwood University.
- CITF 110 is preferred for transfer to Eastern Michigan University.
- COMM 110 is preferred for transfer to Davenport University.
- COMM 130 is preferred for transfer to Eastern Michigan University, Ferris State University, and Northwood University.

**Program of Study Required Courses, Limited Choice** – *Select three courses, minimum of nine credits.*

Course Code	Course Title	Credit / Billing Hours
MGMT 200	Creative Thinking for Business	3 / 3
MKTG 130	Retailing	3 / 3
MKTG 140	Introduction to Advertising	3 / 3
MKTG 210	Marketing on the Internet	3 / 3
MKTG 221	Consumer Behavior	3 / 3
MKTG 229	Public Relations	3 / 3
MKTG 235	Marketing Internship	3 / 3

**Note:**

Students considering completion of the Field Sales and Marketing Associates of Business degree should choose three from MGMT 200, MKTG 140, MKTG 210, MKTG 221.

**Minimum Total Credit Hours**

30 credits / 30 billing hours

**Recommended Course Sequence**

Semester I
BUSN 118
CITA 110 or CITF 110
MKTG 120
MKTG 200 – Milestone course
Limited Choice

Semester II
COMM 110 or COMM 130
MGMT 150
MKTG 119
Limited Choice
Limited Choice

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## **Science and Mathematics G.A.**

Career Community: Science and Mathematics

Curriculum Code: 1831

Effective: Fall 2022 – Summer 2027

Revised: 5/25/22

### **Purpose of Major**

This degree is designed for students interested in pursuing a career in mathematics, engineering, or a broad range of scientific fields. This Career Community includes the following pathways: Biology, Biotechnology, Chemical Technology, Chemistry, Computer Science, Engineering-Physics, Environmental Technology, Geography, and Mathematics. The degree includes a common set of courses applicable to the Science and Mathematics majors listed above and to many transfer institutions. Students beginning college in this degree program are encouraged to work with academic and program advisors throughout their first few semesters of study to determine their specific major area and, if transfer is a goal, the specific requirements of the transfer institution.

Not all courses in this pathway transfer to all colleges.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of CHEM 151 and CHEM 161 with a 2.0 or higher, is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in this course.

### **Contact Information**

Contact the Science and Mathematics Department, Arts and Sciences Building, Room 3203, telephone number 517-483-1092.

### **General Education – Applied Degrees - Recommended Courses**

Select courses as indicated for specific transfer institutions and majors. These courses are preferred General Education courses listed on Transfer Articulation agreements. The recommended courses in each General Education category also meet Michigan Transfer Agreement (MTA) requirements. If no course is indicated, choose from the list of options under [General Education](#). A minimum grade of 2.0 is required for each General Education course.

- English Composition or Applied English  
ENGL 121 or ENGL 131 meets this requirement.
- English Composition (second course)/Communications or Applied Communications  
COMM 130 or ENGL 122 or ENGL 132 meets this requirement.

- Humanities and Fine Arts or Social Sciences or Applied Social Sciences Career Community courses meets this requirement.
- Mathematics or Applied Mathematics  
MATH 120 or MATH 126 or MATH 151 meets this requirement.
- Natural Sciences Lab or Applied Sciences and Technology Lab  
BIOL 120 or BIOL 127 or CHEM 151 with CHEM 161 or GEOL 221 or GEOL 230 or PHYS 251 meets this requirement.

**Science and Mathematics Career Community Courses** – *These courses are required for all Science and Mathematics programs. They should be taken before other Program Required or Limited Choice Courses. Some courses meet General Education requirements for Michigan Transfer Agreement (MTA). A minimum of 2.0 is required to meet LCC degree requirements for General Education courses and for all courses to transfer to other colleges (some colleges, and some programs within colleges, require a higher grade in a course.)*

Course Code	Course Title	Credit / Billing Hours
ACAD 100	First Year College Experience	1 / 1
ANTH 270 or ECON 120 or ECON 201 or EDUC 204 or EDUC 220 or GEOG 120 or GEOG 200 or POLS 120 or POLS 240 or POLS 260 or PSYC 200 or SOCL 120	Cultural Anthropology Power, Authority, and Exchange Principles of Economics-Micro Educational Psychology Introduction to Education Introduction to Geography World Regional Geography American Political System Introduction to Public Policy Comparative Political Systems Introduction to Psychology Introduction to Sociology	3 / 3 4 / 4 4 / 4 3 / 3 3 / 3 3 / 3 4 / 4 4 / 4 3 / 3 3 / 3 4 / 4 4 / 4
BIOL 120 or BIOL 127 or GEOL 221 or GEOL 230 or PHYS 251	Environmental Science Cell Biology Physical Geology Environmental Geology Physics I with Calculus	4 / 6 4 / 6 4 / 6 4 / 6 5 / 7
CHEM 151	General Chemistry Lecture I	4 / 4
CHEM 161	General Chemistry Lab I	1 / 3
COMM 130 or ENGL 122 or ENGL 132	Fundamentals Public Speaking Composition II Honors Composition II	3 / 3 4 / 4 4 / 4
ENGL 121 or ENGL 131	Composition I Honors Composition I	4 / 4 4 / 4
MATH 120 or MATH 126 or MATH 151	College Algebra Precalculus Calculus I	4 / 4 5 / 5 4 / 4

Notes:

ACAD 100 may be waived based on the recommendation of a Program Advisor.

In addition to CHEM 151 and CHEM 161, select Science courses as follows:

- Students interested in Biology, Biotechnology, Chemical Technology, Chemistry, or Environmental Technology choose BIOL 127.
- Students interested in Computer Science choose BIOL 120 or GEOL 221 or PHYS 251.
- Students interested in Engineering/Physics or Mathematics choose PHYS 251.
- Students interested in Geography or Geology choose GEOL 230.

Students considering adding Secondary Education Certification in Mathematics or Science in order to teach in Michigan Public Schools are strongly encouraged to select an EDUC course as listed below.

For future transfer (Secondary Education Certification) to:

- Central Michigan University, Ferris State University, or Michigan State University choose EDUC 204.
- Eastern Michigan University, Grand Valley State University, University of Michigan Flint, or Western Michigan University choose EDUC 220.

**Program of Study Required Courses – Limited Choices** - *Select between 32 to 37 credits to reach the minimum of 60 credits required for the degree. Work with an Academic Advisor or Program Advisor to select the most appropriate courses or to select a field-specific major or transfer major that meets your educational and career goals. Some courses meet General Education requirements for Michigan Transfer Agreement (MTA). A minimum of 2.0 is required to transfer to other colleges (some colleges, and some programs within colleges, require a higher grade in a course.)*

Course Code	Course Title	Credit / Billing Hours
ASTR 201	Introductory Astronomy	4 / 5
BIOL 127	Cell Biology	4 / 6
BIOL 128	Organismal Biology	4 / 6
BIOL 203	Microbiology	3 / 3
BIOL 204	Microbiology Laboratory	1 / 2
BIOL 210	Natural Resource Conservation	4 / 6
BIOL 260	Botany	4 / 6
BIOL 265	Zoology	4 / 6
BIOL 270	Human Genetics	3 / 3
BIOL 275	Molecular Biology I	4 / 6
CHEM 120	Gen Organic & Biological Chem	4 / 4
CHEM 125	Basic Chemistry	4 / 4
CHEM 152	General Chemistry Lecture II	3 / 3
CHEM 162	General Chemistry Lab II	1 / 3
CHEM 182	Introductory Organic Chemistry	3 / 3
CHEM 192	Intro Organic Chem Lab	1 / 3

Course Code	Course Title	Credit / Billing Hours
CHEM 251	Organic Chemistry Lecture I	4 / 4
CHEM 252	Organic Chemistry Lecture II	4 / 4
CHEM 262	Quantitative Analysis	3 / 6
CHEM 272	Organic Chemistry Laboratory	2 / 6
CPSC 101	Intro to Computer Science	3 / 3
CPSC 131	Numerical Methods and MATLAB	3 / 4
CPSC 230	Algorithms and Computing w/ C++	4 / 4
CPSC 231	Computing and Data Structures	4 / 4
CPSC 260	Computing Science Structures	4 / 4
ENVR 121	Environmental Rules and Regs	3 / 3
ENVR 131	Industrial Process Safety	3 / 3
GEOG 120	Introduction to Geography	3 / 3
GEOG 200	World Regional Geography	4 / 4
GEOG 202	Geography of North America	3 / 3
GEOG 220	Weather, Forecasting & Climate	4 / 4
GEOG 221	Physical Geography	4 / 4
GEOLOGY 221	Physical Geology	4 / 6
GEOLOGY 222	Historical Geology	4 / 6
GEOLOGY 230	Environmental Geology	4 / 6
GSCI 100	Intro to Geospatial Tech	3 / 4
GSCI 110	Beginning ArcGIS	3 / 5
GSCI 120	Advanced ArcGIS	3 / 5
GSCI 210	Global Positioning Systems	3 / 4
GSCI 240	Cartography in GIS	3 / 4
ISCI 121	Integrated Sci for Education I	4 / 6
ISCI 122	Integrated Sci for Education II	4 / 6
ISCI 131	Integrated Physical Science	4 / 6
ISCI 245	S.T.E.M. Workplace Practices	4 / 6
MATH 126	Precalculus	5 / 5
MATH 141	Calculus with Applications	4 / 4
MATH 151	Calculus I	4 / 4
MATH 152	Calculus II	4 / 4
MATH 253	Calculus III	4 / 4
MATH 254	Intro to Differential Equation	4 / 4
MATH 260	Linear Algebra	4 / 4
PHIL 151	Intro to Logic & Critical Think	4 / 4
PHYS 120	The Art of Physics	4 / 5
PHYS 200	Intro to Applied Physics	4 / 5
PHYS 221	Introductory Physics I	4 / 6
PHYS 222	Introductory Physics II	4 / 6
PHYS 251	Physics I with Calculus	5 / 7
PHYS 252	Physics II with Calculus	5 / 7
PHYS 260	Statics for Engineers	3 / 3

Course Code	Course Title	Credit / Billing Hours
SCIN 287	Science Technology Internship	2-4 / 2-4
STAT 215	Intro to Probability and Stats	4 / 4

### Minimum Total Credit Hours

60 credits / 64 billing hours

### Recommended Course Sequence

#### College-ready Full-time

Semester I
ACAD 100 (if waived, substitute Career Community course) ANTH 270 or ECON 120 or ECON 201 or EDUC 204 or EDUC 220 or POLS 120 or POLS 240 or POLS 260 or PSYC 200 or SOCL 120 CHEM 151 CHEM 161 ENGL 121 or 131

Semester II
BIOL 120 or BIOL 127 or GEOL 221 or GEOL 230 or PHYS 251 COMM 130 or ENGL 122 or 132 MATH 120 or MATH 126 or MATH 151
Students who have decided on an academic program within the Science and Math Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.
Limited Choice courses for students completing the Science and Math GA

Semester III
Limited Choice courses for students completing the Science and Math GA

Semester IV
Limited Choice courses for students completing the Science and Math GA

#### College-ready Part-time

Semester I
ACAD 100 (if waived, substitute Career Community course) CHEM 151 CHEM 161 MATH 120 or MATH 126 or MATH 151

Semester II
ANTH 270 or ECON 120 or ECON 201 or EDUC 204 or EDUC 220 or POLS 120 or POLS 240 or POLS 260 or PSYC 200 ENGL 121 or 131



Semester III (Summer – optional)
ANTH 270 or ECON 120 or ECON 201 or EDUC 204 or EDUC 220 or POLS 120 or POLS 240 or POLS 260 or PSYC 200 BIOL 120 or BIOL 127 or GEOL 221 or GEOL 230 or PHYS 251 COMM 130 or ENGL 122 or ENGL 132
Students who have decided on an academic program within the Science and Math Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.

Semester IV
ANTH 270 or ECON 120 or ECON 201 or EDUC 204 or EDUC 220 or POLS 120 or POLS 240 or POLS 260 or PSYC 200 (if no Summer enrollment) BIOL 120 or BIOL 127 or GEOL 221 or GEOL 230 or PHYS 251 (if no Summer enrollment)
Students who have decided on an academic program within the Science and Math Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.
Limited Choice courses for students completing the Science and Math GA

Semester V
Limited Choice courses for students completing the Science and Math GA

## **MATH 109**

Semester I
ACAD 100 (if waived, substitute Career Community course) ANTH 270 or ECON 120 or ECON 201 or EDUC 204 or EDUC 220 or POLS 120 or POLS 240 or POLS 260 or PSYC 200 ENGL 121 or 131 MATH 109

Semester II
CHEM 151 CHEM 161 COMM 130 or ENGL 122 or 132 MATH 120

Semester III (Summer – optional)
BIOL 120 or BIOL 127 or GEOL 221 or GEOL 230 or PHYS 251
Students who have decided on an academic program within the Science and Math Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.

Semester IV
BIOL 120 or BIOL 127 or GEOL 221 or GEOL 230 or PHYS 251 (if no Summer enrollment)

<b>Semester IV</b>
Students who have decided on an academic program within the Science and Math Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.
Limited Choice courses for students completing the Science and Math GA

<b>Semester V</b>
Limited Choice courses for students completing the Science and Math GA

Note: MATH 109 is a developmental prerequisite and does not count toward program credit totals.

### **MATH 106**

<b>Semester I</b>
ACAD 100 (if waived, substitute Career Community course) ANTH 270 or ECON 120 or ECON 201 or EDUC 204 or EDUC 220 or POLS 120 or POLS 240 or POLS 260 or PSYC 200 ENGL 121 or 131 MATH 106

<b>Semester II</b>
CHEM 125 COMM 130 or ENGL 122 or 132 MATH 109

<b>Semester III (Summer – optional)</b>
CHEM 151 CHEM 161 MATH 120

<b>Semester IV</b>
BIOL 120 or BIOL 127 or GEOL 221 or GEOL 230 or PHYS 251 CHEM 151 and CHEM 161 (if no Summer enrollment) MATH 120 (if no Summer enrollment)
Students who have decided on an academic program within the Science and Math Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.
Limited Choice courses for students completing the Science and Math GA

<b>Semester V</b>
Limited Choice courses for students completing the Science and Math GA

Note: MATH 106 is a developmental prerequisite and does not count toward program credit totals.

**ENGL 099**

Semester I
ACAD 100 (if waived, substitute Career Community course) ANTH 270 or ECON 120 or ECON 201 or EDUC 204 or EDUC 220 or POLS 120 or POLS 240 or POLS 260 or PSYC 200 ENGL 099 ENGL 121

Semester II
CHEM 151 CHEM 161 COMM 130 or ENGL 122 or 132 MATH 120

Semester III (Summer – optional)
BIOL 120 or BIOL 127 or GEOL 221 or GEOL 230 or PHYS 251
Students who have decided on an academic program within the Science and Math Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.
Limited Choice courses for students completing the Science and Math GA

Semester IV
BIOL 120 or BIOL 127 or GEOL 221 or GEOL 230 or PHYS 251 (if no Summer enrollment)
Students who have decided on an academic program within the Science and Math Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.
Limited Choice courses for students completing the Science and Math GA

Semester V
Limited Choice courses for students completing the Science and Math GA

Note: ENGL 099 is a developmental prerequisite and does not count toward program credit totals.

**ENGL 099 and MATH 109**

Semester I
ACAD 100 (if waived, substitute Career Community course) ENGL 099 ENGL 121 MATH 109

Semester II
ANTH 270 or ECON 120 or ECON 201 or EDUC 204 or EDUC 220 or POLS 120 or POLS 240 or POLS 260 or PSYC 200 CHEM 151

<b>Semester II</b>
CHEM 161 MATH 120

<b>Semester III (Summer – optional)</b>
BIOL 120 or BIOL 127 or GEOL 221 or GEOL 230 or PHYS 251 COMM 130 or ENGL 122 or 132
Students who have decided on an academic program within the Science and Math Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.

<b>Semester IV</b>
BIOL 120 or BIOL 127 or GEOL 221 or GEOL 230 or PHYS 251 COMM 130 or ENGL 122 or 132
Students who have decided on an academic program within the Science and Math Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.
Limited Choice courses for students completing the Science and Math GA

<b>Semester V</b>
Limited Choice courses for students completing the Science and Math GA

Note: ENGL 099 and MATH 109 are developmental prerequisites and do not count toward program credit totals.

**ENGL 099 and MATH 106**

<b>Semester I</b>
ACAD 100 (if waived, substitute Career Community course) ENGL 099 ENGL 121 MATH 106

<b>Semester II</b>
ANTH 270 or ECON 120 or ECON 201 or EDUC 204 or EDUC 220 or POLS 120 or POLS 240 or POLS 260 or PSYC 200 CHEM 125 COMM 130 or ENGL 122 or 132 MATH 109

<b>Semester III (Summer – optional)</b>
CHEM 151 CHEM 161 MATH 120

<b>Semester IV</b>
BIOL 120 or BIOL 127 or GEOL 221 or GEOL 230 or PHYS 251 CHEM 151 (if no Summer enrollment) CHEM 161 (if no Summer enrollment) MATH 120 (if no Summer enrollment)
Students who have decided on an academic program within the Science and Math Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.
Limited Choice courses for students completing the Science and Math GA

<b>Semester V</b>
Limited Choice courses for students completing the Science and Math GA

<b>Semester VI</b>
Limited Choice courses as needed for students completing the Science and Math GA

Note: ENGL 099 and MATH 106 are developmental prerequisites and do not count toward program credit totals.

### **ENGL 098**

<b>Semester I</b>
ACAD 100 (if waived, substitute Career Community course) ENGL 098 PSYC 200 SOCL 120

<b>Semester II</b>
CHEM 151 and CHEM 161 (if no ENGL 099) ENGL 121 (if 2.5 in ENGL 098) or ENGL 099 and ENGL 121 (if below 2.5 in ENGL 098 and less than a 2.0 in PSYC 200 or SOCL 120) MATH 120

<b>Semester III (Summer – optional)</b>
BIOL 120 or BIOL 127 or GEOL 221 or GEOL 230 or PHYS 251 CHEM 151 and CHEM 161 (if ENGL 099) COMM 130 or ENGL 122 or 132 (if no ENGL 099)
Students without ENGL 099 who have decided on an academic program within the Science and Math Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.

<b>Semester IV</b>
BIOL 120 or BIOL 127 or GEOL 221 or GEOL 230 or PHYS 251 (if no Summer enrollment) CHEM 151 and 161 (if no Summer enrollment and ENGL 099) COMM 130 or ENGL 122 or 132 (if no Summer enrollment)

<b>Semester IV</b>
Students who have decided on an academic program within the Science and Math Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.
Limited Choice courses for students completing the Science and Math GA

<b>Semester V</b>
Limited Choice courses for students completing the Science and Math GA

Note: ENGL 098 is a developmental prerequisite and does not count toward program credit totals.

### **ENGL 098 and MATH 109**

<b>Semester I</b>
ACAD 100 (if waived, substitute Career Community course) ENGL 098 PSYC 200 SOCL 120

<b>Semester II</b>
ENGL 121 (if 2.5 in ENGL 098) or ENGL 099 and ENGL 121 (if below 2.5 in ENGL 098 and less than a 2.0 in PSYC 200 or SOCL 120) CHEM 125 (if no ENGL 099) MATH 109

<b>Semester III (Summer – optional)</b>
CHEM 151 CHEM 161 MATH 120

<b>Semester IV</b>
BIOL 120 or BIOL 127 or GEOL 221 or GEOL 230 or PHYS 251 CHEM 151 and CHEM 161 (if no Summer enrollment) COMM 130 or ENGL 122 or 132 (if Summer enrollment) MATH 120 (if no Summer enrollment)
Students who have decided on an academic program within the Science and Math Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.

<b>Semester V</b>
COMM 130 or ENGL 122 or 132 (if no Summer enrollment)
Students who have decided on an academic program within the Science and Math Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.
Limited Choice courses for students completing the Science and Math GA

Semester VI
Limited Choice courses for students completing the Science and Math GA

Note: ENGL 098 and MATH 109 are developmental prerequisites and do not count toward program credit totals.

### ENGL 098 and MATH 106

Semester I
ACAD 100 (if waived, substitute Career Community course) ENGL 098 MATH 106 PSYC 200 or SOCL 120

Semester II
ENGL 121 (if 2.5 in ENGL 098) or ENGL 099 and ENGL 121 (if below 2.5 in ENGL 098 and less than a 2.0 in PSYC 200 or SOCL 120) CHEM 125 (if no ENGL 099) MATH 109

Semester III (Summer – optional)
CHEM 151 and CHEM 161 MATH 120

Semester IV (if no Summer enrollment or MATH 109)
BIOL 120 or BIOL 127 or GEOL 221 or GEOL 230 or PHYS 251 CHEM 151 and 151 (if no Summer enrollment) COMM 130 or ENGL 122 or 132 (if Summer enrollment) MATH 120 (if no Summer enrollment)
Students who have decided on an academic program within the Science and Math Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.

Semester V
COMM 130 or ENGL 122 or 132 (if no Summer enrollment)
Students who have decided on an academic program within the Science and Math Career Community should select that program through the Change of Program Request form and follow the coursework outlined for the associated pathway.
Limited Choice courses for students completing the Science and Math GA

Semester VI
Limited Choice courses for students completing the Science and Math GA

Note: ENGL 098 and MATH 106 are developmental prerequisites and do not count toward program credit totals.

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## **Sign Language Interpreter A.A.A.**

Career Community: Communication, Journalism, and Language

Curriculum Code: 0282

Effective: Fall 2022 – Summer 2027

### **Description**

The Sign Language Interpreter is a person specially trained to facilitate communication between the Deaf, Deaf/Blind, Hard of Hearing, and hearing communities. Employment opportunities may be in educational settings, freelance, or contracted with agencies to provide interpreter services for deaf persons. State of Michigan PA 204 of 2007 states that interpreters must possess certification in order to be employed. State credentials Board for Evaluation of Interpreters (BEI), are available through the Bureau of Community and Health Systems (BCHS) in Licensing and Regulatory Affairs (LARA) for the State of Michigan. To apply for BEI certification in Michigan, you must have at least an associate degree from an accredited institution. In addition to the State of MI credentials, graduates may also consider taking the Education Interpreters Performance Assessment (EIPA) or National Interpreter Certification (NIC). Not all courses in this pathway transfer to all colleges. Students who wish to transfer to a four-year institution should select coursework indicated for that institution and may also complete coursework for a Communication Arts Enhanced AA, Sign Language Interpreter track, degree. The Communication Arts, Enhanced AA option allows students to transfer additional credits toward the Bachelor's degree. Institutions accepting credits from the Enhanced AA, Sign Language Interpreter track, include Gallaudet University and Siena Heights University. Students planning to enroll in the Interpreter Program must meet with a faculty advisor from the Sign Language Interpreter Program.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of 100-level classes with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

Entrance to the Interpreter Training Program is granted by passing a screening implemented by the Sign Language Program. Students who have successfully completed, with a minimum 2.0, or are currently enrolled in SIGN 163 (American Sign Language III), SIGN 166 (Fingerspelling), SIGN 167 (Beginning Sign to Voice), and SIGN 170 (Expressive/Receptive ASL) are eligible to screen.

Students must receive at least a 2.5 in ALL 200-level SIGN courses to complete this degree.

### **Contact Information**

Contact the Communication, Media and the Arts Department, Gannon Building, Room 1222, telephone number 517-483-1546 or the Sign Language Interpreter Program, 517-483-5329, [signadvising@star.lcc.edu](mailto:signadvising@star.lcc.edu).

## General Education – Applied Degrees, Recommended Courses

Select courses as indicated for specific transfer institutions. These courses are preferred General Education courses listed on Transfer Articulation agreements. The recommended courses in each General Education category also meet Michigan Transfer Agreement (MTA) requirements. If no course is indicated, choose from the list of options under [General Education](#). A minimum grade of 2.0 is required for each General Education course.

- English Composition or Applied English – *Select one*  
ENGL 121 or 131 will meet this requirement
- English Composition (second course)/Communications or Applied Communications Program of study required courses will meet this requirement.
- Humanities and Fine Arts or Social Sciences or Applied Social Sciences Program of Study Required Courses will meet this requirement
- Mathematics or Applied Mathematics – *Select one*  
MATH 119, MATH 120, or STAT 170 will meet this requirement.
- Natural Sciences Lab or Applied Science and Technology Lab – *Select one*  
ASTR 201, BIOL 120, BIOL 125, BIOL 145, CHEM 135, GEOG 220, GEOG 221, ISCI 131 or PHYS 120 will meet this requirement

**Communications and Language Career Community Courses** – *These courses are required for all Communications and Language programs (Communication, Sign Language Interpreter, and World Language). They should be taken before other Program Required or Limited Choice Courses. Some courses meet General Education requirements for MTA. A minimum of 2.0 is required to meet LCC degree requirements for General Education courses and for all courses to transfer to other colleges (some colleges, and some programs within colleges, require a higher grade in a course).*

Course Code	Course Title	Credit / Billing Hours
ACAD 100	First Year College Experience	1 / 1
ASTR 201 or	Introductory Astronomy	4 / 5
BIOL 120 or	Environmental Science	4 / 6
BIOL 125 or	Introductory Biology	4 / 5
BIOL 145 or	Intro Anatomy and Physiology	4 / 6
CHEM 135 or	Chemistry in Society	4 / 5
GEOG 220 or	Weather, Forecasting and Climate	4 / 4
GEOG 221 or	Physical Geography	4 / 4
ISCI 131 or	Integrated Physical Science	4 / 6
PHYS 120	The Art of Physics	4 / 5
COMM 120 or	Dynamics of Communication	3 / 3
COMM 130 or	Fundamentals Public Speaking	3 / 3
ENGL 122 or	Composition II	4 / 4

Course Code	Course Title	Credit / Billing Hours
ENGL 132 or SIGN 160	Honors Composition II Intro to the Deaf Community	4 / 4 3 / 3
DMAC 260 or ENGL 200 or JAPN 121 or SIGN 162 or SPAN 121 or THEA 110	World Cinema Introduction to Literature Elementary Japanese I American Sign Language II Elementary Spanish I Introduction to Theater	4 / 4 3 / 3 4 / 4 3 / 3 4 / 4 3 / 3
ENGL 121 or ENGL 131	Composition I Honors Composition I	4 / 4 4 / 4
LING 230 or SIGN 161	Introduction to Linguistics American Sign Language I	3 / 3 3 / 3
MATH 119 or MATH 120 or STAT 170	Math – Applications for Living College Algebra Introduction to Statistics	4 / 4 4 / 4 4 / 4

Notes:

ACAD 100 may be waived based on the recommendation of a Program Advisor.

Sign Language Interpreter choose SIGN 160, SIGN 161, and SIGN 162.

For future major areas:

- For future transfer to Gallaudet University choose BIOL 145 and MATH 119.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
SIGN 163	American Sign Language III	3 / 3
SIGN 166	Fingerspelling	3 / 3
SIGN 167	Beginning Sign to Voice	3 / 3
SIGN 170	Expressive/Receptive ASL	3 / 3
SIGN 200	Applied Skill in the Workplace	2 / 2
SIGN 240	Intro to Transliterating	3 / 3
SIGN 250	Deaf Culture and History	3 / 3
SIGN 260	Linguistic Principles of ASL	3 / 3
SIGN 261	Principles of Interpreting	3 / 3
SIGN 263	Intermediate Sign to Voice	3 / 3
SIGN 266	Educational Interpreting	2 / 2
SIGN 267	Sign Practicum I	3 / 3
SIGN 268	Sign Practicum II	3 / 3
SIGN 270	Advanced Interpreting	3 / 3
SIGN 271	Advanced Sign to Voice	3 / 3

**Program of Study Required Courses, Limited Choice – Humanities and Fine Arts or Social Science or Applied Social Science - *Select one***

Course Code	Course Title	Credit / Billing Hours
COMM 280	Intercultural Communication	3 / 3
SOCL 120	Introduction to Sociology	4 / 4

**Program of Study Required Courses, Limited Choice – *Select one***

Course Code	Course Title	Credit / Billing Hours
SIGN 164	American Sign Language IV	3 / 3
SIGN 176	Advanced Fingerspelling	2 / 2

Note:

For future transfer to Gallaudet University choose SIGN 176.

**Minimum Total Credit Hours**

70 credits / 70 billing hours

**Recommended Course Sequence**

Semester I (Fall)
ACAD 100
ENGL 121 or ENGL 131
Limited Choice – Humanities and Fine Arts or Social Science or Applied Social Science
SIGN 160
SIGN 161

Semester II (Spring)
ASTR 201, BIOL 120, BIOL 125, BIOL 145, CHEM 135, GEOG 220, GEOG 221, ISCI 131, or PHYS 120
MATH 119, MATH 120, or STAT 170
SIGN 162
SIGN 166

Semester III (Summer)
SIGN 163
SIGN 167
SIGN 170

Semester IV (Fall)
SIGN 200
SIGN 240
SIGN 261
Limited Choice if choosing SIGN 164

Semester V (Spring)
SIGN 263
SIGN 267
Limited Choice If choosing SIGN 176

Semester VI (Summer)
SIGN 266
SIGN 268

Semester VII (Fall)
SIGN 250
SIGN 270

Semester VIII (Spring)
SIGN 260
SIGN 271

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## **Sign Language Interpreter C.A.**

Career Community: Communication, Journalism, and Language

Curriculum Code: 0187

Effective: Fall 2022 – Summer 2027

### **Description**

A Sign Language Interpreter is a person specially trained to facilitate communication between the Deaf, Deaf/Blind, Hard of Hearing, and hearing communities. Employment opportunities may be educational settings, freelance, or contracted with agencies to provide interpreter services for deaf persons. State of Michigan PA 204 of 2007 states that interpreters must possess certification in order to be employed. State credentials Board for Evaluation of Interpreters (BEI), are available through the Bureau of Community and Health Systems (BCHS) in Licensing and Regulatory Affairs (LARA) for the State of Michigan. To apply for BEI certification in Michigan, you must have at least an associate degree from an accredited institution. In addition to the State of Michigan credentials, graduates may also consider taking the Education Interpreters Performance Assessment (EIPA) or National Interpreter Certification (NIC). Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course. Students planning to enroll in the Interpreter Training Program must meet with a faculty advisor from the Sign Language Interpreter Program.

### **Milestone**

Completion of SIGN 163, SIGN 167, and SIGN 170 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses may be the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

Entrance to the Interpreter Training Program is granted by passing a screening implemented by the Sign Language Program. Students who have successfully completed, with a minimum 2.0, or are currently enrolled in SIGN 163 (American Sign Language III), SIGN 166 (Fingerspelling), SIGN 167 (Beginning Sign to Voice), and SIGN 170 (Expressive/Receptive ASL) are eligible to screen.

Students must receive at least a 2.5 in ALL 200-level SIGN courses to complete this certificate.

### **Contact Information**

Contact the Communication, Media and the Arts Department, Gannon Building, Room 1222, telephone number 517-483-1546 or the Sign Language Interpreter Program, 517-483-5329 or [signadvising@star.lcc.edu](mailto:signadvising@star.lcc.edu).

## Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
SIGN 160	Intro to the Deaf Community	3 / 3
SIGN 161	American Sign Language I	3 / 3
SIGN 162	American Sign Language II	3 / 3
SIGN 163	American Sign Language III	3 / 3
SIGN 166	Fingerspelling	3 / 3
SIGN 167	Beginning Sign to Voice	3 / 3
SIGN 170	Expressive/Receptive ASL	3 / 3
SIGN 200	Applied Skill in the Workplace	2 / 2
SIGN 240	Intro to Transliterating	3 / 3
SIGN 261	Principles of Interpreting	3 / 3
SIGN 263	Intermediate Sign to Voice	3 / 3
SIGN 266	Educational Interpreting	2 / 2
SIGN 267	Sign Practicum I	3 / 3
SIGN 268	Sign Practicum II	3 / 3

## Program of Study Required Courses, Limited Choice – *Select one*

Course Code	Course Title	Credit / Billing Hours
SIGN 164	American Sign Language IV	3 / 3
SIGN 176	Advanced Fingerspelling	2 / 2

## Minimum Total Credit Hours

42 credits / 42 billing hours

## Recommended Course Sequence

Semester I (Fall)
SIGN 160
SIGN 161
Semester II (Spring)
SIGN 162
SIGN 166
Semester III (Summer)
SIGN 163 – Milestone course
SIGN 167 – Milestone course
SIGN 170 – Milestone course

Semester IV (Fall)
SIGN 200
SIGN 240
SIGN 261
Limited Choice (if choosing SIGN 164)

Semester V (Spring)
SIGN 263
SIGN 267
Limited Choice (If choosing SIGN 176)

Semester VI (Summer)
SIGN 266
SIGN 268

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## **Social Science A.A.**

Career Community: Social Sciences

Curriculum Code: 0121

Effective: Fall 2022 – Summer 2027

### **Description**

This degree is designed for students who intend to transfer to a four-year college or university to pursue a baccalaureate degree in this subject area. Students completing this curriculum will also satisfy the Michigan Transfer Agreement (MTA) between two-year and four-year institutions in Michigan and qualify for an LCC Transfer Studies Certificate of Achievement (1482).

### **Milestone**

In addition to the required General Education courses in Math and English, completion of ANTH 120 and SOCL 120 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

A student must earn a minimum grade of 2.0 in all courses.

### **Contact Information**

Contact the Sociology/Anthropology Program in the Arts & Sciences Building, Room 2203, telephone number 517-483-1061, or the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

### **General Education – Transfer Degrees (MTA), Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours  
ENGL 131, Honors Composition I, 4 credits / 4 billing hours
- English Composition (second course) or Communications – *Select one*  
ENGL 122, Composition II, 4 credits / 4 billing hours  
ENGL 132, Honors Composition II, 4 credits / 4 billing hours
- Humanities and Fine Arts – *Select two, each from a different discipline*  
HIST 211, U.S. History to 1877, 4 credits / 4 billing hours  
HIST 212, U.S. History: 1877 to Present, 4 credits / 4 billing hours  
HUMS 160, Mythology, 4 credits / 4 billing hours  
PHIL 151, Intro to Logic & Critical Think, 4 credits / 4 billing hours  
PHIL 152, Introduction to Ethics, 4 credits / 4 billing hours

- Mathematics – *Select one*  
MATH 120, College Algebra, 4 credits / 4 billing hours  
STAT 170, Introduction to Statistics, 4 credits / 4 billing hours
- Natural Sciences – *Select two, each from a different discipline, one must be a lab course*  
ASTR 201, Introductory Astronomy, 4 credits / 5 billing hours  
BIOL 120, Environmental Science, 4 credits / 6 billing hours  
BIOL 125, Introductory Biology, 4 credits / 5 billing hours  
CHEM 135, Chemistry in Society, 4 credits / 5 billing hours  
GEOG 221, Physical Geography, 4 credits / 4 billing hours  
GEOL 230, Environmental Geology, 4 credits / 6 billing hours  
ISCI 131, Integrated Physical Science, 4 credits / 6 billing hours  
PHYS 120, The Art of Physics, 4 credits / 5 billing hours
- Social Sciences  
Program of Study Required Courses will meet this requirement

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
ANTH 120	Introduction to Anthropology	3 / 3
POLS 201	Intro to Political Science	3 / 3
PSYC 200	Introduction to Psychology	4 / 4
SOCL 120	Introduction to Sociology	4 / 4

### Program of Study Required Courses, Limited Choices – *Select a minimum of 12 credits*

Course Code	Course Title	Credit / Billing Hours
ANTH 270	Cultural Anthropology	3 / 3
HUMS 214	World Civilizations from 1600	4 / 4
POLS 260	Comparative Political Systems	3 / 3
PSYC 203	Social Psychology	3 / 3
RELG 150	Intro to World Religions	4 / 4
SOCL 255	Contemporary Social Problems	3 / 3
SOCL 260	Race and Ethnicity	3 / 3

### Elective Courses, Recommended Choices – *Select courses as needed to complete a minimum of 60 total credits for this degree. (For the full list of options, see the [AA and AS Degree Electives](#))*

Course Code	Course Title	Credit / Billing Hours
ANTH 272	Food and Sustainability	3 / 3
ANTH 275	Physical Anthro & Archaeology	4 / 4
ANTH 280	Forensic Anthropology	3 / 3
COMM 280	Intercultural Communication	3 / 3
GEOG 200	World Regional Geography	4 / 4
HONR 151	Honors Colloquy I	1 / 1
HONR 155	Community Service Practicum I	1 / 1

Course Code	Course Title	Credit / Billing Hours
HONR 156	Community Service Practicum II	1 / 1
HUMS 140	Art of Being Human	4 / 4
HUMS 213	World Civilizations to 1600	4 / 4
POLS 270	International Relations	3 / 3
PSYC 205	Human Growth and Development	3 / 3
PSYC 221	Child Psychology	3 / 3
PSYC 222	Adolescent Psychology	3 / 3
PSYC 250	Abnormal Psychology	3 / 3
RELG 212	Judaism, Christianity & Islam	4 / 4
SOCL 254	Marriage and Family	3 / 3

### Minimum Total Credit Hours

60 credits / 61 billing hours

### Recommended Course Sequence

Semester I
MTA English Composition
MTA Mathematics
ANTH 120 – Milestone course
Limited Choice

Semester II
MTA English Comp (2nd course) or Communications
MTA Natural Sciences
SOCL 120 – Milestone course
Limited Choice

Semester III
MTA Humanities and Fine Arts
POLS 201
Limited Choice
Limited Choice

Semester IV
MTA Humanities and Fine Arts
MTA Natural Sciences
PSYC 200
Electives as needed for total credits

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## **Sociology A.A.**

Career Community: Social Sciences

Curriculum Code: 0753

Effective: Fall 2022 – Summer 2027

### **Description**

This degree is designed for students who intend to transfer to a four-year college or university to pursue a baccalaureate degree in this subject area. Students completing this curriculum will also satisfy the Michigan Transfer Agreement (MTA) between two-year and four-year institutions in Michigan and qualify for an LCC Transfer Studies Certificate of Achievement (1482).

### **Milestone**

In addition to the required General Education courses in Math and English, completion of SOCL 120 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in the courses.

### **Additional Information**

A student must earn a minimum grade of 2.0 in all courses.

### **Contact Information**

Contact the Sociology/Anthropology Program, Arts and Sciences Building, Room 2203, telephone number 517-483-1061, or the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

### **General Education - Transfer Degrees (MTA), Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours  
ENGL 131, Honors Composition I, 4 credits / 4 billing hours
- English Composition (second course) or Communications – *Select one*  
ENGL 122, Composition II, 4 credits / 4 billing hours  
ENGL 132, Honors Composition II, 4 credits / 4 billing hours
- Humanities and Fine Arts – *Select two, each from a different discipline*  
HUMS 160, Mythology, 4 credits / 4 billing hours  
HUMS 213, World Civilizations to 1600, 4 credits / 4 billing hours  
HUMS 214, World Civilizations from 1600, 4 credits / 4 billing hours  
PHIL 151, Intro to Logic & Critical Think, 4 credits / 4 billing hours  
PHIL 152, Introduction to Ethics, 4 credits / 4 billing hours

- Mathematics – *Select one*  
MATH 120, College Algebra, 4 credits / 4 billing hours  
STAT 170, Introduction to Statistics, 4 credits / 4 billing hours
- Natural Sciences – *Select two, each from a different discipline, one must be a lab course*  
ASTR 201, Introductory Astronomy, 4 credits / 5 billing hours  
BIOL 120, Environmental Science, 4 credits / 6 billing hours  
BIOL 125, Introductory Biology, 4 credits / 5 billing hours  
CHEM 135, Chemistry in Society, 4 credits / 5 billing hours  
GEOG 221, Physical Geography, 4 credits / 4 billing hours  
GEOL 230, Environmental Geology, 4 credits / 6 billing hours  
ISCI 131, Integrated Physical Science, 4 credits / 6 billing hours  
PHYS 120, The Art of Physics, 4 credits / 5 billing hours
- Social Sciences  
Program of Study Required Courses will meet this requirement

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
ANTH 270	Cultural Anthropology	3 / 3
SOCL 120	Introduction to Sociology	4 / 4
SOCL 255	Contemporary Social Problems	3 / 3

### Program of Study Required Courses – *Select one*

Course Code	Course Title	Credit / Billing Hours
SOCL 254	Marriage and Family	3 / 3
SOCL 260	Race and Ethnicity	3 / 3

**Elective Courses, Recommended Choices** – *Select courses to reach the minimum 60 total credits required for this degree. Courses selected for General Education requirements can not be used for Elective credits.* (For the full list of options, see [AA and AS Degree Electives](#))

Course Code	Course Title	Credit / Billing Hours
ANTH 120	Introduction to Anthropology	3 / 3
ANTH 272	Food and Sustainability	3 / 3
ANTH 275	Physical Anthro & Archaeology	4 / 4
COMM 280	Intercultural Communication	3 / 3
HIST 211	U.S. History to 1877	4 / 4
HIST 212	U.S. History: 1877 to Present	4 / 4
HONR 152	Honors Colloquy II	1 / 1
HONR 155	Community Service Practicum I	1 / 1
HUMS 140	Art of Being Human	4 / 4
HUMS 213	World Civilizations to 1600	4 / 4
HUMS 214	World Civilizations from 1600	4 / 4
POLS 260	Comparative Political Systems	3 / 3

Course Code	Course Title	Credit / Billing Hours
POLS 270	International Relations	3 / 3
PSYC 200	Introduction to Psychology	4 / 4
RELG 150	Intro to World Religions	4 / 4
RELG 212	Judaism, Christianity & Islam	4 / 4

### Minimum Total Credit Hours

60 credits / 61 billing hours

### Recommended Course Sequence

Semester I
MTA English Composition
MTA Mathematics
SOCL 120 – Milestone course
Electives as needed for total credits

Semester II
MTA English Comp (2nd course) or Communication
MTA Natural Science
ANTH 270
Elective as needed for total credits

Semester III
MTA Humanities and Fine Arts
SOCL 255
Electives as needed for total credits

Semester IV
MTA Humanities and Fine Arts
MTA Natural Science
SOCL 254 or 260
Electives as needed for total credits

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## Spanish Studies C.C.

Career Community: Communication, Journalism, and Language

Curriculum Code: 1788

Effective: Fall 2022 – Summer 2027

### Description

This Certificate of Completion in Spanish Studies provides the beginning and intermediate level Spanish language skills and cross-cultural information for students preparing to transfer to college or university programs, qualifying dual-enrolled high school or home school students, or those seeking to reinforce their own professional Spanish language and cultural competencies. In an increasingly international world economy, holders of this certificate may improve their employment opportunities, in particular since many Spanish companies have ties to Michigan businesses. Completion of the certificate may also help employment opportunities in the health care services field. Students may apply all courses in this curriculum toward other certificates and/or degrees.

### Milestone

Completion of SPAN 121 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in this course may be the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in this course.

### Contact Information

Contact the Communication, Media and the Arts Department, Gannon Building, Room 1222, telephone number 517-483-1546 or the Academic Advising Department, Gannon Building – StarZone, telephone number 517-483-1904.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
SPAN 121	Elementary Spanish I	4 / 4
SPAN 122	Elementary Spanish II	4 / 4
SPAN 201	Intermediate Spanish I	4 / 4
SPAN 202	Intermediate Spanish II	4 / 4

### Minimum Total Credit Hours

16 credits / 16 billing hours

### Recommended Course Sequence

Semester I
SPAN 121 – Milestone course
Semester II
SPAN 122

Semester III
SPAN 201

Semester IV
SPAN 202

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## **Sterile Processing Technician C.C.**

Career Community: Health and Human Service Careers

Curriculum Code: 1017

Effective: Fall 2022 – Summer 2024

### **Description**

This certificate curriculum prepares individuals to function competently in the central service department of a healthcare facility. Duties include, but are not limited to, processing of patient care equipment, supplies, and instruments for use in all departments. Includes principles and practices of decontamination, cleaning, disinfection, sterilization, and distribution of medical/surgical supplies. This curriculum provides externship experience and prepares the successful completer for the National Certification Exam for Sterile Processing and Distribution.

### **Milestone**

Completion of STPR 145 with a 2.5 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

Students must complete all courses with a minimum grade of 2.5 to receive this certificate.

Students wishing to pursue an associate degree, should declare the Allied Health A.A.S. major. Courses in this program of study may be applied toward that degree.

### **Contact Information**

Contact the Community Health Services Education Program, Health and Human Services Building, Room 108, telephone number 517-483-1410, or the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
STPR 145	Foundations Sterile Processing	5 / 6.5
STPR 148	Sterile Processing Externship	2 / 2

### **Minimum Total Credit Hours**

7 credits / 8.5 billing hours

## Recommended Course Sequence

Semester I
STPR 145 – Milestone course
STPR 148

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## **Studio Art A.F.A.**

Career Community: Art, Design, and Media

Curriculum Code: 1781

Effective: Fall 2022 – Summer 2027

### **Description**

This degree provides concentrated study in art at the pre-professional level. It is structured to facilitate students' transfer to a four-year university with a professional degree program: the Bachelor of Fine Arts degree, usually a double major in a specific art concentration. Graduates will be well versed to enter any baccalaureate major with an art concentration. Additional education will enhance an individual's employment and advancement opportunities. Not all courses in this degree transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of ARTS 103, and ARTS 131 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Contact Information**

Contact the Communication, Media and the Arts Department, Gannon Building, Room 1222, telephone number 517-483-1546 or the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

### **General Education – Applied Degrees, Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours  
ENGL 131, Honors Composition I, 4 credits / 4 billing hours
- English (second course)/Communications or Applied Communications – *Select one*  
COMM 110, Communication in the Workplace, 3 credits / 3 billing hours  
COMM 120, Dynamics of Communication, 3 credits / 3 billing hours  
COMM 130, Fundamentals Public Speaking, 3 credits / 3 billing hours
- Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one*  
ARTS 102, Design & Communication, 3 credits / 4 billing hours  
HUMS 212, Art Hist from the Renaissance, 4 credits / 4 billing hours
- Mathematics or Applied Mathematics – *Select one*  
MATH 119, Applications for Living, 4 credits / 4 billing hours
- Natural Sciences Lab or Applied Science and Technology Lab – *Select one*  
PHYS 120, The Art of Physics, 4 credits / 5 billing hours

## Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
ARTS 103	Spatial Dynamics I	3 / 4
ARTS 131	Drawing I	3 / 4
ARTS 132	Figure Drawing	3 / 4
ARTS 136	Figure Sculpting	3 / 4
ARTS 151	Color and Design	3 / 4
ARTS 153	Drawing II	3 / 4
ARTS 171	Adobe Photoshop	3 / 4
ARTS 200	Painting I	3 / 4
ARTS 201	Painting II	3 / 4
HUMS 216	Contemporary Art	4 / 4

## Program of Study Required Courses, Limited Choice – *Select courses to reach the minimum of 60 credits required for the degree.*

Course Code	Course Title	Credit / Billing Hours
ARTS 105	Adobe Photoshop for Non-Majors	2 / 3
ARTS 162	Type Communications	3 / 4
ARTS 164	Vector Drawing	3 / 4
ARTS 173	Web Design I	3 / 4
ARTS 183	Design Markets and Influences	3 / 3
ARTS 195	Employ/Busn Issues for Artists	1 / 1
ARTS 207	Sculpture	3 / 4
ARTS 226	Storyboards & Animatics	3 / 4
HUMS 211	Art History to the Renaissance	4 / 4
PHOT 120	Still/Motion Capture & Editing	3 / 3

## Minimum Total Credit Hours

60 credits / 71 billing hours

## Recommended Course Sequence

Semester I
Gen Ed - English Composition or Applied English
Gen Ed - English Composition (second course)/ Communications or Applied Communications
Gen Ed - Humanities and Fine Arts or Social Sciences or Applied Social Sciences
ARTS 103 – Milestone course
ARTS 131 – Milestone course
Semester II
Gen Ed - Mathematics or Applied Mathematics
Gen Ed - Natural Sciences Lab or Applied Science and Technology Lab
ARTS 151
ARTS 153

Semester II
ARTS 171

Semester III
ARTS 132
ARTS 136
ARTS 200
HUMS 216
Limited Choice as needed for minimum credits

Semester IV
ARTS 201
Limited Choice as needed for minimum credits

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## **Surgical Technology A.A.S.**

Career Community: Health and Human Service Careers

Curriculum Code: 1021

Effective: Fall 2022 – Summer 2024

### **Description**

The Surgical Technologist is the person who stands elbow-to-elbow with the surgeon and passes the instruments. It is their job to maintain the sterile field and to respond to the surgeon's needs. The Surgical Technologist prepares the operating room for surgical procedures, prepares all sterile areas and instruments for use, gowns and gloves other personnel, assists with sterile draping of the patient, and hands sterile instrumentation to the surgeon and/or assistant. Surgical Technologists are generally employed by a hospital to work in an operating room. They may also be hired in a surgeon's office, an out-patient clinic, a central processing department, or they may choose to explore sales or teaching. The Surgical Technologist may become certified by successfully passing a national certification examination offered by the National Board for Surgical Technology and Surgical Assisting (NBSTSA®). An Associate Degree in Surgical Technology is strongly recommended by the Association of Surgical Technologists (AST®/1990). This program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP®), 25400 U.S. Highway 19 North, Suite 158, Clearwater, FL 33756, upon the recommendation of the Accreditation Review Committee on Education in Surgical Technology and Surgical Assisting (ARC-STSA®).

### **Milestone**

In addition to the required General Education courses in Math and English, completion of SURG 121 with a 2.5 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

This is a selective admission program. In order to be considered as a candidate for this program, students must meet admission requirements beyond those required for admission to the college. All courses listed in Semesters I and II must be completed or in progress by the May 1st Surgical Technology admission application deadline. Courses include: BIOL 201, BIOL 202, CHSE 120, CHSE 117 or PFHW 163, and SURG 103 or BIOL 203 with a minimum grade of 2.5, and all other courses with a minimum grade of 2.0. Once admitted, a student may not begin a new semester in the Surgical Technology Program until they have successfully completed all of the SURG courses listed in the previous sequenced semester with a minimum grade of 2.5.

### **Contact Information**

The admission and/or graduation requirements for this program may change each academic year. The program requirements below apply only to those students who have been admitted to the program for the 2022/2023 academic year. For the most current and complete information, interested students should contact the Surgical Technology Program, Health and

Human Services Building, Room 108, telephone number 517-483-1410, or the Academic Advising Department, Gannon Building – StarZone, telephone number 517-483-1904.

## General Education – Applied Degrees, Recommended Courses

(For the full list of options, see [General Education](#))

- English Composition or Applied English  
Program of Study Required Course for Admission – English Composition will meet this requirement
- English Composition (second course)/Communications or Applied Communications  
Program of Study Required Course for Admission – English (second course)/Communications will meet this requirement.
- Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one*  
MGMT 234, Diversity in the Workplace, 3 credits / 3 billing hours  
PSYC 200, Introduction to Psychology, 4 credits / 4 billing hours  
SOCL 120, Introduction to Sociology, 4 credits / 4 billing hours
- Mathematics or Applied Mathematics – *Select one, or any other course from the General Education Mathematics College Algebra category.*  
MATH 117, Math for Business, 4 credits / 4 billing hours  
MATH 119, Math - Applications for Living, 4 credits / 4 billing hours  
STAT 170, Introduction to Statistics, 4 credits / 4 billing hours  
STAT 215, Intro to Probability and Stats, 4 credits / 4 billing hours
- Natural Sciences Lab or Applied Science and Technology Lab  
Program of Study Required Courses for Admission will meet this requirement.

**Program of Study Required Courses for Admission – BIOL 201 and BIOL 202 also satisfy the General Education Natural Sciences Lab or Applied Science and Technology Lab requirement.**

Course Code	Course Title	Credit / Billing Hours
BIOL 201	Human Anatomy	4 / 6
BIOL 202	Human Physiology	4 / 5
CHSE 120	Medical Terminology	4 / 4

**Program of Study Required Courses for Admission, Limited Choice – *Select one.***

Course Code	Course Title	Credit / Billing Hours
CHSE 117	Health Law and Ethics	2 / 2
PFHW 163	Healthy Lifestyles	2 / 3

**Program of Study Required Courses for Admission, Limited Choice – Select one.**

Course Code	Course Title	Credit / Billing Hours
BIOL 203	Microbiology	3 / 3
SURG 103	Surgical Asepsis	2 / 2

**Program of Study Required Course for Admission, Limited Choice – English Composition – Select one. This selection also satisfies the General Education English Composition requirement.**

Course Code	Course Title	Credit / Billing Hours
ENGL 121	Composition I	4 / 4
ENGL 122	Composition II	4 / 4
ENGL 131	Honors Composition I	4 / 4
ENGL 132	Honors Composition II	4 / 4

**Program of Study Required Course for Admission, Limited Choice – English Composition (second course)/Communications or Applied Communications – Select one. This selection also satisfies the General Education English Composition (second course)/Communications or Applied Communications requirement.**

Course Code	Course Title	Credit / Billing Hours
COMM 110	Communication in the Workplace	3 / 3
COMM 120	Dynamics of Communication	3 / 3
COMM 130	Fundamentals Public Speaking	3 / 3
COMM 240	Interpersonal Communication	3 / 3

**Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
SURG 100	Fundamentals of Surgical Tech	3 / 3
SURG 101	The Surgical Patient	2 / 2
SURG 108	Surgical Pharmacology	2 / 2
SURG 109	Basic Surgical Procedures	2 / 2
SURG 110	Advanced Surgical Procedures	6 / 6
SURG 111	Surgical Specialty/Prof Prep	3 / 3
SURG 121	Applied Surgical Techniques I	2 / 4
SURG 122	Applied Surgical Techniques II	2 / 4
SURG 123	Applied Surgical Techniq III	4 / 8
SURG 124	Applied Surgical Techniques IV	4 / 8

**Minimum Total Credit Hours**

60 credits / 75 billing hours



## Recommended Course Sequence for Admission

Semester I
Gen Ed - Mathematics or Applied Mathematics
BIOL 201
CHSE 120
ENGL 121, ENGL 122, ENGL 131, or ENGL 132

Semester II
Gen Ed - Humanities and Fine Arts or Social Sciences or Applied Social Sciences
BIOL 202
BIOL 203 or SURG 103
CHSE 117 or PFHW 163
COMM 110, COMM 120, COMM 130, or COMM 240

## Recommended Course Sequence

Semester III (Fall 2021)
SURG 100
SURG 101
SURG 108
SURG 109
SURG 121 – Milestone course
SURG 122

Semester IV (Spring 2022)
SURG 110
SURG 111
SURG 123
SURG 124

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## Surveying and Materials Technology C.C.

Career Community: Building and Construction Trades

Curriculum Code: 1011

Effective: Fall 2022 – Summer 2027

### Description

This certificate provides students with basic instruction in surveying and materials testing used in the civil engineering industry. Students will develop skills in operating high-tech survey equipment; using computational software; and determining the properties of density, bituminous, and concrete materials used in construction. Graduates of this curriculum are prepared for entry level work in surveying and materials testing.

### Milestone

Completion of CIVL 120 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in this course.

### Contact Information

Contact the Civil Technology Program at the West Campus Building, Room M103, telephone number 517-483-5338 or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
CIVL 101	Civil Drafting	3 / 4
CIVL 110	Density Certification	2 / 2
CIVL 120	Surveying	4 / 6
CIVL 124	Route Survey	4 / 6
CIVL 141	Site Inspection	3 / 3
DCTM 100	Intro to the Built Environment	3 / 4

### Minimum Total Credit Hours

19 credits / 25 billing hours

### Recommended Course Sequence

Semester I
CIVL 101
CIVL 120 – Milestone course
DCTM 100

Semester II
CIVL 110
CIVL 124
CIVL 141

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## Sustainability C.A.

Career Community: Science and Mathematics

Curriculum Code: 1487

Effective: Fall 2022 – Summer 2027

### Description

This certificate curriculum promotes entry-level technical knowledge, ethics, and rationale for a world view of sustainable practices in agriculture, alternative energy, business, construction, energy usage, natural resource management, and public policy. This certificate is for individuals seeking to enhance their employability by supplementing their existing credentials. Examples include those studying building trades or construction management seeking to implement sustainable building practices or students who hope to work in governmental and non-governmental agencies who intend to apply or advocate for sustainability.

### Milestone

Completion of CHEM 135 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in this course.

### Contact Information

Contact the Science Department, Arts and Sciences Building, Room 3203, telephone number 517-483-1092, or the Academic Advising Department, Gannon Building – StarZone, telephone number 517-483-1904.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
CHEM 135	Chemistry in Society	4 / 5
ECON 201	Principles of Economics-Micro	4 / 4
ECON 202	Principles of Economics-Macro	4 / 4
GEOL 230	Environmental Geology	4 / 6
MATH 115*	Technical Math II	4 / 4
PHYS 200	Intro To Applied Physics	4 / 5

\*MATH 115 or higher

### Program of Study Required Courses, Limited Choice - Architecture – *Select one*

Course Code	Course Title	Credit / Billing Hours
ARCH 113	Materials & Methods of Constr.	4 / 6
ARCH 275	Sustainable Building Design	4 / 6

### Program of Study Required Courses, Limited Choice - Biology – *Select one*

Course Code	Course Title	Credit / Billing Hours
BIOL 120	Environmental Science	4 / 6
BIOL 210	Natural Resource Conservation	4 / 6

**Program of Study Required Courses, Limited Choice - English – *Select one***

Course Code	Course Title	Credit / Billing Hours
ENGL 121	Composition I	4 / 4
ENGL 124	Technical Writing	3 / 3

**Minimum Total Credit Hours**

35 credits / 43 billing hours

**Recommended Course Sequence**

Semester I
ECON 201
MATH 115
Limited Choice – Architecture

Semester II
CHEM 135-Milestone course
ECON 202
Limited Choice - English

Semester III
GEOL 230
PHYS 200
Limited Choice - Biology

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## **Teacher Paraprofessional A.A.S.**

Career Community: Education

Curriculum Code: 1039

Effective: Fall 2022 – Summer 2027

### **Description**

Teacher Paraprofessionals work under the direction of a classroom teacher in settings ranging from early childhood through elementary, middle school and high school. This curriculum meets federal requirements for teacher paraprofessionals. Some of the duties of the teacher paraprofessional include working with small groups of children on their reading, math, and writing development; collecting and recording data on student performance; using technology for instructional purposes; and carrying out the instructional objectives of the classroom teacher. In addition, the teacher paraprofessional must be able to communicate effectively with parents, students, and teachers; implement behavior management techniques; and recognize a range of special needs.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of EDUC 280 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in this course.

### **Additional Information**

Students in this program choose one subspecialty pathway: 1) Early Childhood, 2) Elementary Education, or 3) Special Education, to determine the courses to take each semester. The Early Childhood specialty focuses on children 0-5 years while the Elementary specialty focuses on ages 6-12 years, and the Special Education specialty includes working with those with disabilities 3 years through young adult. This program can also be a first step toward teacher certification. Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

Upon completion of a subspecialty, any additional subspecialty courses will not count toward the student's enrollment level for determining financial aid eligibility.

Students completing subspecialty requirements for Early Childhood will fulfill the requirements for the Science Core area.

Some transfer universities require a 3.0 or higher in EDUC courses.

CHDV courses require a 2.5 exit grade.

## Contact Information

Contact the Social Science and Humanities Department, Arts and Sciences Building, Room 2203, telephone number 517-483-1061, or the Academic Advising Department, Gannon Building – StarZone, telephone number 517-483-1904.

## General Education – Applied Degrees, Recommended Courses

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours  
ENGL 122, Composition II, 4 credits / 4 billing hours
- English Composition (second course)/Communications or Applied Communications – *Select one if following Early Childhood or Elementary Education Subspecialty Pathway*  
COMM 120, Dynamics of Communication, 3 credits / 3 billing hours (recommended for transfer to Central Michigan University)  
COMM 130, Fundamentals Public Speaking, 3 credits / 3 billing hours (recommended for transfer to Ferris State University)
- Humanities and Fine Arts or Social Sciences or Applied Social Sciences  
Program of Study Required Courses will fulfill this requirement
- Mathematics or Applied Mathematics – *Select one*  
MATH 119, Math - Applications for Living, 4 credits / 4 billing hours  
MATH 120, College Algebra, 4 credits / 4 billing hours
- Natural Sciences Lab or Applied Science and Technologies Lab – *Select one if following the Special Education Subspecialty Pathway*  
BIOL 145, Introductory Anatomy and Physiology, 4 credits / 6 billing hours

## Early Childhood Subspecialty Pathway

**Program of Study Required Courses** – *ISCI 121 also fulfills the Natural Sciences Lab or Applied Science and Technologies Lab requirement.*

Course Code	Course Title	Credit / Billing Hours
CHDV 100	Foundations Early Childhood Ed	3 / 3
CHDV 101	Child Growth/Develop: 0-12 Yrs	4 / 4
CHDV 111	Child Guidance/Communication	4 / 4
CHDV 123	Literacy and Play	1 / 1
EDUC 204	Educational Psychology	3 / 3
EDUC 226	Reading in Elementary School	3 / 3
EDUC 230	Intro to Special Education	3 / 3
EDUC 280	Teacher Education Practicum	3 / 3
ENGL 208	Children's Literature	4 / 4
ISCI 121	Integrated Sci for Education I	4 / 6

**Program of Study Required Courses, Limited Choice – Select a minimum of five courses, seventeen credits**

Course Code	Course Title	Credit / Billing Hours
CHDV 122	Creativity and Play	1 / 1
CHDV 124	Young Investigators: Math/Sci	1 / 1
CHDV 215	Infant Toddler Program Dev	4 / 4
CHDV 220	Preschool Curriculum Approach	4 / 4
CHDV 222	Caring for School-Age Children	2 / 2
CHDV 225	Families and Inclusion	4 / 4
EDUC 228	Technology In Education	3 / 3
ISCI 122	Integrate Sci for Education II	4 / 6

**Minimum Total Credit Hours**

60 credits / 62 billing hours

**Recommended Course Sequence**

Semester I
Gen Ed - English Composition or Applied English
Gen Ed - Mathematics or Applied Mathematics
CHDV 100
EDUC 204
EDUC 280 – Milestone course

Semester II
CHDV 101
CHDV 123
EDUC 230
ENGL 208

Semester III
Gen Ed - English Composition (second course)/ Communications or Applied Communications
CHDV 111
EDUC 226
ISCI 121

Semester IV
Limited Choice
Limited Choice
Limited Choice
Limited Choice
Limited Choice

**Elementary Education Subspecialty Pathway**



**Program of Study Required Courses** – *ISCI 121 also fulfills the Natural Sciences Lab or Applied Science and Technologies Lab requirement.*

Course Code	Course Title	Credit / Billing Hours
ARTS 240	Art for Elementary Teachers	3 / 4
CHDV 123	Literacy and Play	1 / 1
EDUC 204	Educational Psychology	3 / 3
EDUC 220	Introduction to Education	3 / 3
EDUC 226	Reading in Elementary School	3 / 3
EDUC 228	Technology In Education	3 / 3
EDUC 230	Intro to Special Education	3 / 3
EDUC 280	Teacher Education Practicum	3 / 3
ENGL 208	Children's Literature	4 / 4
ISCI 121	Integrated Sci for Education I	4 / 6

**Program of Study Required Courses, Limited Choice** – *Select a minimum of five courses, nineteen credits. BIOL 125 is strongly recommended for transfer.*

Course Code	Course Title	Credit / Billing Hours
BIOL 125	Introductory Biology	4 / 5
CHDV 111	Child Guidance/Communication	4 / 4
CHDV 230	Early Childhood Program Admin	3 / 3
HIST 211	U.S. History to 1877	4 / 4
ISCI 122	Integrate Sci for Education II	4 / 6
LING 230	Introduction to Linguistics	3 / 3
POLS 120	American Political System	4 / 4
PSYC 200	Introduction to Psychology	4 / 4
PSYC 205	Human Growth and Development	3 / 3
SOCL 120	Introduction to Sociology	4 / 4

**Minimum Total Credit Hours**

60 credits / 63 billing hours

**Recommended Course Sequence**

Semester I
Gen Ed - English Composition
Gen Ed - Mathematics or Applied Mathematics
ARTS 240
EDUC 204
EDUC 280 – Milestone course

Semester II
CHDV 123
EDUC 220
EDUC 230
ENGL 208

Semester III
Gen Ed - English Composition (second course)/ Communications or Applied Communications
EDUC 226
EDUC 228
ISCI 121

Semester IV
Limited Choice
Limited Choice
Limited Choice
Limited Choice
Limited Choice

### Special Education Subspecialty Pathway

**Program of Study Required Courses** – *SIGN 160 also fulfills the English (second course)/Communications or Applied Communications requirement.*

Course Code	Course Title	Credit / Billing Hours
CHDV 123	Literacy and Play	1 / 1
EDUC 204	Educational Psychology	3 / 3
EDUC 220	Introduction to Education	3 / 3
EDUC 226	Reading in Elementary School	3 / 3
EDUC 230	Intro to Special Education	3 / 3
EDUC 280	Teacher Education Practicum	3 / 3
ENGL 208	Children's Literature	4 / 4
PFKN 260	Growth and Motor Behavior	3 / 3
PSYC 200	Introduction to Psychology	4 / 4
SIGN 160	Intro to the Deaf Community	3 / 3

**Program of Study Required Courses, Limited Choice** – *Select a minimum of five courses, eighteen credits*

Course Code	Course Title	Credit / Billing Hours
HIST 211	U.S. History to 1877	4 / 4
HUSE 110	Child Abuse and Neglect	3 / 3
ISCI 121	Integrate Sci for Education I	4 / 6
POLS 120	American Political System	4 / 4
PSYC 205	Human Growth and Development	3 / 3
PSYC 221	Child Psychology	3 / 3
SIGN 161	American Sign Language I	3 / 3

### Minimum Total Credit Hours

60 credits / 62 billing hours

## Recommended Course Sequence

Semester I
Gen Ed - English Composition
Gen Ed - Mathematics or Applied Mathematics
EDUC 204
EDUC 220
EDUC 280 – Milestone course

Semester II
CHDV 123
EDUC 230
ENGL 208
PFKN 260

Semester III
Gen Ed - Natural Sciences Lab or Applied Science and Technology Lab
EDUC 226
PSYC 200
SIGN 160

Semester IV
Limited Choice
Limited Choice
Limited Choice
Limited Choice
Limited Choice

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## Teacher Paraprofessional C.C.

Career Community: Education

Curriculum Code: 0829

Effective: Fall 2022 – Summer 2027

### Description

The certificate offers a foundation in educational concepts and a practical introduction to classroom management and content-area instruction. It is intended for students who may have already met federal requirements for teacher paraprofessionals by completing 60 college credits or an associate degree in a field other than education. It is also recommended as preparation for students who plan to take the state-approved exam for paraprofessionals. Courses in this certificate may also be applied toward an associate degree or transfer program leading to teacher certification.

### Milestone

Completion of EDUC 280 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in this course.

### Additional Information

- A criminal background check is required for employment in this field.
- Some transfer universities require a 3.0 or higher in EDUC courses.
- CHDV courses need a 2.5 exit grade.

### Contact Information

Contact the Social Science and Humanities Department, Arts and Sciences Building, Room 2203, telephone number 517-483-1061, or the Academic Advising Department, Gannon Building – StarZone, telephone number 517-483-1904.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
CHDV 123	Literacy and Play	1 / 1
EDUC 226	Reading in Elementary School	3 / 3
EDUC 230	Intro to Special Education	3 / 3
EDUC 280	Teacher Education Practicum	3 / 3

### Program of Study Required Courses, Limited Choice - *Select a minimum of three courses and nine credits*

Course Code	Course Title	Credit / Billing Hours
ARTS 240	Art for Elementary Teachers	3 / 4
CHDV 100	Foundations Early Childhood Ed	3 / 3
CHDV 122	Creativity and Play	1 / 1
CHDV 124	Young Investigators: Math/Sci	1 / 1

Course Code	Course Title	Credit / Billing Hours
CHDV 184	Children and Stress	1 / 1
EDUC 204	Educational Psychology	3 / 3
EDUC 220	Introduction to Education	3 / 3
EDUC 228	Technology in Education	3 / 3
ENGL 208	Children's Literature	4 / 4
GEOG 200	World Regional Geography	4 / 4
ISCI 121	Integrated Sci for Education I	4 / 6
MATH 201	Math for Elementary Teachers I	4 / 4
MATH 202	Math for Elementary Teacher II	4 / 4

### Minimum Total Credit Hours

19 credits / 19 billing hours

### Recommended Course Sequence

Semester I
CHDV 123
EDUC 226
EDUC 280 – Milestone course
Limited Choice

Semester II
EDUC 230
Limited Choice
Limited Choice

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## Theatre A.A.A.

Career Community: Theatre and Dance

Curriculum Code: 0278

Effective: Fall 2022 – Summer 2027

### Description

This degree is designed for students who intend to enter the workforce after completion. Students completing this curriculum will be prepared to audition and find work in professional theatre and film. Students who wish to transfer will need additional courses to fulfill MTA requirements.

Students in this program choose the Theatre or Dance subspecialty to determine the courses to take each semester.

### Milestone

In addition to the required General Education courses in Math and English, completion of THEA 110, THEA 120 (Theatre Subspecialty only), THEA 141, and THEA 143 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Additional Information

A student must earn a minimum grade of 2.0 in all courses.

Upon completion of a subspecialty, any additional subspecialty courses will not count toward the student's enrollment level for determining financial aid eligibility.

### Contact Information

Contact the Communication, Media and the Arts Department, Gannon Building, Room 1222, telephone number 517-483-1546 or the Academic Advising Department, Gannon Building – StarZone, telephone number 517-483-1904.

### General Education – Applied Degrees, Recommended Courses

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours
- English Composition (second course) or Communications or Applied Communications – *Select one*  
SIGN 160, Intro to the Deaf Community, 3 credits / 3 billing hours
- Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one*  
Program of Study Required Courses fulfills this requirement

- Mathematics or Applied Mathematics – *Select one*  
MATH 119, Math - Applications for Living, 4 credits / 4 billing hours
- Natural Sciences Lab or Applied Science and Technology Lab – *Select one*  
BIOL 120, Environmental Science, 4 credits / 6 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
THEA 110	Introduction to Theatre	3 / 3
THEA 114	Intro to Technical Theatre	3 / 3
THEA 131	Studio Theatre Performance I	1 / 2
THEA 132	Studio Theatre Performance II	1 / 2
THEA 141	Acting I - Contemporary	2.5 / 4
THEA 143	Stage Voice for the Actor	3 / 4
THEA 173	Movement for the Actor	2 / 3
THEA 225	Building a Character	2 / 2
THEA 233	Studio Theatre Performance III	2 / 4
THEA 240	Acting Shakespeare	3 / 4

### Program of Study Required Courses - Theatre Subspecialty

Course Code	Course Title	Credit / Billing Hours
DANC	Choose any 100-level	2 / 3
THEA 115A or THEA 115B or THEA 115C or THEA 115D	Tech Thea II-Set/Light Design Tech Thea II-Prop Design/Const Tech Thea II-Costume Des/Const Tech Thea II-Produc/Stage Mgmt	2 / 3 2 / 3 2 / 3 2 / 3
THEA 120	Introduction to Acting	2 / 3
THEA 150	Acting for the Camera	3 / 4
THEA 160	Stage Combat	2 / 3
THEA 171	Play Analysis	3 / 3
THEA 181	Improvisation	2.5 / 4
THEA 210	Theatre History	4 / 4
THEA 220	Play Directing	3 / 4
THEA 283	Audition Workshop	2 / 3
THEA 285	Stage Makeup	2 / 3

### Program of Study Required Courses – Dance Subspecialty

Course Code	Course Title	Credit / Billing Hours
DANC 101	Beginning Ballet	2 / 3
DANC 102	Beginning Modern	2 / 3
DANC 103	Beginning Jazz	2 / 3
DANC 104	Beginning Tap	2 / 3
DANC 201	Intermediate Ballet	3 / 4

Course Code	Course Title	Credit / Billing Hours
DANC 261*	Dance Repertory	.25-1 / .5-2
DANC 261*	Dance Repertory	.25-1 / .5-2

\*DANC 261 must be taken twice

### Program of Study Required Courses, Limited Choice – Dance Subspecialty

(minimum 14 credits)

Course Code	Course Title	Credit / Billing Hours
DANC 202	Intermediate Modern	3 / 4
DANC 203	Intermediate Jazz	3 / 4
THEA 120	Introduction to Acting	2 / 3
THEA 160	Stage Combat	2 / 3
THEA 171	Play Analysis	3 / 3
THEA 181	Improvisation	2.5 / 4
THEA 220	Play Directing	3 / 4
THEA 283	Audition Workshop	2 / 3

### Minimum Total Credit Hours

63 credits / 83 billing hours

### Recommended Course Sequence – Theatre Subspecialty

Semester I (Fall)
Gen Ed - English Composition or Applied English
THEA 110 – Milestone course
THEA 114
THEA 120 – Milestone course
THEA 173
THEA 181

Semester II (Spring)
Gen Ed – Mathematics or Applied Mathematics
THEA 115A or 115B or 115C or 115D
THEA 131
THEA 141 – Milestone course
THEA 143 – Milestone course
THEA 171

Semester III (Fall)
Gen Ed - English Composition (second course)/ Communications or Applied Communications
DANC (any 100-level course)
THEA 132
THEA 210
THEA 220
THEA 283



Semester IV (Spring)
Gen Ed - Natural Sciences Lab or Applied Science and Technology Lab
THEA 150
THEA 160
THEA 225
THEA 240
THEA 285

Semester V (Summer)
THEA 233

### Recommended Course Sequence – Dance Subspecialty

Semester I (Fall)
DANC 101
DANC 103
THEA 110 – Milestone course
THEA 114
Limited Choice

Semester II (Spring)
Gen Ed - English Composition or Applied English
DANC 201
DANC 261
THEA 131
THEA 141 – Milestone course
THEA 143 – Milestone course
Limited Choice

Semester III (Fall)
Gen Ed - English Composition (second course)/ Communications or Applied Communications
Gen Ed - Mathematics or Applied Mathematics
DANC 102
DANC 104
THEA 132
THEA 173
Limited Choice

Semester IV (Spring)
Gen Ed - Natural Sciences Lab or Applied Science and Technology Lab
DANC 261
THEA 225
THEA 240
Limited Choice
Limited Choice

Semester V (Summer)
THEA 233

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## **Transfer Studies A.A.**

Curriculum Code: 1779

Effective: Fall 2022 – Summer 2027

### **Description**

This degree is designed for students who intend to transfer to a four-year college or university to pursue a baccalaureate degree in this subject area. Students completing this curriculum will also satisfy the Michigan Transfer Agreement (MTA) between two-year and four-year institutions in Michigan and qualify for an LCC Transfer Studies Certificate of Achievement (1482). Transfer students are strongly encouraged to apply for this certificate along with their degree. General education and subject area requirements may vary from one college or university to another. A minimum of 2.0 is required to transfer to other colleges (some colleges, and some programs within colleges, require a higher grade in a course).

### **Milestone**

Completion of the required Math and English courses with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

A student must earn a minimum grade of 2.0 in all courses.

### **Contact Information**

Prior to beginning this program, students should meet with an academic advisor in the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

### **General Education - Transfer Degrees (MTA)**

Complete a minimum of 30 credits from the [General Education](#) for Transfer Degrees

- English Composition – *Select one course*
- English Composition (second course) or Communications – *Select one course*
- Humanities and Fine Arts – Select two courses, each from a different discipline
- Mathematics – Select one course
- Natural Sciences – Select two courses, each from a different discipline; one must be a lab course
- Social Sciences – Select two courses, each from a different discipline

### **Program of Study Required Courses – Option A**

Select 12 credits from the course codes list below and numbered 120 to 294, unless otherwise indicated below. Credits may come from a combination of these course codes, or a combination of Option A and Option B courses. These courses should be from an area you expect to pursue as a major in your baccalaureate degree program. For course selections, speak with an advisor or consult the program website at the institution you are considering for transfer.

- ANTH (except 275, 280)
- COMM
- ECON
- EDUC
- ENGL
- FREN
- GEOG (except 220, 221)
- GRMN
- HIST
- HUMS (except 140, 215)
- JAPN
- JRNL
- LING
- PHIL
- POLS
- PSYC
- RELG
- SOCL
- SPAN
- THEA

### Program of Study Required Courses – Option B

Select 12 credits from the course codes listed below. Credits may come from a combination of these course codes, or a combination of Option A and Option B courses.

- ARTS numbered 102 to 294
- CHDV numbered 100 to 284
- CJUS numbered 101 to 288
- MUSC 101-294 and 298
- SOWK 101

### Elective Courses

Complete courses as needed from the list of [AA and AS Elective Courses](#) to reach the 60-credit minimum for this degree. Courses used to fulfill the requirements above cannot be used as Elective courses. For course selections, speak with an advisor or consult the program website at the institution you are considering for transfer.

### Minimum Total Credit Hours

60 credits / 60 billing hours

### Recommended Course Sequence

Semester I
MTA English Composition
MTA Mathematics
Program of Study Required Course
Elective
Elective

Semester II
MTA English Comp (2nd course) or Communications
MTA Natural Sciences
Program of Study Required Course
Elective
Elective

Semester III
MTA Humanities and Fine Arts
MTA Natural Sciences
MTA Social Sciences
Program of Study Required Course
Elective

Semester IV
MTA Humanities and Fine Arts
MTA Social Sciences
Program of Study Required Course (if needed)
Elective (if needed)

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## **Transfer Studies A.S.**

Curriculum Code: 1782

Effective: Fall 2022 – Summer 2027

### **Description**

This degree is designed for students who intend to transfer to a four-year college or university to pursue a baccalaureate degree in this subject area. Students completing this curriculum will also satisfy the Michigan Transfer Agreement (MTA) between two-year and four-year institutions in Michigan and qualify for an LCC Transfer Studies Certificate of Achievement (1482). Transfer students are strongly encouraged to apply for this certificate along with their degree. General education and subject area requirements may vary from one college or university to another. A minimum of 2.0 is required to transfer to other colleges (some colleges, and some programs within colleges, require a higher grade in a course).

### **Milestone**

Completion of the required Math and English courses with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

A student must earn a minimum grade of 2.0 in all courses.

### **Contact Information**

Prior to beginning this program, students should meet with an academic advisor in the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

### **General Education - Transfer Degrees (MTA)**

Complete a minimum of 30 credits from the [General Education](#) for Transfer Degrees

- English Composition – *Select one course*
- English Composition (second course) or Communications – *Select one course*
- Humanities and Fine Arts – *Select two courses, each from a different discipline*
- Mathematics – *Select one course*
- Natural Sciences – *Select two courses, each from a different discipline; one must be a lab course*
- Social Sciences – *Select two courses, each from a different discipline*

### Program of Study Required Courses – Option A

Select 12 credits from the course codes list below and numbered 120 to 294. Credits may come from a combination of these course codes, or a combination of Option A and Option B courses. These courses should be from an area you expect to pursue as a major in your baccalaureate degree program. For course selections, speak with an advisor or consult the program website at the institution you are considering for transfer.

- ASTR
- BIOL
- CHEM
- CITN
- CPSC
- GEOL
- ISCI
- PHYS (except 200)
- STAT

### Program of Study Required Courses – Option B

Select 12 credits from the course codes listed below. Credits may come from a combination of these course codes, or a combination of Option A and Option B courses.

- ANTH 275 and 280
- CITP courses numbered 110 to 294
- GEOG 220 and 221
- MATH courses numbered 119 to 294
- PFKN courses numbered 105 to 294
- PFWH 123

### Elective Courses

Complete courses as needed from the list of [AA and AS Elective Courses](#) to reach the 60-credit minimum for this degree. Courses used to fulfill the requirements above cannot be used as Elective courses. For course selections, speak with an advisor or consult the program website(s) at the institution(s) you are considering for transfer.

### Minimum Total Credit Hours

60 credits / 60 billing hours

### Recommended Course Sequence

Semester I
MTA English Composition
MTA Mathematics
Program of Study Required Course
Elective
Elective

Semester II
MTA English Comp (2nd course) or Communications
MTA Natural Sciences
Program of Study Required Course
Elective
Elective

Semester III
MTA Humanities and Fine Arts
MTA Natural Sciences
MTA Social Sciences
Program of Study Required Course
Elective

Semester IV
MTA Humanities and Fine Arts
MTA Social Sciences
Program of Study Required Course (if needed)
Elective(s) as needed for the total credits

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## **Transfer Studies C.A.**

Career Community: Liberal Arts

Curriculum Code: 1482

Effective: Fall 2022 – Summer 2027

### **Description**

This degree is designed for students who intend to transfer to a four-year college or university to pursue a baccalaureate degree in this subject area. Students completing this curriculum will also satisfy the Michigan Transfer Agreement (MTA) between two-year and four-year institutions in Michigan.

### **Milestone**

Completion of the English and Math courses with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

A student must earn a minimum grade of 2.0 in all courses.

### **Contact Information**

Prior to beginning this program, students should meet with an academic advisor in the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

### **General Education – Transfer (MTA) Courses, Recommended Choices**

(For the full list of options, see [General Education](#))

- English Composition – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours  
ENGL 131, Honors Composition I, 4 credits / 4 billing hours
- English Composition (second course) or Communication – *Select one*  
ENGL 122, Composition II, 4 credits / 4 billing hours  
ENGL 132, Honors Composition II, 4 credits / 4 billing hours  
COMM 110, Communication in the Workplace, 3 credits / 3 billing hours  
COMM 120, Dynamics of Communication, 3 credits / 3 billing hours  
COMM 130, Fundamentals Public Speaking, 3 credits / 3 billing hours

- Humanities and Fine Arts – *Select two, each from a different discipline*  
ENGL 211, World Literature I, 4 credits / 4 billing hours  
ENGL 212, World Literature II, 4 credits / 4 billing hours  
HIST 211, U.S. History to 1877, 4 credits / 4 billing hours  
HIST 212, U.S. History: 1877 to Present, 4 credits / 4 billing hours  
HUMS 211, Art History to the Renaissance, 4 credits / 4 billing hours  
HUMS 212, Art Hist from the Renaissance, 4 credits / 4 billing hours  
HUMS 213, World Civilizations to 1600, 4 credits / 4 billing hours  
HUMS 214, World Civilizations from 1600, 4 credits / 4 billing hours  
PHIL 151, Intro to Logic & Critical Think, 4 credits / 4 billing hours  
RELG 150, Intro to World Religions, 4 credits / 4 billing hours  
SPAN 121, Elementary Spanish I, 4 credits / 4 billing hours
- Mathematics – *Select one*  
MATH 119, Math - Applications for Living, 4 credits / 4 billing hours  
MATH 120, College Algebra, 4 credits / 4 billing hours  
MATH 126, Precalculus, 5 credits / 5 billing hours  
STAT 170, Introduction to Statistics, 4 credits / 4 billing hours  
STAT 215, Intro to Probability and Stats, 4 credits / 4 billing hours
- Natural Sciences – *Select two, each from a different discipline; one must be a **lab** course*  
**ASTR 201**, Introductory Astronomy, 4 credits / 5 billing hours  
**BIOL 120**, Environmental Science, 4 credits / 6 billing hours  
**BIOL 125**, Introductory Biology, 4 credits / 5 billing hours  
**BIOL 127**, Cell Biology, 4 credits / 6 billing hours  
**CHEM 135**, Chemistry in Society, 4 credits / 5 billing hours  
CHEM 151 and **161**, General Chemistry I Lecture/Lab, 5 credits / 7 billing hours  
**GEOG 221**, Physical Geography, 4 credits / 4 billing hours  
**GEOL 221**, Physical Geology, 4 credits / 6 billing hours  
**GEOL 230**, Environmental Geology, 4 credits / 6 billing hours  
**ISCI 131**, Integrated Physical Science, 4 credits / 6 billing hours  
PFHW 123, Human Nutrition, 3 credits / 3 billing hours  
**PHYS 120**, The Art of Physics, 4 credits / 5 billing hours  
**PHYS 251**, Physics I with Calculus, 5 credits / 7 billing hours
- Social Sciences – *Select two, each from a different discipline*  
ANTH 270, Cultural Anthropology, 3 credits / 3 billing hours  
ECON 120, Power, Authority and Exchange, 4 credits / 4 billing hours  
ECON 201, Principles of Economics - Micro, 4 credits / 4 billing hours  
GEOG 200, World Regional Geography, 4 credits / 4 billing hours  
POLS 120, American Political System, 4 credits / 4 billing hours  
PSYC 200, Introduction to Psychology, 4 credits / 4 billing hours  
SOCL 120, Introduction to Sociology, 4 credits / 4 billing hours

## Minimum Total Credit Hours

33 credits / 33 billing hours

## Recommended Course Sequence

Semester I
MTA English Composition
MTA Mathematics
MTA Natural Sciences

Semester II
MTA English Comp (2nd course) or Communication
MTA Humanities and Fine Arts
MTA Social Sciences

Semester III
MTA Humanities and Fine Arts
MTA Natural Sciences
MTA Social Sciences

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## UAS Remote Pilot and Maintenance C.C.

Career Community: Computer Technology and Networking

Curriculum Code: 1825

Effective: Fall 2022 – Summer 2027

### Description

This certificate prepares students for positions in industries utilizing Unmanned Aerial Systems (UAS) by providing foundational knowledge and skills in UAS mission planning, safe flight operations, software and image applications, UAS maintenance, laws and regulations, data analytics, project management, and site inspection using UAS platforms. In addition, students will prepare for and conduct unmanned flights similar to those commonly performed in the industry, observing Federal Aviation Administrations (FAA) regulations that govern UAS operations. Students completing this certificate may use the credits towards the Geospatial Science Technician Associate in Applied Science degree (0224).

### Milestone

Completion of AVAU 100 and AVAU 200 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### Additional Information

Students must earn a minimum grade of 2.0 in all courses.

### Contact Information

Contact the Geospatial Science Program, West Campus Building, Room M103, telephone number 517-267-6406 or Student Services West Campus, West Campus Building, Room M106, telephone number 517-267-5452.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
AVAU 100	UAS Exam – Flight Orientation	2 / 2.5
AVAU 150	Unmanned Aircraft Sys. Maint.	2 / 3
AVAU 200	Advanced UAS Flight - Capstone	2 / 3
GSCI 100	Intro to Geospatial Tech	3 / 3
GSCI 110	Beginning ArcGIS	3 / 5
GSCI 150	UAS Flight for Industry	3 / 4
GSCI 241	Remote Sens/AirPhoto Interpret	3 / 4
GSCI 250	UAS Map Analysis	3 / 4

### Minimum Total Credit Hours

21 credits / 28.5 billing hours

## Recommended Course Sequence

Semester I
AVAU 100 – Milestone course
GSCI 100
GSCI 110
GSCI 150

Semester II
AVAU 150
AVAU 200 – Milestone course
GSCI 241
GSCI 250

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## **Ultrasound: Diagnostic Medical Sonography A.A.S.**

Career Community: Health and Human Service Careers

Curriculum Code: 0790

Effective: Summer 2022 – Summer 2024

### **Description**

A Diagnostic Medical Sonographer provides patient services in a variety of medical settings using medical ultrasound under the supervision of a physician. Sonographers assist the physician in gathering sonographic data necessary to diagnose a variety of conditions and diseases. Sonographers obtain, review, and integrate patient history and supporting clinical data to facilitate optimum diagnostic results. They perform appropriate procedures and record anatomical, pathological, and/or physiological data as well as sonographic data and other pertinent observations made during the procedure for interpretation by a physician. They provide patient education related to medical ultrasound and promote principles of good health.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of IDMS 201 and IDMS 234 with a 2.5 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

The D.M.S. curriculum is an integrated six semester program that incorporates didactic and clinical training designed to prepare the student for employment in the field of diagnostic medical sonography. The program is aligned with the standards and guidelines of the Joint Review Commission on Diagnostic Medical Sonography and is accredited by the Commission on Accreditation of Allied Health Education Programs (JRCADMS-CAAHEP), 1361 Park Street, Clearwater, FL 33756. Graduates of the program are prepared for either the examination by the American Registry of Diagnostic Medical Sonographers (ARDMS) or the American Registry of Radiologic Technologists (ARRT). The associate degree option is open to students with no previous background in an allied health field.

This is a selective admission program. In order to be considered as a candidate for this program, students must meet basic admission requirements beyond those required for admission to the college. All the courses in Semesters I and II are required for admission and must be completed by December 31<sup>st</sup> of the year prior to the April 1<sup>st</sup> D.M.S. Program admission application deadline. This includes: BIOL 145 or BIOL 201 and BIOL 202; MATH 120 (or higher) or STAT 170 or STAT 215; PHYS 120 or PHYS 200; and the General Education requirements including English Composition or Applied English, English Composition (second course)/Communications or Applied Communications, and Humanities and Fine Arts or Social Sciences or Applied Social Sciences requirements.

A 2.5 minimum grade is required in all courses in this curriculum, including the General Education requirements, with the exception of PHYS 120 or PHYS 200 which requires a minimum 2.0 grade.

### Contact Information

The admission and/or graduation requirements for this program may change each academic year. The program requirements below apply only to those students who have been admitted to the program for the 2022/2023 academic year. For the most current and complete information, interested students should contact the Diagnostic Medical Sonography program, Health and Human Services Building, Room 108, telephone number 517-483-1410, or the Academic Advising Department, Gannon Building – StarZone, telephone number 517-483-1904.

### General Education – Applied Degrees, Recommended Courses

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours  
ENGL 122, Composition II, 4 credits / 4 billing hours  
ENGL 127, Business Writing, 3 credits / 3 billing hours  
ENGL 131, Honors Composition I, 4 credits / 4 billing hours  
ENGL 132, Honors Composition II, 4 credits / 4 billing hours
- English Composition (second course)/Communications or Applied Communications Program of Study Required Courses for Admission will meet this requirement
- Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one*  
SOCL 120, Introduction to Sociology, 4 credits / 4 billing hours
- Mathematics or Applied Mathematics  
Program of Study Required Courses for Admission will meet this requirement
- Natural Sciences Lab or Applied Science and Technology Lab  
Program of Study Required Courses for Admission will meet this requirement

### Program of Study Required Course for Admission, Limited Choice – English

**Composition (second course)/Communications** – *Select one. This course will satisfy the General Education English Composition (second course)/Communications or Applied Communications requirement.*

Course Code	Course Title	Credit / Billing Hours
COMM 110	Communication in the Workplace	3 / 3
COMM 120	Dynamics of Communication	3 / 3
COMM 130	Fundamentals Public Speaking	3 / 3
COMM 240	Interpersonal Communication	3 / 3
SIGN 160	Intro to the Deaf Community	3 / 3

### **Program of Study Required Course for Admission, Limited Choice - Mathematics**

– Select one. This course will satisfy the General Education Mathematics or Applied Mathematics requirement. (Any course from the College Algebra area of the General Education Mathematics category may also be selected.)

Course Code	Course Title	Credit / Billing Hours
MATH 120	College Algebra	4 / 4
STAT 170	Introduction to Statistics	4 / 4
STAT 215	Intro to Probability and Stats	4 / 4

### **Program of Study Required Course for Admission, Limited Choice – Natural**

**Sciences Lab** – Select one. This course will satisfy the General Education Natural Sciences Lab or Applied Science and Technology Lab requirement.

Course Code	Course Title	Credit / Billing Hours
BIOL 145	Intro Anatomy and Physiology	4 / 6
BIOL 201 and 202	Human Anatomy and Human Physiology	8 / 11 (total)

### **Program of Study Required Course for Admission, Limited Choice – Select one**

Course Code	Course Title	Credit / Billing Hours
PHYS 120	The Art of Physics	4 / 5
PHYS 200	Intro to Applied Physics	4 / 5

### **Program of Study Required Courses**

Course Code	Course Title	Credit / Billing Hours
CHSE 120	Medical Terminology	4 / 4
IDMS 169	Intro to Sonographic Scanning	2 / 3
IDMS 200	Sonographic Introduction	2 / 2
IDMS 201	General Sonography I: Abdomen	4 / 4
IDMS 202	OB/GYN Sonography I	4 / 4
IDMS 234	Sonographic Physics	2 / 2
IDMS 245	Sonographic Instrumentation	2 / 2
IDMS 265	General Sonography II	4 / 4
IDMS 266	OB/GYN Sonography II	4 / 4
IDMS 270	Sonographic Positioning I	2.5 / 4
IDMS 271	Sonographic Positioning II	1.5 / 2
IDMS 280	Clinical Experience I	6 / 6
IDMS 281	Clinical Experience II	7 / 7
IDMS 282	Clinical Experience III	8 / 8

### **Minimum Total Credit Hours**

75 credits / 81 billing hours



## Recommended Course Sequence

Semester I (Fall)
Program of Study Required Course for Admission – Mathematics
BIOL 145 or (BIOL 201 and BIOL 202)
PHYS 120 or PHYS 200

Semester II (Spring)
Gen Ed – English Composition or Applied English
Gen Ed – Humanities and Fine Arts or Social Sciences or Applied Social Sciences
COMM 110, 120, 130, 240, or SIGN 160

Semester III (Summer)
CHSE 120
IDMS 169
IDMS 200
IDMS 270

Semester IV (Fall)
IDMS 201 – Milestone course
IDMS 202
IDMS 234 – Milestone course
IDMS 271
IDMS 280

Semester V (Spring)
IDMS 245
IDMS 265
IDMS 266
IDMS 281

Semester VI (Summer)
IDMS 282

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



## Vascular Technology C.C.

Career Community: Health and Human Service Careers

Curriculum Code: 1604

Effective: Fall 2022 – Summer 2024

### Description

This certificate includes the instructional component of the preparation that students need to take either the examination by the American Registry for Diagnostic Medical Sonography (ARDMS) or the American Registry of Radiologic Technologists (ARRT). It provides the didactic and applied instruction necessary for students to be competent in the specialty of Vascular Sonography. Students must also seek clinical verification in order to sit for their registry exam.

### Milestone

Completion of IDMS 250 with a 2.5 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in this course.

### Additional Information

Students must complete all courses with a minimum grade of 2.5 to receive this certificate.

### Contact Information

Contact the Diagnostic Medical Sonography Program, Health and Human Services Building, Room 108, telephone number 517-483-1410, or the Academic Advising Department, Gannon Building - StarZone, telephone number 517-483-1904.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
IDMS 250	Vascular Technology I	6 / 6
IDMS 251	Vascular Technology II	6 / 6
IDMS 255	Vascular Scan Lab I	2.5 / 4
IDMS 256	Vascular Scan Lab II	2.5 / 4

### Minimum Total Credit Hours

17 credits / 20 billing hours

### Recommended Course Sequence

Semester I (Fall)
IDMS 250 – Milestone course
IDMS 255
Semester II (Spring)
IDMS 251
IDMS 256

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## **Veterinary Nursing A.A.S.**

Career Community: Applied Science

Curriculum Code: 0287

Effective: Fall 2022 – Summer 2027

### **Description**

Veterinary nurses are professionals dedicated to animal health care. They are vital members of the veterinary medical team and are trusted with diverse medical responsibilities, including animal nursing care, life support, laboratory specimen analysis, physical therapy, surgical assistance, anesthesia, dental hygiene, X-ray imaging, nutritional management, and client education. The variety in veterinary nursing makes it a challenging medical career for those who enjoy working with animals and people. Career opportunities exist with veterinary hospitals, biomedical research institutions, zoological parks, and other animal care facilities.

This program is offered through a joint agreement between Lansing Community College (LCC) and Michigan State University (MSU), with Major courses taught by MSU and General Education courses taught by LCC.

### **Milestone**

Completion of the required General Education Math, English, and Science courses with a 2.0 or higher are key components for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

MSU's admission is competitive. Please consult MSU College of Veterinary Medicine for application deadlines. Successful applicants would start attending classes at the MSU Veterinary School the following fall semester. Students are advised to have a strong background in biology, chemistry, algebra and writing. Students must seek at least 80 hours of experience in the veterinary clinical setting. This experience will help students form the foundation for career development and is part of MSU's admission requirements. Students planning to transfer should see an academic advisor before enrolling in any course. Students must earn a minimum grade of 2.0 in all General Education – Applied Degree courses.

### **Contact Information**

Contact the Science Department, Arts & Sciences Building, Room 3203, telephone number (517) 483-1092 or the [MSU Veterinary Nursing Program](#), or the Center for Academic and Career Pathways – GB StarZone, telephone number (517) 483-1904.

### **General Education – Applied Degrees, Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition or Applied English  
Program of Study Required Courses will meet this requirement.

- English Composition (second course) or Communications or Applied Communications Program of Study Required Courses will meet this requirement.
- Humanities and Fine Arts or Social Science or Applied Social Science Program of Study Required Courses will meet this requirement.
- Mathematics or Applied Mathematics Program of Study Required Courses will meet this requirement.
- Natural Sciences Lab or Applied Science and Technology Lab Program of Study Required Courses will meet this requirement.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
BIOL 121	Biol Foundation for Physiology	4 / 6
COMM 120	Dynamics of Communication	3 / 3

### Program of Study Required Course, Limited Choice – *Select one; fulfills the Humanities and Fine Arts or Social Science or Applied Social Science area*

Course Code	Course Title	Credit / Billing Hours
ECON 120	Power, Authority and Exchange	4 / 4
GEOG 200	World Regional Geography	4 / 4
HUMS 160	Mythology	4 / 4
HUMS 213	World Civilizations to 1600	4 / 4
HUMS 214	World Civilizations from 1600	4 / 4
MUSC 240	Musical Cultures to 1750	4 / 4
MUSC 241	Musical Cultures 1750-Present	4 / 4
PHIL 211	Philosophy: Ancient & Medieval	4 / 4
PHIL 212	Philosophy: Modern & Contemptry	4 / 4
SOCL 120	Introduction to Sociology	4 / 4

### Program of Study Required Course, Limited Choice – *Select one; fulfills the Mathematics or Applied Mathematics area*

Course Code	Course Title	Credit / Billing Hours
MATH 120	College Algebra	4 / 4
MATH 122	Trigonometry	4 / 4
MATH 126	Precalculus	5 / 5
MATH 151	Calculus I	4 / 4

### Program of Study Required Course, Limited Choice – *Select one; fulfills the English Composition or Applied English area*

Course Code	Course Title	Credit / Billing Hours
ENGL 121	Composition I	4 / 4

Course Code	Course Title	Credit / Billing Hours
ENGL 131	Honors Composition I	4 / 4
ENGL 122	Composition II	4 / 4
ENGL 132	Honors Composition II	4 / 4

### MSU Veterinary Nursing Courses

Forty-three (43) credits from the Veterinary Nursing Certificate of Completion from Michigan State University

### Institutional Requirements

Choose an appropriate Lansing Community College course or courses so the total number of credits taken at LCC is 15 or more per college policy, and so at least 60 credits are earned toward the degree. Part of this requirement may automatically be fulfilled if a student completes 15 or more credits of the Program of Study Required Courses at LCC.

### Minimum Total Credit Hours

62 credit hours/ 21 billing hours

### Recommended Course Sequence

(Sequence may be determined based on prerequisites for the courses. To obtain current prerequisite information, search for the course in Banner and select "View Catalog Entry".)

Semester I
COMM 120 or Limited Choice Humanities and Fine Arts or Social Science or Applied Social Science Limited Choice English Composition or Applied English Limited Choice Mathematics or Applied Mathematics
Semester II
BIOL 121 COMM 120 or Limited Choice Humanities and Fine Arts or Social Science or Applied Social Science
Semester III
Veterinary Nursing courses from MSU
Semester IV
Veterinary Nursing courses from MSU
Semester V
Veterinary Nursing courses from MSU

Semester VI
Veterinary Nursing courses from MSU

Semester VII
Internship

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## Web Site Developer C.C.

Career Community: Computer Technology and Networking

Curriculum Code: 0843

Effective: Fall 2022 – Summer 2027

### Description

This certificate provides students with the technical skills necessary to use the Internet as an effective business resource, including building and maintaining commercial websites. It is designed for students who already have basic computer skills and want to specialize in Internet technology and web site design and development. This course work can be applied toward completion of the E-Business Associate of Business Degree (0839).

### Milestone

Completion of CITW 160 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in this course.

### Contact Information

Contact the Computer Information Technologies Program at the West Campus Building, Room M103, telephone number 517-267-6406 or Student Services West Campus, West Campus Building, Room M016, telephone number 517-267-5452.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
CITW 150	Internet Literacy	3 / 3
CITW 160	Web Development HTML & CSS	3 / 3
CITW 165	Web Development JavaScript	3 / 3
CITW 175	Web Site Management	3 / 3

### Program of Study Required Courses, Limited Choice – *Select one or two courses, four to six credits*

Course Code	Course Title	Credit / Billing Hours
ARTS 102	Design & Communication	3 / 4
CITP 110	Intro to Programming-Python	4 / 4
CITP 130	Intro to Mobile App Devel	3 / 3
CITW 185	Web Development PHP & MySQL	4 / 4

### Minimum Total Credit Hours

16 credits / 16 billing hours



## Recommended Course Sequence

Semester I
CITW 150
CITW 160 – Milestone course
Limited Choice

Semester II
CITW 165
CITW 175

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## **Welding Technology A.A.S.**

Career Community: Electrical and Manufacturing

Curriculum Code: 0186

Effective: Fall 2022 – Summer 2027

### **Description**

Welding is many processes of fusion, adhesion, and cutting to fabricate or repair products used in manufacturing, research and application. A welding technician could also qualify for welding inspection where welding codes are applied. A welder is a skilled craftsman with a basic knowledge of metals, applied mathematics, blueprint reading, good eyesight, self-discipline and a respect for safety. A welder also needs to work well with his/her hands and have good manual coordination. Many hours of practice and proper training in the basics of MIG, TIG, shielded metal arc, brazing and oxy-fuel cutting, and plasma cutting are necessary. Welders can be found in tool and die industries, automakers, construction, oil refineries, pipelines and pressure vessels, aircraft industries and many more metal-related industries. Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

### **Milestone**

In addition to the required General Education courses in Math and English, completion of WELD 103 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in this course.

### **Additional Information**

Students who have already completed DCTM 102, ELTE 102, HVAC 102, METS 102, or WELD 102 with a grade of 2.0 or higher may substitute one of those courses for TECH 102. The courses may also be used to fulfill the prerequisite for METS 140 and ELTE 108 and ELTE 109.

### **Contact Information**

Contact the Center for Manufacturing Excellence at the West Campus Building, 5708 Cornerstone Drive, Lansing MI 48917, Room M103, telephone number 517-483-1104 or by [email](#).

### **General Education - Applied Degree, Recommended Courses**

(For the full list of options, see [General Education](#))

- English Composition or Applied English – *Select one*  
ENGL 124, Technical Writing, 3 credits / 3 billing hours
- English Composition (Second Course)/Communications or Applied Communications – *Select one*  
COMM 110, Communication in the Workplace, 3 credits / 3 billing hours

- Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one*  
MGMT 234, Diversity in the Workplace, 3 credits / 3 billing hours
- Mathematics or Applied Mathematics – *Select one*  
MATH 115, Technical Math II, 4 credits / 4 billing hours
- Natural Sciences Lab or Applied Science and Technology Lab – *Select one*  
Program of Study Required Courses will meet this requirement.

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
METM 108	Machine Tool Operations	4 / 6
METM 190	Metallurgy and Heat Treatment	4 / 6
METS 140	Rigging	3 / 4.5
TECH 102	General Industry Safety	2 / 3
WELD 103	Combination Welding	4 / 6
WELD 105	Advanced ARC Welding	4 / 6
WELD 110	Gas Metal ARC Welding	4 / 6
WELD 111	Gas Tungsten ARC Welding	4 / 6
WELD 125	Structural Print Reading/ Weld	2 / 2
WELD 201	Tool and Die Welding	3 / 4.5
WELD 205	Pipe Welding	4 / 6
WELD 220	Structural Fab & Inspection	4 / 6

### Program of Study Required Courses – Limited Choices Courses – *Select a minimum of two courses and 5 credits*

Course Code	Course Title	Credit / Billing Hours
ELTE 108	Practical Electricity I	2 / 3
ELTE 109	Practical Electricity II	2 / 3
METM 100	Manufacturing Processes	3 / 4.5
WELD 115	Robotic MIG Welding	4 / 6
WELD 250	Welding Internship	3 / 3

### Minimum Total Credit Hours

60 credits / 81 billing hours

### Recommended Course Sequence

Semester I
METM 108
METS 140
TECH 102
WELD 103 – Milestone course
WELD 110

Semester II
METM 190
WELD 105
WELD 111
WELD 125

Semester III
Gen Ed – English Composition or Applied English
Gen Ed – Mathematics or Applied Mathematics
WELD 201
WELD 220
Limited Choice

Semester IV
Gen Ed – English Composition (Second Course)/ Communications or Applied Communications
Gen Ed – Humanities and Fine Arts or Social Sciences or Applied Social Sciences
WELD 205
Limited Choice

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## Welding Technology C.A.

Career Community: Electrical and Manufacturing

Curriculum Code: 0156

Effective: Fall 2022 – Summer 2027

### Description

Students receive hands-on instruction in the basics of MIG, TIG, shielded metal arc, brazing and oxy-fuel cutting, and plasma cutting to prepare them for entry-level positions.

### Milestone

Completion of WELD 103 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in this course.

### Additional Information

Students who have already completed DCTM 102, ELTE 102, HVAC 102, METS 102, or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for TECH 102. Any of these courses may also be used to fulfill the prerequisite for METS 140.

### Contact Information

Contact the Center for Manufacturing Excellence at the West Campus Building, 5708 Cornerstone Drive, Lansing MI 48917, Room M103, telephone number 517-483-1104 or by [email](mailto:manufacturing@lcc.edu) (manufacturing@lcc.edu).

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
METM 190	Metallurgy and Heat Treatment	4 / 6
METS 140	Rigging	3 / 4.5
TECH 102	General Industry Safety	2 / 3
WELD 103	Combination Welding	4 / 6
WELD 105	Advanced ARC Welding	4 / 6
WELD 110	Gas Metal ARC Welding	4 / 6
WELD 111	Gas Tungsten ARC Welding	4 / 6
WELD 125	Structural Print Reading/ Weld	2 / 2
WELD 220	Structural Fab & Inspection	4 / 6

### Minimum Total Credit Hours

31 credits / 45.5 billing hours

## Recommended Course Sequence

Semester I
TECH 102
WELD 103
WELD 110

Semester II
WELD 105
WELD 111
WELD 125

Semester III
METM 190
METS 140
WELD 220

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## Welding Technology C.C.

Career Community: Electrical and Manufacturing

Curriculum Code: 1356

Effective: Fall 2022 – Summer 2027

### Description

This certificate is designed to provide the basic skills needed for entry-level welding. Students following this program will learn how to perform Shielded Metal Arc Welding (SMAW), Gas Metal Arc Welding (MIG) and Gas Tungsten Arc Welding (TIG). Welders can be found in tool and die industries, automobile manufacturing, construction industries, oil refineries, pipeline and pressure vessel industries, aircraft industries, and many more metal-related industries. All of the coursework may be applied toward the Welding Technology Certificate of Achievement and the Welding Technology Associate of Applied Science Degree.

### Milestone

Completion of WELD 103 with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in this course is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in the course.

### Additional Information

Students who have already completed DCTM 102, ELTE 102, HVAC 102, METS 102, or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for TECH 102.

### Contact Information

Contact the Center for Manufacturing Excellence at the West Campus Building, 5708 Cornerstone Drive, Lansing MI 48917, Room M103, telephone number 517-483-1104 or by [email](mailto:manufacturing@lcc.edu) (manufacturing@lcc.edu).

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
TECH 102	General Industry Safety	2 / 3
WELD 103	Combination Welding	4 / 6
WELD 105	Advanced ARC Welding	4 / 6
WELD 110	Gas Metal ARC Welding	4 / 6
WELD 111	Gas Tungsten ARC Welding	4 / 6

### Minimum Total Credit Hours

18 credits / 27 billing hours

## Recommended Course Sequence

Semester I
TECH 102
WELD 103 – Milestone course
WELD 110

Semester II
WELD 105
WELD 111

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## **World Language A.A.**

Career Community: Communication, Journalism, and Language

Curriculum Code: 0132

Effective: Fall 2022 – Summer 2027

### **Purpose of Major:**

This degree is designed for students who plan to transfer to a four-year institution to pursue a baccalaureate degree in the area of World Language in a variety of concentrations or who plan to pursue secondary education certification in a World Language to teach in Michigan public schools. Students completing this degree will also satisfy the Michigan Transfer Agreement (MTA) requirements for General Education between two and four-year institutions in Michigan and will qualify for an LCC Transfer Studies Certificate of Achievement (1482).

Not all courses in this pathway transfer to all colleges. Students who wish to transfer to a four-year institution should select coursework indicated for that institution and may also complete coursework for a Communications and Language, Enhanced AAA degree. The Communications and Language, Enhanced AAA option allows students to transfer additional credits toward the Bachelor's degree.

### **Milestone**

In addition to the required Math and English courses, completion of 100-level World Language classes with a 2.0 or higher is a key component for success in completing this program. Knowledge obtained in these courses is the foundation for learning in other required courses. Students are encouraged to contact their faculty if they need additional assistance with learning the concepts presented in these courses.

### **Additional Information**

A minimum grade of 2.0 is required in all courses.

### **Contact Information**

Contact the Communications and the Arts Department, Gannon Building, Room 1222, telephone number 517-483-1546.

### **General Education – Transfer Degrees - Recommended Courses**

Select courses as indicated for specific transfer institution. These courses are preferred General Education courses listed on Transfer Articulation agreements. The recommended courses in each General Education category also meet Michigan Transfer Agreement (MTA) requirements. If no course is indicated, choose from the list of options under [General Education](#).

- English Composition  
ENGL 121 or ENGL 131 meets this requirement.

- English Composition (Second Course) or Communications  
COMM 120, COMM 130, ENGL 122, ENGL 132 meets this requirement.
- Humanities and Fine Arts – *Select two courses from different disciplines*  
Program of Study Required Courses meets this requirement.
- Mathematics  
MATH 119 or MATH 120 or STAT 170 meets this requirement.
- Natural Sciences – *Select two courses from different disciplines; one must be a lab course*  
PFHW 123 and ASTR 201, BIOL 120, BIOL 125, BIOL 145, CHEM 135, GEOG 220, GEOG 221, ISCI 131, or PHYS 120 meets this requirement.
- Social Sciences – *Select two courses from different disciplines*  
Program of Study Required Courses meets this requirement.

**Communications and Language Career Community Courses** – *These courses are required for all Communication and Language programs (Communication, Sign Language Interpreter, World Language). They should be taken before other Program Required or Limited Choice Courses.*

Course Code	Course Title	Credit / Billing Hours
ACAD 100	First Year College Experience	1 / 1
ASTR 201 or BIOL 120 or BIOL 125 or BIOL 145 or CHEM 135 or GEOG 220 or GEOG 221 or ISCI 131 or PHYS 120	Introductory Astronomy Environmental Science Introductory Biology Intro Anatomy and Physiology Chemistry in Society Weather, Forecasting & Climate Physical Geography Integrated Physical Science The Art of Physics	4 / 5 4 / 6 4 / 5 4 / 6 4 / 5 4 / 4 4 / 4 4 / 6 4 / 5
COMM 120 or COMM 130 or ENGL 122 or ENGL 132 or SIGN 160	Dynamics of Communication Fundamentals Public Speaking Composition II Honors Composition II Intro to the Deaf Community	3 / 3 3 / 3 4 / 4 4 / 4 3 / 3
DMAC 260 or JAPN 121 or SIGN 162 or SPAN 121 or THEA 110	World Cinema Elementary Japanese I American Sign Language II Elementary Spanish I Introduction to Theater	4 / 4 4 / 4 3 / 3 3 / 3 3 / 3
ENGL 121 or ENGL 131	Composition I Honors Composition I	4 / 4 4 / 4
LING 230 or	Introduction to Linguistics	3 / 3

Course Code	Course Title	Credit / Billing Hours
SIGN 161	American Sign Language I	3 / 3
MATH 119 or MATH 120 or STAT 170	Math - Applications for Living College Algebra Introductory Statistics	4 / 4 4 / 4 4 / 4

Notes:

ACAD 100 may be waived based on the recommendation of a Program Advisor.

For future transfer to:

- Central Michigan University choose BIOL 120, COMM 130, LING 230, MATH 119 or MATH 120, and SPAN 121.
- Eastern Michigan University choose ENGL 122 or ENGL 132, LING 230, JAPN 121 or SPAN 121, and MATH 120.
- Ferris State University choose COMM 130, LING 230, MATH 119 or MATH 120, and SPAN 121.
- Grand Valley State University choose COMM 130, LING 230, SPAN 121, and MATH 120.
- Michigan State University choose COMM 130, LING 230, JAPN 121 or SPAN 121, and MATH 119 or MATH 120.
- Western Michigan University choose ENGL 122 or ENGL 132, LING 230, JAPN 121 or SPAN 121, and MATH 119.

**Program of Study Required Courses** – *PFHW 123 will meet General Education requirements for Michigan Transfer Agreement (MTA). LING 230, and JAPN 121 or SPAN 121 will meet Humanities and Fine Arts and Career Community requirements.*

Course Code	Course Title	Credit / Billing Hours
LING 230	Introduction to Linguistics	4 / 4
JAPN 121 or SPAN 121	Elementary Japanese I Elementary Spanish I	4 / 4 4 / 4
JAPN 122 or SPAN 122	Elementary Japanese II Elementary Spanish II	4 / 4 4 / 4
JAPN 201 or SPAN 201	Intermediate Japanese I Intermediate Spanish I	4 / 4 4 / 4
JAPN 202 or SPAN 202	Intermediate Japanese II Intermediate Spanish II	4 / 4 4 / 4
PFHW 123	Human Nutrition	3 / 3

Note:

Choose the same language chosen from the Communication and Language Career Community courses.

**Program of Study Required Courses, Limited Choice – Social Sciences** - *Select two courses from two different disciplines as indicated for each major and institution. If specific courses are not indicated, select any two courses from two different disciplines. Students considering the possibility of adding World Language K-12 Certification at some point in the future are strongly encouraged to select the courses indicated for each transfer institution. These selections will satisfy requirements for admission to the Teacher Education program, required for certification, as well as satisfying Social Science General Education requirements and will prevent possible delay in degree completion.*

Course Code	Course Title	Credit / Billing Hours
ANTH 271	Medical Anthropology	3 / 3
COMM 280	Intercultural Communication	3 / 3
EDUC 204	Educational Psychology	3 / 3
EDUC 220	Introduction to Education	3 / 3
POLS 201	Intro to Political Science	3 / 3
POLS 260	Comparative Political Systems	3 / 3
POLS 270	International Relations	3 / 3
PSYC 200	Introduction to Psychology	4 / 4
SOCL 120	Introduction to Sociology	4 / 4

For future transfer to:

- Eastern Michigan University (Japanese with Language and International Trade Concentration; Spanish with Language and International Careers Concentration) choose ANTH 271 and one from POLS 201, POLS 260, or POLS 270.
- Eastern Michigan University (K-12 Certification in Japanese, or Spanish) choose EDUC 220 and PSYC 200.
- Ferris State University (Spanish for the Professions) choose POLS 270 and SOCL 120
- Grand Valley State University (K-12 Certification in Spanish) choose EDUC 220 and PSYC 200.
- Michigan State University (K-12 Certification in Japanese or Spanish) choose EDUC 204 and PSYC 200.
- Western Michigan University (Pre-teacher education for K-12 Certification in Japanese or Spanish) choose EDUC 220 and PSYC 200.

**Program of Study Limited Choice Courses** – *Select courses as indicated for each transfer institution and future minor. Either choose up to 16 credits of a second world language, or choose courses from areas like English, Communications, Business, Political Science (areas that are often paired with a World Language major.) A minimum of 2.0 is required to meet degree requirements for General Education and for all courses to transfer to other colleges (some colleges, and some programs within colleges, require a higher grade in a course.)*

Course Code	Course Title	Credit / Billing Hours
COMM 260	Nonverbal Communication	3 / 3
COMM 280	Intercultural Communication	3 / 3
EDUC 230	Intro to Special Education	3 / 3

Course Code	Course Title	Credit / Billing Hours
ENGL 122 or ENGL 132	Composition II Honors Composition II	4 / 4 4 / 4
FREN 121 or GRMN 121 or JAPN 121 or SPAN 121	Elementary French I Elementary German I Elementary Japanese I Elementary Spanish I	4 / 4 4 / 4 4 / 4 4 / 4
FREN 122 or GRMN 122 or JAPN 122 or SPAN 122	Elementary French II Elementary German II Elementary Japanese II Elementary Spanish II	4 / 4 4 / 4 4 / 4 4 / 4
JAPN 201 or SPAN 201	Intermediate Japanese I Intermediate Spanish I	4 / 4 4 / 4
JAPN 202 or SPAN 202	Intermediate Japanese II Intermediate Spanish II	4 / 4 4 / 4
PSYC 205	Human Growth and Development	3 / 3
PSYC 221	Child Psychology	3 / 3

For future transfer to:

- Central Michigan University (BA in Spanish) choose ENGL 122 or ENGL 132 and twelve credits from any Limited Choice.
- Eastern Michigan University (Japanese with Language and International Trade Concentration; Spanish with Language and International Careers Concentration) choose COMM 260 or COMM 280 and 12 credits from any combination of World Language courses.
- Eastern Michigan University (K-12 Certification in Japanese or Spanish) choose EDUC 230, PSYC 205, and 9 credits from any combination of World Language courses.
- Ferris State University (Spanish for the Professions) choose COMM 280, ENGL 122 or ENGL 124 or ENGL 127 or ENGL 132, and 9 credits from any combination of World Language courses.
- Grand Valley State University choose PSYC 221 and 9 credits from any combination of World Language courses.
- Michigan State University (Japanese or Spanish or K-12 Certification in Japanese or Spanish) choose 16 credits from any combination of World Language courses.
- Western Michigan University (Japanese or Spanish or Pre-teacher education for K-12 Certification in Japanese or Spanish) choose 16 credits from any combination of World Language courses.

### **Minimum Total Credit Hours**

60 credit hours / 60 billing hours

## Recommend Course Sequence

Semester I
ACAD 100
ENGL 121 or ENGL 131
JAPN 121 or SPAN 121 – Milestone course
LING 230
Semester II
COMM 120 or COMM 130 or ENGL 122 or ENGL 132
JAPN 122 or SPAN 122 – Milestone course
MATH 119 or MATH 120 or STAT 170
Limited Choice – Social Sciences
Semester III
ASTR 201 or BIOL 120 or BIOL 125 or BIOL 145 or CHEM 135 or GEOG 220 or GEOG 221 or ISCI 131 or PHYS 120
JAPN 201 or SPAN 201
Limited Choice – Social Sciences
Limited Choice
Semester IV
JAPN 202 or SPAN 202
PFHW 123
Limited Choice

*LCC makes every effort to limit revisions to the pathways during their effective timeframe. However, the College reserves the right to update certificate and degree title changes, and make course changes as needed, without prior notice.*



**2022 - 2023  
Tuition and Course Fee Information**

Course	Course Title	Bill Hrs.	Tuition^ (Bill Hrs x Tuition)					Registration Fee^ Per semester, not course)	Student Support^ (Bill hrs x \$15)	Course Fees	
			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
ACAD 100	First Year College Experience	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15		
ACCG 100	Practical Accounting Non-Major	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
ACCG 101	Accounting Info for Management	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
ACCG 102	Special Topics in Accounting	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15		
ACCG 160	Payroll Systems and Taxes	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30		
ACCG 161	Accounting with Quickbooks	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30		
ACCG 210	Principles of Financial Accg	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$80	\$20
ACCG 211	Principles of Managerial Accg	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$80	\$0
ACCG 220	Intermediate Accounting I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
ACCG 221	Intermediate Accounting II	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
ACCG 230	Cost/Managerial I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
ACCG 240	Federal Income Tax I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$60	\$0
ACCG 241	Federal Income Tax II	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$60	\$0
ACCG 245	Accounting Internship	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30		
ACCG 250	Advanced Accounting	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30		
ACCG 260	Accounting Systems	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
ACCG 266	Independent Study Accounting	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15		
ACCG 271	Principles of Finance	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
ACCG 280	Governmental Accounting	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30		
ACCG 290	Auditing	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
AEET 175	Special Topics/Altern Energy	0.25	\$29	\$57	\$86	\$100	\$14	\$25	\$4		

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**2022 - 2023  
Tuition and Course Fee Information**

Course	Course Title	Bill Hrs.	Tuition^ (Bill Hrs x Tuition)					Registration Fee^ Per semester, not course)	Student Support^ (Bill hrs x \$15)	Course Fees	
			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
AEET 275	Sustainable Building Design	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$145	\$0
AEET 280	Alternative Energy Practicum	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
AERO 110	USAF Heritage & Values I-Lab	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30		
AERO 111	USAF Heritage & Values I	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15		
AERO 112	USAF Heritage & Values II	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15		
AERO 113	USAF Heritage & Values II-Lab	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30		
AERO 210	USAF Team & Ldrshp Fund I-Lab	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30		
AERO 211	USAF Team & Leadership Fund I	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15		
AERO 212	USAF Team & Leadership Fund II	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15		
AERO 213	USAF Team/Leadshp Fund II-Lab	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30		
ANTH 120	Introduction to Anthropology	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
ANTH 270	Cultural Anthropology	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
ANTH 271	Medical Anthropology	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
ANTH 272	Food and Sustainability	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
ANTH 275	Physical Anthro & Archaeology	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
ANTH 280	Forensic Anthropology	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
APPR 170	Inside Wireman Apprentice 1-A	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
APPR 171	Inside Wireman Apprentice 1-B	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
APPR 172	Inside Wireman Apprentice 1-C	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
APPR 173	Inside Wireman Apprentice 2-A	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
APPR 174	Inside Wireman Apprentice 2-B	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		

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**2022 - 2023  
Tuition and Course Fee Information**

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			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
APPR 175	Inside Wireman Apprentice 2-C	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
APPR 176	Inside Wireman Apprentice 3-A	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
APPR 177	Inside Wireman Apprentice 3-B	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
APPR 178	Inside Wireman Apprentice 3-C	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
APPR 179	Inside Wireman Apprentice 4-A	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
APPR 180	Inside Wireman Apprentice 4-B	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
APPR 181	Inside Wireman Apprentice 4-C	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
APPR 182	Inside Wireman Apprentice 5-A	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
APPR 183	Inside Wireman Apprentice 5-B	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
APPR 184	Inside Wireman Apprentice 5-C	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
APPR 220	Special Topics/Electricians	0.25	\$29	\$57	\$86	\$100	\$14	\$25	\$4		
APPR 225	Fire Alarms	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
APPR 227	Supervisor Training	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
APPR 228	Conduit Fabrication	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
APPR 230	Motor Control Level I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
APPR 231	Motor Control Level II	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
ARCH 105	Architecture Appreciation	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$85	\$0
ARCH 107	Sustainable Site Design	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$75	\$0
ARCH 110	Visual Communications I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$70	\$0
ARCH 111	Arch Design Fundamentals	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$95	\$0
ARCH 113	Materials & Methods of Constr.	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$158	\$0

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Tuition and Course Fee Information**

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			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
ARCH 114	Architectural Drawing/CAD I	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$155	\$0
ARCH 118	Architecture Design/Planning	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$95	\$0
ARCH 120	Visual Communications II	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$70	\$0
ARCH 124	Architectural Drawing/CAD II	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$155	\$0
ARCH 125	Environmental Systems	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$50	\$0
ARCH 126	Architecture Model Building	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$100	\$0
ARCH 141	History of Architecture I	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$45	\$0
ARCH 142	History of Architecture II	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$45	\$0
ARCH 146	Preservation/Adaptive Use Arch	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$55	\$0
ARCH 175	Special Topics in Architecture	0.25	\$29	\$57	\$86	\$100	\$14	\$25	\$4		
ARCH 176	Special Topic/Architecture P/Z	0.25	\$29	\$57	\$86	\$100	\$14	\$25	\$4		
ARCH 218	Commercial Arch Planning	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$155	\$0
ARCH 220	Commercial Arch Drawing	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$165	\$0
ARCH 233	Revit Architecture BIM I	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$180	\$0
ARCH 235	Arch AutoCAD Independent Study	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15		
ARCH 243	Revit Architecture BIM II	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$180	\$0
ARCH 275	Sustainable Building Design	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$135	\$0
ARCH 290	Architectural Internship	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30		
ARCH 295	Arch Independent Study	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15		
ARTS 102	Design & Communication	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$20	\$0
ARTS 103	Spatial Dynamics I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$35	\$0

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## 2022 - 2023 Tuition and Course Fee Information

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			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
ARTS 105	Adobe Photoshop for Non-Majors	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$30	\$0
ARTS 131	Drawing I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$8	\$0
ARTS 132	Figure Drawing	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$53	\$0
ARTS 136	Figure Sculpture	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$150	\$0
ARTS 151	Color and Design	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$30	\$0
ARTS 153	Drawing II	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$19	\$0
ARTS 162	Type Communications	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$80	\$0
ARTS 164	Vector Drawing	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$40	\$0
ARTS 171	Adobe Photoshop	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$24	\$0
ARTS 173	Web Design I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$29	\$0
ARTS 175	Creative Design and Publishing	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$79	\$0
ARTS 179	Web Design II	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$35	\$0
ARTS 183	Design Markets and Influences	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$30	\$0
ARTS 195	Employ/Busn Issues for Artists	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15	\$3	\$0
ARTS 200	Painting I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$15	\$0
ARTS 201	Painting II	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$15	\$0
ARTS 207	Sculpture	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$100	\$0
ARTS 226	Storyboards & Animatics	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$30	\$0
ARTS 229	Web Design III	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$40	\$0
ARTS 232	Comp Graphics/2-D Animation	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$40	\$0
ARTS 234	Comp Graphics/3-D Animation I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$45	\$0

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			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
ARTS 235	Comp Graphics/3-D Animation II	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$45	\$0
ARTS 240	Art for Elementary Teachers	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$30	\$0
ARTS 251	Graphic Design Communications	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$60	\$0
ARTS 252	Graphic Design Publications	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$60	\$0
ARTS 253	Graphic Design Branding	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$60	\$0
ARTS 269	The Portfolio	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$70	\$0
ARTS 281	Art Internship	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
ASTR 201	Introductory Astronomy	5	\$570	\$1,140	\$1,710	\$1,995	\$285	\$25	\$75	\$51	\$0
AUTB 106	Refinishing I	8	\$912	\$1,824	\$2,736	\$3,192	\$456	\$25	\$120	\$540	\$0
AUTB 107	Non-Structural Repair I	8	\$912	\$1,824	\$2,736	\$3,192	\$456	\$25	\$120	\$540	\$0
AUTB 114	Collision Repr Welding/Cutting	5	\$570	\$1,140	\$1,710	\$1,995	\$285	\$25	\$75	\$490	\$0
AUTB 136	Refinishing II	8	\$912	\$1,824	\$2,736	\$3,192	\$456	\$25	\$120	\$540	\$0
AUTB 137	Non-Structural Repair II	8	\$912	\$1,824	\$2,736	\$3,192	\$456	\$25	\$120	\$540	\$0
AUTB 150	Struct Analysis/Damage Repr I	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$500	\$0
AUTM 102	Automotive/Collision Safety	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15	\$100	\$16
AUTM 111	Automotive Electrical I	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$659	\$35
AUTM 112	Battery/Start/Charge Systems	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$306	\$10
AUTM 113	Automotive Electrical II	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$649	\$35
AUTM 125	Manual Drive Train and Axles	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$684	\$35
AUTM 126	Automatic Transmissions	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$703	\$35
AUTM 131	Automotive Engine Repair	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$774	\$35

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			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
AUTM 141	Braking Systems and ABS	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$734	\$35
AUTM 151	Suspension and Steering	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$744	\$35
AUTM 161	Auto Heating/Air Conditioning	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$768	\$35
AUTM 180	Intro to Alternative Fuels	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$128	\$0
AUTM 185	Automotive Special Topics	0.25	\$29	\$57	\$86	\$100	\$14	\$25	\$4		
AUTM 211	Automotive Electrical III	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$686	\$35
AUTM 270	Gas Eng Drivability Diagnosis	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$728	\$35
AUTM 273	Lt. Diesel Drivability Diag.	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$750	\$45
AUTM 275	Ignition/Emission Sys Diag.	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$727	\$35
AUTM 280	Electric/Fuel Cell Technology	2.5	\$285	\$570	\$855	\$998	\$143	\$25	\$38	\$569	\$40
AUTM 282	Gaseous Fuels	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$534	\$40
AUTM 284	Hybrid Systems & Maintenance	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$704	\$0
AUTM 286	High Voltage Battery Tech	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$634	\$0
AUTM 288	High Voltage Management	7	\$798	\$1,596	\$2,394	\$2,793	\$399	\$25	\$105	\$669	\$0
AUTM 290	Automotive Internship	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15		
AUTM 296	Automotive Independent Study	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15		
AUTM 298	Automotive Service Laboratory	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$280	\$0
AVAF 125	Aircraft Systems I	2.75	\$314	\$627	\$941	\$1,097	\$157	\$25	\$41	\$207	\$0
AVAF 126	Aircraft Systems II	8.25	\$941	\$1,881	\$2,822	\$3,292	\$470	\$25	\$124	\$377	\$0
AVAF 127	Aircraft Systems III	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$257	\$0
AVAF 134	Aircraft Instruments	2.75	\$314	\$627	\$941	\$1,097	\$157	\$25	\$41	\$217	\$0

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**2022 - 2023  
Tuition and Course Fee Information**

Course	Course Title	Bill Hrs.	Tuition^ (Bill Hrs x Tuition)					Registration Fee^ Per semester, not course)	Student Support^ (Bill hrs x \$15)	Course Fees	
			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
AVAF 140	Aircraft Welding	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$395	\$0
AVAF 208	Aircraft Structures I	5.5	\$627	\$1,254	\$1,881	\$2,195	\$314	\$25	\$83	\$417	\$0
AVAF 209	Aircraft Structures II	5.75	\$656	\$1,311	\$1,967	\$2,294	\$328	\$25	\$86	\$384	\$0
AVAF 210	Aircraft Structures III	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$544	\$0
AVAF 211	Aircraft Electrical I	5.75	\$656	\$1,311	\$1,967	\$2,294	\$328	\$25	\$86	\$407	\$0
AVAF 212	Aircraft Electrical II	5.75	\$656	\$1,311	\$1,967	\$2,294	\$328	\$25	\$86	\$407	\$0
AVAF 246	Airframe Certification	1.5	\$171	\$342	\$513	\$599	\$86	\$25	\$23	\$164	\$0
AVAU 100	UAS Exam - Flight Orientation	2.5	\$285	\$570	\$855	\$998	\$143	\$25	\$38	\$60	\$90
AVAU 150	Unmanned Aircraft Sys. Maint.	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$300	\$0
AVAU 200	Advanced UAS Flight - Capstone	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$60	\$75
AVEL 202	Flight Line Testing	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$459	\$0
AVGM 111	Aviation General I	5	\$570	\$1,140	\$1,710	\$1,995	\$285	\$25	\$75	\$277	\$0
AVGM 112	Aviation General II	8	\$912	\$1,824	\$2,736	\$3,192	\$456	\$25	\$120	\$352	\$0
AVGM 113	Aviation General III	5	\$570	\$1,140	\$1,710	\$1,995	\$285	\$25	\$75	\$417	\$0
AVGM 114	Materials and Processes	7	\$798	\$1,596	\$2,394	\$2,793	\$399	\$25	\$105	\$447	\$0
AVPP 241	Reciprocating Engine	11.25	\$1,283	\$2,565	\$3,848	\$4,489	\$641	\$25	\$169	\$564	\$0
AVPP 251	Reciprocating Engine Systems	2.5	\$285	\$570	\$855	\$998	\$143	\$25	\$38	\$239	\$0
AVPP 253	Reciprocating Ignition Systems	6.75	\$770	\$1,539	\$2,309	\$2,693	\$385	\$25	\$101	\$489	\$0
AVPP 255	Reciprocating Induction Sys	5.5	\$627	\$1,254	\$1,881	\$2,195	\$314	\$25	\$83	\$424	\$0
AVPP 257	Aircraft Propeller Systems	5.5	\$627	\$1,254	\$1,881	\$2,195	\$314	\$25	\$83	\$324	\$0
AVPP 259	Turbine Engine I	5.5	\$627	\$1,254	\$1,881	\$2,195	\$314	\$25	\$83	\$354	\$0

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## 2022 - 2023 Tuition and Course Fee Information

Course	Course Title	Bill Hrs.	Tuition^ (Bill Hrs x Tuition)					Registration Fee^ Per semester, not course)	Student Support^ (Bill hrs x \$15)	Course Fees	
			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
AVPP 261	Turbine Engine II	5.5	\$627	\$1,254	\$1,881	\$2,195	\$314	\$25	\$83	\$454	\$0
AVPP 263	Turbine Engine Systems	2.75	\$314	\$627	\$941	\$1,097	\$157	\$25	\$41	\$234	\$0
AVPP 265	Powerplant Instruments	2.5	\$285	\$570	\$855	\$998	\$143	\$25	\$38	\$214	\$0
AVPP 267	Powerplant Certification	1.5	\$171	\$342	\$513	\$599	\$86	\$25	\$23	\$254	\$0
BIOL 120	Environmental Science	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$103	\$0
BIOL 121	Biol Foundation for Physiology	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$41	\$0
BIOL 125	Introductory Biology	5	\$570	\$1,140	\$1,710	\$1,995	\$285	\$25	\$75	\$66	\$0
BIOL 127	Cell Biology	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$107	\$0
BIOL 128	Organismal Biology	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$71	\$0
BIOL 145	Intro Anatomy and Physiology	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$41	\$0
BIOL 201	Human Anatomy	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$41	\$0
BIOL 202	Human Physiology	5	\$570	\$1,140	\$1,710	\$1,995	\$285	\$25	\$75	\$41	\$0
BIOL 203	Microbiology	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
BIOL 204	Microbiology Laboratory	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$109	\$0
BIOL 210	Natural Resource Conservation	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$53	\$0
BIOL 260	Botany	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$71	\$0
BIOL 265	Zoology	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$72	\$0
BIOL 270	Human Genetics	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
BIOL 275	Molecular Biology I	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$107	\$0
BIOL 276	Molecular Biology II	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$121	\$0
BLDT 120	Structural Framing	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$290	\$0

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## 2022 - 2023 Tuition and Course Fee Information

Course	Course Title	Bill Hrs.	Tuition^ (Bill Hrs x Tuition)					Registration Fee^ Per semester, not course)	Student Support^ (Bill hrs x \$15)	Course Fees	
			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
BLDT 130	Building Exterior Construction	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$290	\$0
BLDT 140	Building Interior Construction	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$340	\$0
BLDT 150	Intro Masonry/Concrete Const	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$550	\$0
BLDT 160	Steel Framing	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$240	\$0
BLDT 170	Special Topics in Construction	0.25	\$29	\$57	\$86	\$100	\$14	\$25	\$4		
BLDT 171	Special Topic/Construction P/Z	0.25	\$29	\$57	\$86	\$100	\$14	\$25	\$4		
BLDT 180	Builder Pre-Licensure Prep	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$25	\$0
BLDT 285	Residential Bldg Internship	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30		
BUSN 118	Introduction to Business	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$35	\$0
BUSN 150	Legal Issues: Start Small Busn	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30		
BUSN 160	Starting a Business	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
BUSN 201	International Business	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
BUSN 250	Personal Finance	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
BUSN 251	Understanding Investments	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
BUSN 260	Starting a Business	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
BUSN 285	Business Admin Internship	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30		
CHDV 100	Foundations Early Childhood Ed	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$95	\$0
CHDV 101	Child Growth/Develop: 0-12 Yrs	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$95	\$0
CHDV 111	Child Guidance/Communication	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$491	\$0
CHDV 113	Health/Safety:Early Child Prog	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$95	\$0
CHDV 122	Creativity and Play	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15	\$95	\$0

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## 2022 - 2023 Tuition and Course Fee Information

Course	Course Title	Bill Hrs.	Tuition^ (Bill Hrs x Tuition)					Registration Fee^ Per semester, not course)	Student Support^ (Bill hrs x \$15)	Course Fees	
			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
CHDV 123	Literacy and Play	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15	\$95	\$0
CHDV 124	Young Investigators: Math/Sci	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15	\$95	\$0
CHDV 126	Discovery Learning:Inf/Tod Gps	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15	\$95	\$0
CHDV 129	Caring for Youngest Learners	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$95	\$0
CHDV 189	Help Children Value Diversity	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15	\$95	\$0
CHDV 215	Infant Toddler Program Dev	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$491	\$0
CHDV 220	Preschool Curriculum Approach	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$491	\$0
CHDV 222	Caring for School-Age Children	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$95	\$0
CHDV 225	Families and Inclusion	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$95	\$0
CHDV 230	Early Childhood Program Admin	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$95	\$0
CHDV 284	Early Childhood Practicum	5	\$570	\$1,140	\$1,710	\$1,995	\$285	\$25	\$75	\$549	\$0
CHEM 120	Gen Organic & Biological Chem	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
CHEM 125	Basic Chemistry	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
CHEM 130	Biochemistry	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
CHEM 135	Chemistry in Society	5	\$570	\$1,140	\$1,710	\$1,995	\$285	\$25	\$75	\$68	\$0
CHEM 151	General Chemistry Lecture I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$75	\$0
CHEM 152	General Chemistry Lecture II	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$75	\$0
CHEM 161	General Chemistry Lab I	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$81	\$0
CHEM 162	General Chemistry Lab II	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$81	\$0
CHEM 182	Introductory Organic Chemistry	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
CHEM 192	Intro Organic Chem Lab	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$81	\$0

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## 2022 - 2023 Tuition and Course Fee Information

Course	Course Title	Bill Hrs.	Tuition^ (Bill Hrs x Tuition)					Registration Fee^ Per semester, not course)	Student Support^ (Bill hrs x \$15)	Course Fees	
			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
CHEM 251	Organic Chemistry Lecture I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
CHEM 252	Organic Chemistry Lecture II	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
CHEM 262	Quantitative Analysis	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$81	\$0
CHEM 272	Organic Chemistry Laboratory	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$121	\$0
CHSE 100	Intro to Health Professions	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$40	\$0
CHSE 108	Long-Term Care Nurse Aide	6.5	\$741	\$1,482	\$2,223	\$2,594	\$371	\$25	\$98	\$401	\$0
CHSE 114	Pathophysiology-Allied Health	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$40	\$0
CHSE 117	Health Law and Ethics	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$40	\$0
CHSE 120	Medical Terminology	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$40	\$0
CHSE 123	Medical Ins Billing/Coding I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$40	\$0
CHSE 124	Medical Ins Billing/Coding II	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$40	\$0
CHSE 125	Comp-Med Ins Billing/Coding	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$40	\$0
CHSE 127	Medical Ins Billing/Coding III	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$72	\$0
CHSE 130	Medical Ins Bill/Code Extern	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$44	\$0
CHSE 131	Electronic Hlth Records Intro	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$56	\$0
CHSE 136	EKG Technician	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$64	\$0
CHSE 143	Phlebotomy Technician	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$101	\$0
CHSE 144	Phlebotomy Externship	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$76	\$0
CHSE 150	CHSE Directed/Indep Study	0.25	\$29	\$57	\$86	\$100	\$14	\$25	\$4		
CHSE 151	Patient Care Technician	9.25	\$1,055	\$2,109	\$3,164	\$3,691	\$527	\$25	\$139	\$545	\$0
CHSE 235	Pharmacy Technician	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$80	\$0

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**2022 - 2023  
Tuition and Course Fee Information**

Course	Course Title	Bill Hrs.	Tuition^ (Bill Hrs x Tuition)					Registration Fee^ Per semester, not course)	Student Support^ (Bill hrs x \$15)	Course Fees	
			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
CHSE 236	Pharmacy Technician Externship	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$44	\$0
CITA 110	Intro to Microsoft Office	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$23	\$0
CITA 115	Microsoft PowerPoint	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$73	\$0
CITA 119	Microsoft Word	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$15	\$0
CITA 126	Microsoft Excel	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$15	\$0
CITA 133	Microsoft Access Database	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$15	\$0
CITA 140	Microsoft Outlook	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$15	\$0
CITA 219	Advanced Microsoft Word	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$15	\$0
CITA 226	Microsoft Excel-Advanced	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$15	\$0
CITA 229	Special Topics in Applications	0.25	\$29	\$57	\$86	\$100	\$14	\$25	\$4		
CITC 282	Ethical Hacking	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
CITC 285	System Defense	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
CITC 287	Cybersecurity Incident Respons	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
CITC 290	Cybersecurity Risk Management	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
CITD 120	SQL Concepts	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$20	\$0
CITD 227	Database Independent Study	0.25	\$29	\$57	\$86	\$100	\$14	\$25	\$4		
CITD 229	Special Topics in Database	0.25	\$29	\$57	\$86	\$100	\$14	\$25	\$4		
CITD 250	Database Concepts	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$20	\$0
CITF 108	Microsoft Windows	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$14	\$0
CITF1 10	Intro Computer Info Systems	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$10	\$0
CITF 120	Operating Systems Concepts	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$15	\$0

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**2022 - 2023  
Tuition and Course Fee Information**

Course	Course Title	Bill Hrs.	Tuition^ (Bill Hrs x Tuition)					Registration Fee^ Per semester, not course)	Student Support^ (Bill hrs x \$15)	Course Fees	
			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
CITF 140	Information Technology Ethics	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$20	\$0
CITF 227	Computer Foundations Ind Study	0.25	\$29	\$57	\$86	\$100	\$14	\$25	\$4		
CITF 229	Special Topics in Foundations	0.25	\$29	\$57	\$86	\$100	\$14	\$25	\$4		
CITF 240	IT Project Management	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$17	\$0
CITF 260	Systems Analysis and Design	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$22	\$0
CITN 115	IoT & Automation Fundamentals	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$115	\$0
CITN 120	Networking Concepts	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$15	\$0
CITN 220	Introduction to Networks	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$140	\$0
CITN2 22	Wireless Networking & Security	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$45	\$0
CITN 225	Switch Route Wireless Essentls	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$60	\$0
CITN 227	Networking Independent Study	0.25	\$29	\$57	\$86	\$100	\$14	\$25	\$4		
CITN 229	Special Topics in Networking	0.25	\$29	\$57	\$86	\$100	\$14	\$25	\$4		
CITN 230	Linux/UNIX Operating System	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$30	\$0
CITN 239	Special Topics/Networking P/Z	0.25	\$29	\$57	\$86	\$100	\$14	\$25	\$4		
CITN 240	Ent Networking Sec Automation	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$425	\$0
CITN 244	Securing Networking Devices	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$125	\$0
CITN 250	Microsoft Network Server	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$73	\$150
CITN 280	IT Security Foundations	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$60	\$0
CITO 100	Cloud Foundations with AWS	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
CITO 120	Cloud Architecting with AWS	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
CITP 110	Intro to Programming - Python	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$22	\$0

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## 2022 - 2023 Tuition and Course Fee Information

Course	Course Title	Bill Hrs.	Tuition^ (Bill Hrs x Tuition)					Registration Fee^ Per semester, not course)	Student Support^ (Bill hrs x \$15)	Course Fees	
			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
CITP 130	Intro to Mobile App Devel	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$20	\$0
CITP 140	Software Testing	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$20	\$0
CITP 150	Intro to VB.NET Programming	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$22	\$0
CITP 180	Intro to C#.NET Programming	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$22	\$0
CITP 190	Intro to Programming in JAVA	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$22	\$0
CITP 220	Game Design & Development	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$20	\$0
CITP 227	Programming Independent Study	0.25	\$29	\$57	\$86	\$100	\$14	\$25	\$4		
CITP 229	Special Topics in Programming	0.25	\$29	\$57	\$86	\$100	\$14	\$25	\$4		
CITP 230	Mobile App Devel for Android	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$20	\$0
CITP 235	Mobile App Devel for Apple	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$20	\$0
CITP 240	Advanced Software Testing	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$20	\$0
CITP 250	Advanced VB.NET Programming	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$22	\$0
CITP 280	Advanced C#.NET Programming	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$22	\$0
CITP 290	Adv JAVA Programming for Busn	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$25	\$0
CITP 295	Programming Internship	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
CITS 110	Helpdesk Support Specialist	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
CITS 125	Computer Support: A+ Cert Prep	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$262	\$0
CITS 170	Basic Electronic for PC Repair	7	\$798	\$1,596	\$2,394	\$2,793	\$399	\$25	\$105	\$135	\$0
CITS 176	Computer Troubleshooting	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$40	\$0
CITS 225	Networking for PC Technicians	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$168	\$0
CITS 227	Comp Support Indepen Study	0.25	\$29	\$57	\$86	\$100	\$14	\$25	\$4		

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**2022 - 2023  
Tuition and Course Fee Information**

Course	Course Title	Bill Hrs.	Tuition^ (Bill Hrs x Tuition)					Registration Fee^ Per semester, not course)	Student Support^ (Bill hrs x \$15)	Course Fees	
			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
CITS 229	Special Topics/Support	0.25	\$29	\$57	\$86	\$100	\$14	\$25	\$4		
CITS 230	Computer Virtualization	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$15	\$0
CITS 285	IT Professional Internship	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30		
CITW 150	Internet Literacy	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$12	\$0
CITW 160	Web Development HTML & CSS	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$15	\$0
CITW 165	Web Development JavaScript	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$15	\$0
CITW 175	Web Site Management	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$15	\$0
CITW 180	Web Development ASP.NET	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$20	\$0
CITW 185	Web Development PHP & MySQL	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$20	\$0
CITW 227	Web Independent Study	0.25	\$29	\$57	\$86	\$100	\$14	\$25	\$4		
CITW 229	Special Topics/Web	0.25	\$29	\$57	\$86	\$100	\$14	\$25	\$4		
CIVL 101	Civil Drafting	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$75	\$0
CIVL 110	Density Certification	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30		
CIVL 120	Surveying	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$135	\$0
CIVL 124	Route Survey	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$135	\$0
CIVL 131	Traffic Technology	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$55	\$0
CIVL 135	Soils Technology	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$60	\$0
CIVL 141	Site Inspection	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$30	\$0
CIVL 143	Site Dsgn & Layout/Civil Techn	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$65	\$0
CIVL 170	Special Topics/Civil Tech	0.25	\$29	\$57	\$86	\$100	\$14	\$25	\$4		
CIVL 171	Special Topics/Civil Tech P/Z	0.25	\$29	\$57	\$86	\$100	\$14	\$25	\$4		

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**2022 - 2023  
Tuition and Course Fee Information**

Course	Course Title	Bill Hrs.	Tuition^ (Bill Hrs x Tuition)					Registration Fee^ Per semester, not course)	Student Support^ (Bill hrs x \$15)	Course Fees	
			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
CIVL 225	Civil Tech Independent Study	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15		
CIVL 241	Statics/Strength of Materials	5	\$570	\$1,140	\$1,710	\$1,995	\$285	\$25	\$75	\$25	\$0
CIVL 290	Civil Technology Internship	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30		
CJUS 101	Intro to Criminal Justice	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
CJUS 102	Crime Causes and Conditions	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
CJUS 103	Criminal Law	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
CJUS 104	Theory of Patrol	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
CJUS 106	Intro to Juvenile Justice	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
CJUS 126	Juvenile Offenders/Families	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
CJUS 130	Local Detention	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
CJUS 131	Introduction to Corrections	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
CJUS 133	Juvenile Residential Services	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
CJUS 134	Probation and Parole	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
CJUS 135	Legal Issues in Corrections	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
CJUS 201	Criminal Justice Org/Admin	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
CJUS 203	Criminal Procedure	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
CJUS 204	Criminal Investigation	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
CJUS 205	Policing into the 21st Century	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
CJUS 207	Digital Evidence/1st Responder	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
CJUS 210	Intro to Forensic Science	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$25	\$0
CJUS 242	Unarmed Defense	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$39	\$0

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**2022 - 2023  
Tuition and Course Fee Information**

Course	Course Title	Bill Hrs.	Tuition^ (Bill Hrs x Tuition)					Registration Fee^ Per semester, not course)	Student Support^ (Bill hrs x \$15)	Course Fees	
			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
CJUS 245	Report Writing/Crim Justice	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
CJUS 247	Juvenile Justice: Special Pops	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
CJUS 250	Correctional Institutions	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
CJUS 251	Correctional Clients	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
CJUS 255	Human Relations/Crim Justice	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
CJUS 270	Police Academy I	14	\$1,596	\$3,192	\$4,788	\$5,586	\$798	\$25	\$210	\$405	\$400
CJUS 271	Police Academy II	21	\$2,394	\$4,788	\$7,182	\$8,379	\$1,197	\$25	\$315	\$3,020	\$0
CJUS 272	Local Corrections Academy I	5	\$570	\$1,140	\$1,710	\$1,995	\$285	\$25	\$75	\$60	\$0
CJUS 273	Local Corrections Academy II	5	\$570	\$1,140	\$1,710	\$1,995	\$285	\$25	\$75	\$240	\$0
CJUS 281	Directed Independent Study	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15		
CJUS 285	Law Enforcement Internship	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30		
CJUS 286	Juvenile Internship I	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
CJUS 287	Juvenile Internship II	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
CJUS 288	Corrections Internship	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30		
CJUS 295	Criminal Justice Special Topic	0.25	\$29	\$57	\$86	\$100	\$14	\$25	\$4		
COMM 110	Communication in the Workplace	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$0	\$35
COMM 120	Dynamics of Communication	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
COMM 130	Fundamentals Public Speaking	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
COMM 200	Small Group Communication	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
COMM 240	Interpersonal Communication	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
COMM 260	Nonverbal Communication	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		

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**2022 - 2023  
Tuition and Course Fee Information**

Course	Course Title	Bill Hrs.	Tuition^ (Bill Hrs x Tuition)					Registration Fee^ Per semester, not course)	Student Support^ (Bill hrs x \$15)	Course Fees	
			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
COMM 270	Mass Communication	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
COMM 280	Intercultural Communication	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
COMM 295	Independent Study in COMM	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15		
CPAR 250	Community Paramedicine I	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$150	\$0
CPAR 251	Chronic Care in the Community	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$725	\$0
CPAR 252	Community Paramedicine II	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$150	\$0
CPAR 270	Community Paramedic Clinical	6.5	\$741	\$1,482	\$2,223	\$2,594	\$371	\$25	\$98	\$899	\$0
CPSC 101	Intro to Computer Science	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
CPSC 131	Numerical Methods and MATLAB	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$20	\$0
CPSC 230	Algorithms and Computing w/C++	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$20	\$0
CPSC 231	Computing and Data Structures	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$20	\$0
CPSC 260	Computer Science Structures	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
DANC 100	Intro to Dance Techniques	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
DANC 101	Beginning Ballet	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
DANC 102	Beginning Modern	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
DANC 103	Beginning Jazz	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
DANC 104	Beginning Tap	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
DANC 161	Dance Repertory	0.5	\$57	\$114	\$171	\$200	\$29	\$25	\$8		
DANC 201	Intermediate Ballet	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
DANC 202	Intermediate Modern	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
DANC 203	Intermediate Jazz	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		

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## 2022 - 2023 Tuition and Course Fee Information

Course	Course Title	Bill Hrs.	Tuition^ (Bill Hrs x Tuition)					Registration Fee^ Per semester, not course)	Student Support^ (Bill hrs x \$15)	Course Fees	
			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
DANC 204	Intermediate Tap	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
DANC 261	Dance Repertory	0.5	\$57	\$114	\$171	\$200	\$29	\$25	\$8		
DANC 290	Dance Studio Internship	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30		
DCTM 100	Intro to the Built Environment	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$215	\$0
DCTM 101	Drafting/Intro to CAD	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$265	\$0
DCTM 102	Industrial/Construction Safety	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$83	\$0
DCTM 103	Codes and Specifications	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$140	\$0
DCTM 150	Civil Construction Materials	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$115	\$0
DCTM 200	Construction Management I	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$230	\$0
DCTM 201	Construction Management II	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$230	\$0
DCTM 210	MEP Equipment for Buildings	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
DCTM 220	BIM for Construction	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$340	\$0
DENT 140	Oral Histology & Embryology	1.5	\$171	\$342	\$513	\$599	\$86	\$25	\$23	\$190	\$0
DENT 142	PreClinical Dental Hygiene	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$190	\$0
DENT 144	PreClinic Dental Hyg Practice	8	\$912	\$1,824	\$2,736	\$3,192	\$456	\$25	\$120	\$1,874	\$1,476
DENT 146	Head, Neck & Oral Anatomy	5.5	\$627	\$1,254	\$1,881	\$2,195	\$314	\$25	\$83	\$215	\$0
DENT 148	Dental Radiography	5	\$570	\$1,140	\$1,710	\$1,995	\$285	\$25	\$75	\$490	\$0
DENT 152	Dental Hygiene I	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$212	\$0
DENT 154	Clinical Dental Hygiene I	8	\$912	\$1,824	\$2,736	\$3,192	\$456	\$25	\$120	\$2,564	\$0
DENT 156	Nutrition	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$190	\$0
DENT 158	Dental Pharmacology	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$190	\$0

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**2022 - 2023  
Tuition and Course Fee Information**

Course	Course Title	Bill Hrs.	Tuition^ (Bill Hrs x Tuition)					Registration Fee^ Per semester, not course)	Student Support^ (Bill hrs x \$15)	Course Fees	
			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
DENT 161	Principles of Periodontics	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$190	\$0
DENT 174	Clinical Dental Hygiene II	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$1,673	\$0
DENT 176	Dental Materials & Methods	5	\$570	\$1,140	\$1,710	\$1,995	\$285	\$25	\$75	\$586	\$0
DENT 240	Anxiety & Pain Control Mgmt	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$585	\$0
DENT 242	Dental Hygiene III	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$190	\$0
DENT 244	Clinical Dental Hygiene III	12	\$1,368	\$2,736	\$4,104	\$4,788	\$684	\$25	\$180	\$3,701	\$450
DENT 247	Oral Pathology	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$190	\$0
DENT 248	Dental Public Health & Educ	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$220	\$0
DENT 252	Dental Hygiene IV	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$190	\$0
DENT 254	Clinical Dental Hygiene IV	12	\$1,368	\$2,736	\$4,104	\$4,788	\$684	\$25	\$180	\$3,726	\$0
DENT 256	Community Oral Health	1.5	\$171	\$342	\$513	\$599	\$86	\$25	\$23	\$185	\$0
DENT 270	Dental Hygiene Board Review	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$240	\$0
DMAC 120	Digital Audio Production I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$95	\$0
DMAC 121	Digital Audio Production II	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$90	\$0
DMAC 122	Audio Recording I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$100	\$0
DMAC 130	Digital Video Production	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$95	\$0
DMAC 131	Digital Cinematography I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$95	\$0
DMAC 132	Video Post-Production I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$95	\$0
DMAC 140	Pre-Production Design	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$35	\$0
DMAC 141	Ethics and Impact of the Media	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$10	\$0
DMAC 222	Audio Recording II	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$100	\$0

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**2022 - 2023**  
**Tuition and Course Fee Information**

Course	Course Title	Bill Hrs.	Tuition^ (Bill Hrs x Tuition)					Registration Fee^ Per semester, not course)	Student Support^ (Bill hrs x \$15)	Course Fees	
			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
DMAC 231	Digital Cinematography II	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$120	\$0
DMAC 232	Video Post-Production II	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$95	\$0
DMAC 234	Studio Production Techniques	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$55	\$0
DMAC 240	Employment Issues in Media	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$10	\$0
DMAC 244	Media/Cinema Producer	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$75	\$0
DMAC 245	Workshop: Audio	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$75	\$0
DMAC 246	Workshop: Video	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$70	\$0
DMAC 260	World Cinema	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$25	\$0
DMAC 295	Media/Cinema Portfolio	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30		
DMA C296	Media/Cinema Internship	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
DTSC 200	Principles of Data Science	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
DTSC 201	Data Science with Python	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
ECON 120	Power, Authority and Exchange	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
ECON 201	Principles of Economics-Micro	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
ECON 202	Principles of Economics-Macro	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
ECON 213	U.S. Economic/Business History	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
ECON 260	Comparative Economic Systems	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
EDUC 204	Educational Psychology	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
EDUC 220	Introduction to Education	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
EDUC 226	Reading in Elementary School	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
EDUC 228	Technology in Education	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		

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**2022 - 2023  
Tuition and Course Fee Information**

Course	Course Title	Bill Hrs.	Tuition^ (Bill Hrs x Tuition)					Registration Fee^ Per semester, not course)	Student Support^ (Bill hrs x \$15)	Course Fees	
			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
EDUC 230	Intro to Special Education	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
EDUC 280	Teacher Education Practicum	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
ELTA 105	Elect. Industry Orientation	0.5	\$57	\$114	\$171	\$200	\$29	\$25	\$8	\$10	\$0
ELTA 106	Basic Electrical Calculations	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$10	\$0
ELTA 120	AC Fundamentals - Electrician	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$57	\$8
ELTA 155	Transformer Fundamentals	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$57	\$8
ELTA 160	PLC Overview for Electricians	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$83	\$7
ELTA 180	Introduction to Fire Alarms	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15	\$45	\$0
ELTE 104	Employee Worksite Basics	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15	\$5	\$0
ELTE 108	Practical Electricity I	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$74	\$6
ELTE 109	Practical Electricity II	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$64	\$6
ELTE 110	Practical Electricity	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$118	\$12
ELTE 111	Intro to Industrial Automation	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$115	\$15
ELTE 112	Basic Wiring Installation	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$70	\$5
ELTE 121	Electrical Mathematics	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$95	\$0
ELTE 122	Industrial Control Electronics	7	\$798	\$1,596	\$2,394	\$2,793	\$399	\$25	\$105	\$102	\$0
ELTE 123	Motors and Transformers	7	\$798	\$1,596	\$2,394	\$2,793	\$399	\$25	\$105	\$100	\$10
ELTE 129	Machine Controls I - A	2.5	\$285	\$570	\$855	\$998	\$143	\$25	\$38	\$48	\$0
ELTE 130	Machine Controls I - B	2.5	\$285	\$570	\$855	\$998	\$143	\$25	\$38	\$72	\$0
ELTE 131	Machine Controls I	5	\$570	\$1,140	\$1,710	\$1,995	\$285	\$25	\$75	\$115	\$0
ELTE 132	Control Panel Assembly	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$480	\$0

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**2022 - 2023  
Tuition and Course Fee Information**

Course	Course Title	Bill Hrs.	Tuition^ (Bill Hrs x Tuition)					Registration Fee^ Per semester, not course)	Student Support^ (Bill hrs x \$15)	Course Fees	
			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
ELTE 136	Digital Basics	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$107	\$0
ELTE 141	National Electrical Code I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$30	\$0
ELTE 142	National Electrical Code II	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$30	\$0
ELTE 145	Electrical Prints for Building	5	\$570	\$1,140	\$1,710	\$1,995	\$285	\$25	\$75	\$90	\$10
ELTE 147	National Electric Code Update	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15	\$10	\$0
ELTE 150	Electric Motor Maintenance	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$55	\$0
ELTE 154	Utility Prints and Diagrams	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$30	\$0
ELTE 156	Lineworker/Utility Rigging	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$90	\$10
ELTE 170	Special Topics/Electrical Tech	0.25	\$29	\$57	\$86	\$100	\$14	\$25	\$4		
ELTE 171	Special Topics/Electrical P/Z	0.25	\$29	\$57	\$86	\$100	\$14	\$25	\$4		
ELTE 173	Energy Industry Fundamentals I	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$20	\$0
ELTE 174	Energy Industry Fundamental II	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$20	\$0
ELTE 181	Pole Climbing I	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15	\$125	\$0
ELTE 182	Pole Climbing II	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15	\$130	\$0
ELTE 185	Pole Climbing Practice I	0.5	\$57	\$114	\$171	\$200	\$29	\$25	\$8	\$105	\$0
ELTE 186	Pole Climbing Practice II	0.5	\$57	\$114	\$171	\$200	\$29	\$25	\$8	\$85	\$0
ELTE 187	Pole Climbing Practice III	0.5	\$57	\$114	\$171	\$200	\$29	\$25	\$8	\$85	\$0
ELTE 188	Pole Climbing Practice IV	0.5	\$57	\$114	\$171	\$200	\$29	\$25	\$8	\$85	\$0
ELTE 232	Machine Controls II	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$120	\$10
ELTE 251	Energy Generation & Control I	5	\$570	\$1,140	\$1,710	\$1,995	\$285	\$25	\$75	\$90	\$0
ELTE 252	Energy Generation & Control II	5	\$570	\$1,140	\$1,710	\$1,995	\$285	\$25	\$75	\$90	\$0

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## 2022 - 2023 Tuition and Course Fee Information

Course	Course Title	Bill Hrs.	Tuition^ (Bill Hrs x Tuition)					Registration Fee^ Per semester, not course)	Student Support^ (Bill hrs x \$15)	Course Fees	
			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
ELTE 255	Power Instrumentation	5	\$570	\$1,140	\$1,710	\$1,995	\$285	\$25	\$75	\$90	\$0
ELTE 260	Programmable Controllers I	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$220	\$5
ELTE 261	Programmable Controllers II	8	\$912	\$1,824	\$2,736	\$3,192	\$456	\$25	\$120	\$220	\$5
ELTE 262	Programmable Controllers III	8	\$912	\$1,824	\$2,736	\$3,192	\$456	\$25	\$120	\$165	\$0
ELTE 270	Lineworker Fundamentals	1.5	\$171	\$342	\$513	\$599	\$86	\$25	\$23	\$60	\$0
ELTE 272	Electric Basic Line Climbing	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$405	\$60
ELTE 274	Ground/Utility Worker	9	\$1,026	\$2,052	\$3,078	\$3,591	\$513	\$25	\$135	\$690	\$0
ELTE 276	Energized Secondary Worker	8	\$912	\$1,824	\$2,736	\$3,192	\$456	\$25	\$120	\$595	\$0
ELTE 290	Electrical Internship	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30		
ELTE 291	Electrical Project Lab	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15		
EMTA 100	Emergency Medical Responder	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$606	\$35
EMTA 101	Basic EMT I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$184	\$0
EMTA 102	Basic EMT II	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$454	\$35
EMTA 103	Basic EMT III	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$184	\$0
EMTA 104	Basic EMT IV	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$512	\$0
EMTA 112	Basic EMT Clinical	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$1,008	\$0
EMTA 222	EMS Instructor-Coordinator	9	\$1,026	\$2,052	\$3,078	\$3,591	\$513	\$25	\$135	\$150	\$0
EMTA 224	EMS Instr-Coord Student Teach	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30		
ENGL 098	Integrated Reading Writing I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
ENGL 099	Integrated Reading Writing II	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
ENGL 118	Personal Writing	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		

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## 2022 - 2023 Tuition and Course Fee Information

Course	Course Title	Bill Hrs.	Tuition^ (Bill Hrs x Tuition)					Registration Fee^ Per semester, not course)	Student Support^ (Bill hrs x \$15)	Course Fees	
			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
ENGL 121	Composition I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
ENGL 122	Composition II	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
ENGL 124	Technical Writing	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
ENGL 127	Business Writing	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
ENGL 131	Honors Composition I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
ENGL 132	Honors Composition II	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
ENGL 200	Introduction to Literature	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
ENGL 201	Introduction to Poetry	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
ENGL 202	World Drama	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
ENGL 208	Children's Literature	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
ENGL 211	World Literature I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
ENGL 212	World Literature II	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
ENGL 220	Science Fiction	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
ENGL 240	The Film as Art	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
ENGL 245	Popular Culture and Mass Media	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
ENGL 255	American Lit to 1865	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
ENGL 256	American Lit 1865 to Present	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
ENGL 260	African-American Literature	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
ENGL 261	Creative Writing I	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
ENGL 266	British Lit to 1800	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
ENGL 267	British Lit 1800 to Present	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		

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**2022 - 2023  
Tuition and Course Fee Information**

Course	Course Title	Bill Hrs.	Tuition^ (Bill Hrs x Tuition)					Registration Fee^ Per semester, not course)	Student Support^ (Bill hrs x \$15)	Course Fees	
			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
ENGL 270	Gender and Literature	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
ENGL 271	Creative Writing II	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
ENGL 278	Writing the Novel	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
ENGL 279	Prose Style	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
ENGL 290	Shakespeare	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
ENGL 295	Independent Study in English	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15		
ENVR 121	Environmental Rules and Regs	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
ENVR 122	Enviro Sampl & Instrumentation	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$51	\$0
ENVR 131	Industrial Process Safety	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$51	\$0
ESOL 098	ESL Combined Skills Level 4	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90		
ESOL 099	ESL Combined Skills Level 5	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
FIRE 100	Principles Emergency Services	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
FIRE 101	MI F.F.T.C. Basic Fire Level I	14	\$1,596	\$3,192	\$4,788	\$5,586	\$798	\$25	\$210	\$1,745	\$0
FIRE 102	MI F.F.T.C. Basic Fire Lev II	8	\$912	\$1,824	\$2,736	\$3,192	\$456	\$25	\$120	\$2,255	\$0
FIRE 104	Fire Behavior & Combustion	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
FIRE 105	Fire/Hydraulics/Water Supply	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
FIRE 110	Fire Prevention	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
FIRE 112	Occup Health & Safety/Fire Svc	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
FIRE 115	Bldg Construction/Fire Protect	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
FIRE 122	Hazardous Materials Chemistry	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
FIRE 125	Fire Protection Systems	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		

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**2022 - 2023**  
**Tuition and Course Fee Information**

Course	Course Title	Bill Hrs.	Tuition^ (Bill Hrs x Tuition)					Registration Fee^ Per semester, not course)	Student Support^ (Bill hrs x \$15)	Course Fees	
			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
FIRE 150	Strategy and Tactics	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
FIRE 210	Fire Investigation I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
FIRE 215	Fire Investigation II	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
FIRE 220	Hazardous Materials/Fire Svc	5	\$570	\$1,140	\$1,710	\$1,995	\$285	\$25	\$75	\$10	\$0
FIRE 245	Fire Officer I & II	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
FIRE 250	Fire Administration I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
FIRE 255	Fire Officer III & IV	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
FIRE 260	Legal Aspects/Fire Service	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
FIRE 265	Fire Service Blue Card	4.5	\$513	\$1,026	\$1,539	\$1,796	\$257	\$25	\$68	\$100	\$0
FIRE 270	Fire Service Career Developmnt	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
FIRE 280	Fire Directed Indep Study	0.5	\$57	\$114	\$171	\$200	\$29	\$25	\$8		
FIRE 285	Fire Science Special Topics	0.25	\$29	\$57	\$86	\$100	\$14	\$25	\$4		
FIRE 295	Fire Science Special Topics	0.25	\$29	\$57	\$86	\$100	\$14	\$25	\$4		
FREN 121	Elementary French I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
FREN 122	Elementary French II	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
FREN 201	Intermediate French I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
FREN 202	Intermediate French II	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
GEOG 120	Introduction to Geography	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$6	\$0
GEOG 200	World Regional Geography	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$20	\$0
GEOG 202	Geography of North America	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$20	\$0
GEOG 220	Weather, Forecasting & Climate	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$20	\$0

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**2022 - 2023  
Tuition and Course Fee Information**

Course	Course Title	Bill Hrs.	Tuition^ (Bill Hrs x Tuition)					Registration Fee^ Per semester, not course)	Student Support^ (Bill hrs x \$15)	Course Fees	
			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
GEOG 221	Physical Geography	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$41	\$0
GEOL 221	Physical Geology	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$30	\$0
GEOL 222	Historical Geology	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$45	\$0
GEOL 230	Environmental Geology	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$45	\$0
GERO 100	Introduction to Human Aging	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$9	\$0
GRMN121	Elementary German I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
GRMN122	Elementary German II	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
GRMN201	Intermediate German I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
GRMN202	Intermediate German II	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
GSCI100	Intro to Geospatial Tech	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$40	\$0
GSCI 110	Beginning ArcGIS	5	\$570	\$1,140	\$1,710	\$1,995	\$285	\$25	\$75	\$70	\$0
GSCI 120	Advanced ArcGIS	5	\$570	\$1,140	\$1,710	\$1,995	\$285	\$25	\$75	\$90	\$0
GSCI 150	UAS Flight for Industry	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$120	\$0
GSCI 175	Special Topics/GIS Technology	0.25	\$29	\$57	\$86	\$100	\$14	\$25	\$4		
GSCI 210	Global Positioning Systems	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$130	\$0
GSCI 240	Cartography in GIS	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$40	\$0
GSCI 241	Remote Sens/AirPhoto Interpret	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$40	\$0
GSCI 250	UAS Map Analysis	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$120	\$0
GSCI 260	Automating Workflows in GIS	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$90	\$0
GSCI 264	Web GIS	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$90	\$0
GSCI 271	Parcel Mapping	5	\$570	\$1,140	\$1,710	\$1,995	\$285	\$25	\$75	\$65	\$0

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Tuition and Course Fee Information**

Course	Course Title	Bill Hrs.	Tuition^ (Bill Hrs x Tuition)					Registration Fee^ Per semester, not course)	Student Support^ (Bill hrs x \$15)	Course Fees	
			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
GSCI 275	GIS Proj Mgmt & Implementation	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$125	\$0
GSCI 290	GIS Internship	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30		
HERT 110	Equipment Introduction	5	\$570	\$1,140	\$1,710	\$1,995	\$285	\$25	\$75	\$1,000	\$0
HERT 120	Heavy Engine Rebuild	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$1,740	\$0
HERT 125	Heavy Equipment Electronics	5	\$570	\$1,140	\$1,710	\$1,995	\$285	\$25	\$75	\$1,225	\$0
HERT 130	Equipment Hydraulics	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$1,374	\$0
HERT 135	Diesel Fuel Systems	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$1,024	\$0
HERT 140	Equipment Powertrain	5	\$570	\$1,140	\$1,710	\$1,995	\$285	\$25	\$75	\$1,357	\$0
HERT 145	Equipment Service Writing	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$920	\$0
HERT 160	Equipment HVAC/Cab Controls	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$743	\$35
HERT 210	Heavy Equipment Internship	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
HIST 150	African-American History	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
HIST 210	Historical Methods and Skills	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
HIST 211	U.S. History to 1877	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
HIST 212	U.S. History: 1877 to Present	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
HIST 214	African History	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
HIST 215	World History to 1500	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
HIST 216	World History since 1500	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
HIST 220	Michigan History	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
HIST 235	Modern European History	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
HIST 240	Latin American History	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		

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**2022 - 2023  
Tuition and Course Fee Information**

Course	Course Title	Bill Hrs.	Tuition^ (Bill Hrs x Tuition)					Registration Fee^ Per semester, not course)	Student Support^ (Bill hrs x \$15)	Course Fees	
			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
HIST 250	History of Modern Asia	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
HIST 295	Independent Study in History	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15		
HONR 151	Honors Colloquy I	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15		
HONR 152	Honors Colloquy II	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15		
HONR 155	Community Service Practicum I	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15		
HONR 156	Community Service Practicum II	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15		
HONR 295	Honors Independent Study	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15		
HUMS 120	Masterpieces of Art & Music	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
HUMS 140	Art of Being Human	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
HUMS 160	Mythology	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
HUMS 211	Art History to the Renaissance	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
HUMS 212	Art Hist from the Renaissance	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
HUMS 213	World Civilizations to 1600	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
HUMS 214	World Civilizations from 1600	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
HUMS 215	American Cultural Experience	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
HUMS 216	Contemporary Art	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
HUMS 260	Ancient Egypt	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
HUMS 295	Ind Study in Humanities	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15		
HUSE 100	Introduction to Human Services	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$4	\$0
HUSE 105	Personal Dynamics/Interviewing	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$4	\$0
HUSE 110	Child Abuse and Neglect	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$4	\$0

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**2022 - 2023  
Tuition and Course Fee Information**

Course	Course Title	Bill Hrs.	Tuition^ (Bill Hrs x Tuition)					Registration Fee^ Per semester, not course)	Student Support^ (Bill hrs x \$15)	Course Fees	
			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
HUSE 242	The Family: Addiction/Violence	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$5	\$0
HUSE 282	Human Services Practicum I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$60	\$0
HUSE 284	Human Services Practicum II	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$73	\$0
HVAC 100	Fundamentals of HVAC	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$118	\$4
HVAC 110	Applied Electricity I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$139	\$4
HVAC 111	Applied Electricity II	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$133	\$4
HVAC 113	HVAC/R Piping	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$170	\$5
HVAC 115	Sheet Metal Fab & Installation	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$142	\$4
HVAC 120	Heating I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$174	\$4
HVAC 130	Air Conditioning I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$213	\$34
HVAC 140	Residential Energy	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$55	\$15
HVAC 170	Special Topics in HVAC/R	0.25	\$29	\$57	\$86	\$100	\$14	\$25	\$4		
HVAC 201	Mechanical Code	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$90	\$6
HVAC 210	Solar Energy Technologies	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$135	\$0
HVAC 220	Heating II	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$183	\$4
HVAC 221	Introduction to Hydronics	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$163	\$4
HVAC 230	Air Conditioning II	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$208	\$4
HVAC 231	Heat Pump	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$183	\$4
HVAC 240	Refrigeration I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$223	\$4
HVAC 241	Refrigeration II	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$208	\$4
HVAC 251	Fund of Direct Digital Control	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$213	\$5

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## 2022 - 2023 Tuition and Course Fee Information

Course	Course Title	Bill Hrs.	Tuition^ (Bill Hrs x Tuition)					Registration Fee^ Per semester, not course)	Student Support^ (Bill hrs x \$15)	Course Fees	
			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
HVAC 260	Building Commissioning	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$50	\$0
HVAC 280	EPA 608 Certification Review	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15	\$65	\$0
HVAC 290	HVAC Internship	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30		
IDMS 169	Intro to Sonographic Scanning	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$539	\$109
IDMS 200	Sonographic Introduction	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$159	\$0
IDMS 201	General Sonography I: Abdomen	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$159	\$109
IDMS 202	OB/GYN Sonography I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$159	\$109
IDMS 234	Sonographic Physics	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$159	\$0
IDMS 245	Sonographic Instrumentation	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$159	\$0
IDMS 250	Vascular Technology I	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$169	\$275
IDMS 251	Vascular Technology II	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$159	\$0
IDMS 255	Vascular Scan Lab I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$544	\$275
IDMS 256	Vascular Scan Lab II	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$534	\$0
IDMS 265	General Sonography II	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$159	\$0
IDMS 266	OB/GYN Sonography II	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$159	\$0
IDMS 270	Sonographic Positioning I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$827	\$109
IDMS 271	Sonographic Positioning II	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$588	\$109
IDMS 280	Clinical Experience I	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$930	\$100
IDMS 281	Clinical Experience II	7	\$798	\$1,596	\$2,394	\$2,793	\$399	\$25	\$105	\$863	\$0
IDMS 282	Clinical Experience III	8	\$912	\$1,824	\$2,736	\$3,192	\$456	\$25	\$120	\$863	\$0
INSU 105	Prin of Prop & Liability Ins	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		

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**2022 - 2023  
Tuition and Course Fee Information**

Course	Course Title	Bill Hrs.	Tuition^ (Bill Hrs x Tuition)					Registration Fee^ Per semester, not course)	Student Support^ (Bill hrs x \$15)	Course Fees	
			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
INSU 110	Personal Insurance	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
INSU 125	Commercial Insurance	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
INSU 175	Intro to Financial Advising	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
INSU 250	Claims and Underwriting	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
INSU 260	Life/Health Insur Licensing	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$0	\$30
INSU 270	Property/Casualty Insur Licens	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$0	\$30
INSU 285	Insurance Agency Operations	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
INSU 295	Insurance Internship	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
IRXT 105	Introduction to Imaging	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$329	\$85
IRXT 111	Radiographic Positioning I	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$604	\$5
IRXT 112	Radiographic Positioning II	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$604	\$5
IRXT 116	Patient Care in Radiography	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$327	\$40
IRXT 140	Image Analysis	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$377	\$0
IRXT 144	Digital Imaging and Exposure	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$327	\$0
IRXT 170	Clinical Practice I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$422	\$0
IRXT 172	Clinical Practice II	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$347	\$0
IRXT 200	Intro to Radiologic Pathology	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$327	\$0
IRXT 214	Comprehensive Experience I	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$428	\$0
IRXT 215	Comprehensive Experience II	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$347	\$0
IRXT 222	Radiobiology and Protection	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$327	\$0
IRXT 224	Radiologic Physics	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$327	\$0

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## 2022 - 2023 Tuition and Course Fee Information

Course	Course Title	Bill Hrs.	Tuition^ (Bill Hrs x Tuition)					Registration Fee^ Per semester, not course)	Student Support^ (Bill hrs x \$15)	Course Fees	
			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
IRXT 240	Sectional Anatomy	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30		
IRXT 280	Radiologic Tech Board Review	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$327	\$180
ISCI 121	Integrated Sci for Education I	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$51	\$0
ISCI 122	Integrate Sci for Education II	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$51	\$0
ISCI 131	Integrated Physical Science	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$51	\$0
ISCI 245	S.T.E.M. Workplace Practices	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$51	\$0
JAPN 121	Elementary Japanese I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
JAPN 122	Elementary Japanese II	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
JAPN 201	Intermediate Japanese I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
JAPN 202	Intermediate Japanese II	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
JRNL 151	Newswriting and Reporting	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
JRNL 254	Opinion Writing	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
LABR 200	Intro to Labor Relations	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
LABR 204	Employment Law for Managers	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
LEAD 110	Leadership Development I	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30		
LEAD 111	Leadership Development II	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30		
LEAD 211	Leadership Practicum II	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30		
LEGL 110	Editing Legal Documents	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30		
LEGL 115	Introduction to Legal Studies	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
LEGL 125	Legal Research and Writing I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$60	\$0
LEGL160	Critical Thinking in Law	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		

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Tuition and Course Fee Information**

Course	Course Title	Bill Hrs.	Tuition^ (Bill Hrs x Tuition)					Registration Fee^ Per semester, not course)	Student Support^ (Bill hrs x \$15)	Course Fees	
			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
LEGL 211	Tort Law	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30		
LEGL 212	Litigation Procedures	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
LEGL 215	Business Law-Basic Principles	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
LEGL 216	Commercial Transactions	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
LEGL 217	Business Organizations	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
LEGL 218	Litigation Specialties	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
LEGL 219	Adv Busn Law for Acct Majors	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
LEGL 221	Real Estate Transactions	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
LEGL 222	Probate Law and Procedure	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
LEGL 223	Domestic Relations	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
LEGL 224	Administrative Law	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
LEGL 225	Legal Research and Writing II	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$60	\$0
LEGL 227	Bankruptcy and Collections	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
LEGL 228	Computer Appl for the Law Ofc	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$10	\$0
LEGL 229	Immigration Law	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
LEGL 251	Paralegal Independent Study	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15		
LEGL 270	Paralegal Certification Prep	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$150	\$0
LEGL 280	Paralegal Internship	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
LEGL 295	Special Topics in Paralegal	0.25	\$29	\$57	\$86	\$100	\$14	\$25	\$4		
LING 230	Introduction to Linguistics	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
MASG 110	Massage for Non-Majors	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15	\$56	\$0

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Tuition and Course Fee Information**

Course	Course Title	Bill Hrs.	Tuition^ (Bill Hrs x Tuition)					Registration Fee^ Per semester, not course)	Student Support^ (Bill hrs x \$15)	Course Fees	
			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
MASG 131	Massage I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$174	\$0
MASG 132A	Anatomy/Physiology Massage I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$51	\$0
MASG 132B	Body Systems for Massage II	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$51	\$0
MASG 137	Medical Elements of Massage	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$51	\$0
MASG 139A	Medical Conditions Massage I	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15	\$51	\$0
MASG 139B	Medical Conditions Massage II	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15	\$51	\$0
MASG 141	Massage Clinic I	2.5	\$285	\$570	\$855	\$998	\$143	\$25	\$38	\$144	\$0
MASG 151A	Research Literacy	1.5	\$171	\$342	\$513	\$599	\$86	\$25	\$23	\$56	\$0
MASG 151B	Event Massage	1.5	\$171	\$342	\$513	\$599	\$86	\$25	\$23	\$56	\$0
MASG 151C	Maternal/Infant Massage	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15	\$56	\$0
MASG 151D	Special Populations	1.5	\$171	\$342	\$513	\$599	\$86	\$25	\$23	\$56	\$0
MASG 231	Massage II	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$71	\$0
MASG 232	Massage III	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$71	\$0
MASG 235	Licensing Exam Prep	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15	\$51	\$0
MASG 241	Massage Clinic II	2.5	\$285	\$570	\$855	\$998	\$143	\$25	\$38	\$129	\$0
MASG 242	Massage Clinic III	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$124	\$0
MASG 251A	Polarity Therapy	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15	\$63	\$0
MASG 251B	Reflexology	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15	\$63	\$0
MASG 251C	Asian Body Therapy	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15	\$63	\$0
MASG 251D	Positional Release	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15	\$63	\$0
MASG 254	Busn App for Massage	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$51	\$0

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Course	Course Title	Bill Hrs.	Tuition^ (Bill Hrs x Tuition)					Registration Fee^ Per semester, not course)	Student Support^ (Bill hrs x \$15)	Course Fees	
			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
MASG 256	Clinical Assess for Massage	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$56	\$0
MASG 258	Career Longevity	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$56	\$0
MATH 097	Support for MATH119 or STAT170	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30		
MATH 098	Support for MATH120	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30		
MATH 105	Mathematical Literacy	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
MATH 106	Math Literacy with Review	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90		
MATH 109	Foundations of Algebra	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$55	\$0
MATH 114	Technical Math I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
MATH 115	Technical Math II	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$36	\$0
MATH 117	Math for Business	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
MATH 118	The Art of Geometry	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$15	\$0
MATH 119	Math - Applications for Living	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
MATH 120	College Algebra	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
MATH 122	Trigonometry	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
MATH 126	Precalculus	5	\$570	\$1,140	\$1,710	\$1,995	\$285	\$25	\$75		
MATH 141	Calculus with Applications	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
MATH 151	Calculus I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
MATH 152	Calculus II	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
MATH 201	Math for Elementary Teachers I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
MATH 202	Math for Elementary Teacher II	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
MATH 253	Calculus III	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		

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**2022 - 2023  
Tuition and Course Fee Information**

Course	Course Title	Bill Hrs.	Tuition^ (Bill Hrs x Tuition)					Registration Fee^ Per semester, not course)	Student Support^ (Bill hrs x \$15)	Course Fees	
			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
MATH 254	Intro to Differential Equation	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
MATH 260	Linear Algebra	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
MATH 295	Ind Study in Mathematics	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15		
MEDA 110	Intro MA Med Terms & Pathology	5	\$570	\$1,140	\$1,710	\$1,995	\$285	\$25	\$75	\$98	\$0
MEDA 126	MA Administrative Skills	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$98	\$0
MEDA 135	MA Pharmacology & Med Math	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$98	\$0
MEDA 145	Legal & Ethical Concepts	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$98	\$0
MEDA 156	MA Clinical Procedures I	11	\$1,254	\$2,508	\$3,762	\$4,389	\$627	\$25	\$165	\$970	\$0
MEDA 166	MA Clinical Procedures II	7	\$798	\$1,596	\$2,394	\$2,793	\$399	\$25	\$105	\$471	\$0
MEDA 175	MA Certification Review	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$98	\$0
MEDA 177	MA Practicum Immersion	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$108	\$0
METD 100	Basic Mechanical Drafting	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$125	\$0
METD 105	PC Applications for Technology	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$155	\$0
METD 110	Mechanical CAD Drafting I	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$208	\$0
METD 111	Mechanical CAD Drafting II	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$220	\$0
METD 130	Geometric Dimension/Tolerance	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$135	\$0
METD 150	Industrial Blueprint Reading	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$130	\$0
METD 170	Special Topics/Eng & Design	0.25	\$29	\$57	\$86	\$100	\$14	\$25	\$4		
METD 220	Basic Unigraphics/NX	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$198	\$0
METD 221	Advanced Unigraphics/NX	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$202	\$0
METD 240	Basic NX Machining	5	\$570	\$1,140	\$1,710	\$1,995	\$285	\$25	\$75	\$350	\$0

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**2022 - 2023  
Tuition and Course Fee Information**

Course	Course Title	Bill Hrs.	Tuition^ (Bill Hrs x Tuition)					Registration Fee^ Per semester, not course)	Student Support^ (Bill hrs x \$15)	Course Fees	
			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
METD 250	Detailing Assembly Drawings	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$220	\$0
METD 265	Basic CAD FEA Simulation	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$235	\$0
METD 295	Engineering/Design Project Lab	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15		
METM 100	Manufacturing Processes	4.5	\$513	\$1,026	\$1,539	\$1,796	\$257	\$25	\$68	\$220	\$0
METM 108	Machine Tool Operations	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$213	\$0
METM 112	Introduction to CNC Machining	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$248	\$0
METM 150	Advanced CNC Machining	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$412	\$0
METM 170	Special Topics/Precision Mach	0.25	\$29	\$57	\$86	\$100	\$14	\$25	\$4		
METM 171	Special Topics/Machining	0.25	\$29	\$57	\$86	\$100	\$14	\$25	\$4		
METM 190	Metallurgy and Heat Treatment	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$385	\$0
METM 195	Quality/Metrology/Inspection	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$228	\$0
METM 220	Basic Mastercam	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$428	\$0
METM 221	Advanced Mastercam	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$495	\$0
METM 295	Precision Machine Project Lab	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15		
METS 110	Mechanical Power Transmissions	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$472	\$0
METS 115	Intro to Mechanical Systems	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$412	\$0
METS 120	Industrial Pneumatics	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$387	\$0
METS 125	Intro to Hydraulics/Pneumatics	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$328	\$0
METS 130	Industrial Hydraulics	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$378	\$0
METS 140	Rigging	4.5	\$513	\$1,026	\$1,539	\$1,796	\$257	\$25	\$68	\$290	\$20
METS 145	Automated Systems	4.5	\$513	\$1,026	\$1,539	\$1,796	\$257	\$25	\$68	\$357	\$0

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**2022 - 2023  
Tuition and Course Fee Information**

Course	Course Title	Bill Hrs.	Tuition^ (Bill Hrs x Tuition)					Registration Fee^ Per semester, not course)	Student Support^ (Bill hrs x \$15)	Course Fees	
			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
METS 160	Introduction to Robotics	4.5	\$513	\$1,026	\$1,539	\$1,796	\$257	\$25	\$68	\$357	\$0
METS 170	Special Topics/Mechanical Sys	0.25	\$29	\$57	\$86	\$100	\$14	\$25	\$4		
METS 210	Lubrication and Bearings	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$412	\$0
METS 250	Gen. Prevent/Predictive Maint	4.5	\$513	\$1,026	\$1,539	\$1,796	\$257	\$25	\$68	\$190	\$100
METS 260	Advanced Robotics Capstone	4.5	\$513	\$1,026	\$1,539	\$1,796	\$257	\$25	\$68	\$397	\$20
METS 290	Manufacturing Internship	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30		
METS 295	Mechanical Systems Project Lab	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15		
MGMT 150	Managing Customer Relations	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
MGMT 200	Creative Thinking for Business	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
MGMT 201	Time Management for Business	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15		
MGMT 202	Managing Difficult People	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15		
MGMT 203	Managing Meetings	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15		
MGMT 223	Supervisory Skills	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
MGMT 224	Human Resource Management	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$137	\$0
MGMT 225	Principles of Mgmt/Leadership	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$39	\$0
MGMT 227	Training/Development for Busn	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
MGMT 228	Organization Behavior	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
MGMT 229	Compensation Management	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
MGMT 231	Developing and Leading Teams	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
MGMT 234	Diversity in the Workplace	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$92	\$0
MGMT 235	Independent Study/Manage/Lead	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15		

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## 2022 - 2023 Tuition and Course Fee Information

Course	Course Title	Bill Hrs.	Tuition^ (Bill Hrs x Tuition)					Registration Fee^ Per semester, not course)	Student Support^ (Bill hrs x \$15)	Course Fees	
			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
MGMT 237	Managing/Continual Improvement	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
MGMT 280	Mgmt/Leadership Internship	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
MGMT 300	Leading for Possibility	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
MGMT 304	Organization Development	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
MGMT 329	Advanced Mgmt Communication	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
MGMT 332	Ethics: Assumpt for the Future	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
MGMT 335	Managerial Statistics	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$20	\$0
MGMT 337	Advanced Human Resource Mgmt	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$137	\$0
MGMT 338	Current Topics in Management	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
MGMT 345	Context and Transformation	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
MGMT 346	Managerial Finance	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
MILS 110	Introduction to the Army	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15		
MILS 111	Introduction to the Army-Lab	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30		
MILS 120	Foundations of Army Leadership	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15		
MILS 121	Fndtion of Army Leadership-Lab	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30		
MILS 210	Army Doctrine & Team Develpmnt	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30		
MILS 211	Army Doctrine/Team Develop-Lab	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30		
MILS 220	Mil Leadrshp & Decision Making	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30		
MILS 221	Mil Ldrshp/Decision Making-Lab	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30		
MKTG 119	Mktg/Manage Your Profess Image	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
MKTG 120	Sales	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		

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## 2022 - 2023 Tuition and Course Fee Information

Course	Course Title	Bill Hrs.	Tuition^ (Bill Hrs x Tuition)					Registration Fee^ Per semester, not course)	Student Support^ (Bill hrs x \$15)	Course Fees	
			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
MKTG 130	Retailing	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
MKTG 140	Introduction to Advertising	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
MKTG 200	Principles of Marketing	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
MKTG 202	Managerial Marketing	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
MKTG 204	Marketing Research	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
MKTG 210	Marketing on the Internet	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
MKTG 221	Consumer Behavior	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
MKTG 229	Public Relations	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
MKTG 231	Independent Study in Marketing	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15		
MKTG 235	Marketing Internship	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
MSGE 110	Massage for Non-Majors	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15	\$56	\$0
MSGE 131	Massage I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$174	\$0
MSGE 132A	Anatomy/Physiology Massage I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$51	\$0
MSGE 132B	Anatomy/Physiology Massage II	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$51	\$0
MSGE 137	Medical Terminology in Massage	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$51	\$0
MSGE 139A	Pathology for Massage I	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15	\$51	\$0
MSGE 139B	Pathology for Massage II	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15	\$51	\$0
MSGE 141	Massage Clinic I	2.5	\$285	\$570	\$855	\$998	\$143	\$25	\$38	\$130	\$0
MSGE 151A	Research Literacy	1.5	\$171	\$342	\$513	\$599	\$86	\$25	\$23	\$56	\$0
MSGE 151B	Event Massage	1.5	\$171	\$342	\$513	\$599	\$86	\$25	\$23	\$56	\$0
MSGE 151C	Maternal/Infant Massage	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15	\$56	\$0

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**2022 - 2023  
Tuition and Course Fee Information**

Course	Course Title	Bill Hrs.	Tuition^ (Bill Hrs x Tuition)					Registration Fee^ Per semester, not course)	Student Support^ (Bill hrs x \$15)	Course Fees	
			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
MSGE 151D	Special Populations	1.5	\$171	\$342	\$513	\$599	\$86	\$25	\$23	\$56	\$0
MSGE 231	Massage II	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$71	\$0
MSGE 232	Massage III	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$71	\$0
MSGE 235	Licensing Exam Prep	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15	\$51	\$0
MSGE 241	Massage Clinic II	2.5	\$285	\$570	\$855	\$998	\$143	\$25	\$38	\$129	\$0
MSGE 242	Massage Clinic III	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$124	\$0
MSGE 252	Energy-Based Modalities	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$51	\$0
MSGE 253	Spa and Clinic Modalities	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$364	\$0
MSGE 254	Busn App for Massage	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$51	\$0
MSGE 256	Clinical Assess for Massage	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$56	\$0
MSGE 258	Career Longevity	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$56	\$0
MUSC 101	Vocal Jazz & Pop Ensemble	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$6	\$0
MUSC 106	Private Music Lesson	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$500	\$0
MUSC 108	Concert Choir	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$65	\$0
MUSC 109	Studio Class	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15		
MUSC 119	Lansing Concert Band	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$60	\$0
MUSC 121	Percussion Ensemble	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$5	\$0
MUSC 122	Rock Band	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$5	\$0
MUSC 123	Jazz Ensemble	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$50	\$0
MUSC 124	Multi-Instrumental Music Ensem	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$5	\$0
MUSC 138	Keyboard Harmony I	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		

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**2022 - 2023  
Tuition and Course Fee Information**

Course	Course Title	Bill Hrs.	Tuition^ (Bill Hrs x Tuition)					Registration Fee^ Per semester, not course)	Student Support^ (Bill hrs x \$15)	Course Fees	
			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
MUSC 143	Beginning Piano I - Summer	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15	\$20	\$0
MUSC 144	Beginning Piano I	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$20	\$0
MUSC 145	Beginning Piano II	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$20	\$0
MUSC 155	Class Voice Commercial I	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$45	\$0
MUSC 156	Class Voice Commercial II	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$45	\$0
MUSC 157	Applied Lesson I	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$450	\$0
MUSC 158	Applied Lesson II	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$450	\$0
MUSC 163	Aural Skills I	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30		
MUSC 164	Aural Skills II	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30		
MUSC 168	Rudiments of Music	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
MUSC 188	Class Guitar	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30		
MUSC 193	Music Theory I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
MUSC 194	Music Theory II	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
MUSC 197	Music Tech 1 Home Studio Prod	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$60	\$0
MUSC 199	Music Appreciation	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
MUSC 237	Musical Theater Performance	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$40	\$0
MUSC 240	Musical Cultures to 1750	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
MUSC 241	Musical Cultures 1750-Present	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
MUSC 246	Appreciation of Jazz	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30		
MUSC 247	History and Culture of Rock	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30		
MUSC 255	Music Business & Management	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		

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## 2022 - 2023 Tuition and Course Fee Information

Course	Course Title	Bill Hrs.	Tuition^ (Bill Hrs x Tuition)					Registration Fee^ Per semester, not course)	Student Support^ (Bill hrs x \$15)	Course Fees	
			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
MUSC 257	Applied Lesson III	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$450	\$0
MUSC 258	Applied Lesson IV	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$450	\$0
MUSC 270	Rock Guitar	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30		
MUSC 280	Private Composition	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15	\$280	\$0
MUSC 292	Arranging & Songwriting	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
MUSC 296	Music Internship	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
MUSC 298	Music Tech 2 Advanced Studio	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$60	\$0
NCRW 100	Foundations for Success	0	\$0	\$0	\$0	\$0	\$0	\$25	\$0	\$25	\$0
NURS 200	Nursing Pharmacology	3.5	\$399	\$798	\$1,197	\$1,397	\$200	\$25	\$53	\$24	\$0
NURS 201	Patient-Centered Care	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$199	\$0
NURS 210	Transition to Prof Nursing	10.5	\$1,197	\$2,394	\$3,591	\$4,190	\$599	\$25	\$158	\$1,449	\$715
NURS 211	Intro to Nursing Practice	13.25	\$1,511	\$3,021	\$4,532	\$5,287	\$755	\$25	\$199	\$1,082	\$1,030
NURS 212	Concepts of Pharmacology	3.5	\$399	\$798	\$1,197	\$1,397	\$200	\$25	\$53	\$85	\$0
NURS 221	Nursing Practice I	10.75	\$1,226	\$2,451	\$3,677	\$4,289	\$613	\$25	\$161	\$1,039	\$180
NUR S222	Childbearing Families	5.5	\$627	\$1,254	\$1,881	\$2,195	\$314	\$25	\$83	\$624	\$0
NURS 231	Nursing Practice II	10	\$1,140	\$2,280	\$3,420	\$3,990	\$570	\$25	\$150	\$987	\$350
NURS 232	Children and Their Families	5.5	\$627	\$1,254	\$1,881	\$2,195	\$314	\$25	\$83	\$538	\$0
NURS 241	Nursing Practice III	10.75	\$1,226	\$2,451	\$3,677	\$4,289	\$613	\$25	\$161	\$1,124	\$75
NURS 242	Professional Practice	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$113	\$0
PARA 221	Paramedic Medical Trauma I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$182	\$0
PARA 222	Paramedic Medical Trauma II	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$182	\$0

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**2022 - 2023  
Tuition and Course Fee Information**

Course	Course Title	Bill Hrs.	Tuition^ (Bill Hrs x Tuition)					Registration Fee^ Per semester, not course)	Student Support^ (Bill hrs x \$15)	Course Fees	
			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
PARA 231	Paramedic Cardiology I	2.5	\$285	\$570	\$855	\$998	\$143	\$25	\$38	\$178	\$0
PARA 232	Paramedic Cardiology II	2.5	\$285	\$570	\$855	\$998	\$143	\$25	\$38	\$178	\$0
PARA 241	Paramedic Pharmacology I	2.5	\$285	\$570	\$855	\$998	\$143	\$25	\$38	\$178	\$0
PARA 242	Paramedic Pharmacology II	2.5	\$285	\$570	\$855	\$998	\$143	\$25	\$38	\$178	\$0
PARA 251	Paramedic Skills I	7.5	\$855	\$1,710	\$2,565	\$2,993	\$428	\$25	\$113	\$1,323	\$0
PARA 252	Paramedic Skills II	7.5	\$855	\$1,710	\$2,565	\$2,993	\$428	\$25	\$113	\$1,449	\$0
PARA 261	Paramedic Clinical I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$1,135	\$0
PARA 262	Paramedic Clinical II	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$1,551	\$0
PARA 263	Paramedic Internship	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$886	\$0
PFFT 100	Total Fitness A-Fitness	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$60	\$0
PFFT 101	Total Fitness B-Nutrition	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$60	\$0
PFFT 102	Total Fitness C-Weight Control	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$60	\$0
PFFT 103	Total Fitness D-Life Fitness	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$60	\$0
PFFT 109	Introduction to Fitness	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$60	\$0
PFFT 113	Core Strength & Flexibilty Trng	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$60	\$0
PFFT 114	Police Academy Fitness Trng	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$60	\$0
PFFT 119	Fire Academy Fitness Training	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$60	\$0
PFFT 120	Aerobic Exercise	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$34	\$0
PFFT 170	Yoga: Beginning	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$60	\$0
PFFT 171	Yoga: Continuing	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$29	\$0
PFFT 181	Lineworker Fitness A	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$60	\$0

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## 2022 - 2023 Tuition and Course Fee Information

Course	Course Title	Bill Hrs.	Tuition^ (Bill Hrs x Tuition)					Registration Fee^ Per semester, not course)	Student Support^ (Bill hrs x \$15)	Course Fees	
			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
PFFT 182	Lineworker Fitness B	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$60	\$0
PFFT 183	Lineworker Fitness C	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$60	\$0
PFHW 100	Health and Wellness Seminar	0.5	\$57	\$114	\$171	\$200	\$29	\$25	\$8	\$43	\$0
PFHW 120	Health and Wellness for Police	0.5	\$57	\$114	\$171	\$200	\$29	\$25	\$8	\$15	\$0
PFHW 123	Human Nutrition	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$52	\$0
PFHW 163	Healthy Lifestyles	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$56	\$0
PFHW 181	Stress Management	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15	\$46	\$0
PFKN 106	Group Fitness Instructor Prep	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$74	\$0
PFKN 170	Foundations of Kinesiology	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$46	\$0
PFKN 200	Exercise Physiology	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$58	\$0
PFKN 201	Exercise Physiology Lab	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$46	\$0
PFKN 205	Sport & Exercise Psychology	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$46	\$0
PFKN 208	Biomechanics	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$58	\$0
PFKN 210	Athletic Training Principles	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$59	\$0
PFKN 250	Measurements in Kinesiology	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$56	\$0
PFKN 260	Growth and Motor Behavior	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$54	\$0
PFKN 265	Exercise-Diverse Populations	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$46	\$0
PFKN 270	Personal Trainer Preparation	5	\$570	\$1,140	\$1,710	\$1,995	\$285	\$25	\$75	\$97	\$0
PFKN 280	Kinesiology Internship	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$46	\$0
PFWT 112	Intro to Weight Training	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$60	\$0
PFWT 123	Weight Training I	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$60	\$0

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**2022 - 2023  
Tuition and Course Fee Information**

Course	Course Title	Bill Hrs.	Tuition^ (Bill Hrs x Tuition)					Registration Fee^ Per semester, not course)	Student Support^ (Bill hrs x \$15)	Course Fees	
			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
PFWT 124	Weight Training II	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$60	\$0
PHIL 101	Introduction to Philosophy	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
PHIL 151	Intro to Logic & Critical Think	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
PHIL 152	Introduction to Ethics	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
PHIL 211	Philosophy: Ancient & Medieval	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
PHIL 212	Philosophy: Modern & Contemptry	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
PHIL 295	Ind Study in Philosophy	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15		
PHOT 101	Basic Photo for Non-Majors	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$5	\$0
PHOT 111	Digital Photography I	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$37	\$0
PHOT 112	Digital Imag for Photographers	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$15	\$0
PHOT 113	Lighting Concepts and Applic	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$12	\$0
PHOT 114	Advanced Photographic Imaging	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$53	\$0
PHOT 117	Digital Photography II	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$60	\$0
PHOT 118	Visual Literacy	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$8	\$0
PHOT 119	Intermediate Lighting	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$45	\$0
PHOT 120	Still/Motion Capture & Editing	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$20	\$0
PHOT 190	Film Capture/Hybrid Imaging	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$20	\$0
PHOT 191	Photo Imaging Special Topics	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15	\$32	\$0
PHOT 212	Advanced Still/Video Projects	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$48	\$0
PHOT 213	Portrait Photography	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$48	\$0
PHOT 214	Photojournalism	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$8	\$0

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**2022 - 2023  
Tuition and Course Fee Information**

Course	Course Title	Bill Hrs.	Tuition^ (Bill Hrs x Tuition)					Registration Fee^ Per semester, not course)	Student Support^ (Bill hrs x \$15)	Course Fees	
			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
PHOT 215	Digital Color Management/Print	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$95	\$0
PHOT 232	Internship	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
PHOT 270	Busn Issues for Photography	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$8	\$0
PHOT 280	Advanced Projects	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$92	\$0
PHOT 290	Porfolio Assembly	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$55	\$0
PHYS 120	The Art of Physics	5	\$570	\$1,140	\$1,710	\$1,995	\$285	\$25	\$75	\$51	\$0
PHYS 200	Intro to Applied Physics	5	\$570	\$1,140	\$1,710	\$1,995	\$285	\$25	\$75	\$51	\$0
PHYS 221	Introductory Physics I	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$56	\$0
PHYS 222	Introductory Physics II	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$56	\$0
PHYS 251	Physics I with Calculus	7	\$798	\$1,596	\$2,394	\$2,793	\$399	\$25	\$105	\$56	\$0
PHYS 252	Physics II with Calculus	7	\$798	\$1,596	\$2,394	\$2,793	\$399	\$25	\$105	\$56	\$0
PHYS 260	Statics for Engineers	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
POLS 120	American Political System	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
POLS 121	State and Local Government	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
POLS 201	Intro to Political Science	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
POLS 205	Government Internship	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
POLS 240	Introduction to Public Policy	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
POLS 250	Campaigns & Elections	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
POLS 260	Comparative Political Systems	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
POLS 270	International Relations	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
POLS 295	Ind Study in Political Science	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15		

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## 2022 - 2023 Tuition and Course Fee Information

Course	Course Title	Bill Hrs.	Tuition^ (Bill Hrs x Tuition)					Registration Fee^ Per semester, not course)	Student Support^ (Bill hrs x \$15)	Course Fees	
			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
PSYC 175	Psyc of Death: Prep for Living	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
PSYC 180	Intro to Positive Psychology	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
PSYC 200	Introduction to Psychology	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
PSYC 202	Psychology of Personality	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
PSYC 203	Social Psychology	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
PSYC 205	Human Growth and Development	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
PSYC 209	Cognitive Psychology	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
PSYC 210	Brain and Behavior	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
PSYC 221	Child Psychology	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
PSYC 222	Adolescent Psychology	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
PSYC 240	Psychology of Human Sexuality	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
PSYC 250	Abnormal Psychology	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
RELG 150	Intro to World Religions	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
RELG 210	Comparative Religions	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
RELG 211	Asian Religions and Traditions	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
RELG 212	Judaism, Christianity & Islam	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
RELG 230	Introduction to Christianity	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
RELG 232	Introduction to Islam	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
RELG 241	Old Testament Literature	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
RELG 242	New Testament Literature	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
SCIN 287	Science Technology Internship	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30		

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**2022 - 2023  
Tuition and Course Fee Information**

Course	Course Title	Bill Hrs.	Tuition^ (Bill Hrs x Tuition)					Registration Fee^ Per semester, not course)	Student Support^ (Bill hrs x \$15)	Course Fees	
			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
SCIS 297	Independent Study in Science	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15		
SIGN 160	Intro to the Deaf Community	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
SIGN 161	American Sign Language I	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
SIGN 162	American Sign Language II	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
SIGN 163	American Sign Language III	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
SIGN 164	American Sign Language IV	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
SIGN 166	Fingerspelling	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
SIGN 167	Beginning Sign to Voice	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
SIGN 170	Expressive/Receptive ASL	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
SIGN 176	Advanced Fingerspelling	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30		
SIGN 200	Applied Skill in the Workplace	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$8	\$0
SIGN 240	Intro to Transliterating	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$105	\$0
SIGN 250	Deaf Culture and History	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$8	\$0
SIGN 260	Linguistic Principles of ASL	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$8	\$0
SIGN 261	Principles of Interpreting	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$105	\$0
SIGN 263	Intermediate Sign to Voice	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$65	\$0
SIGN 266	Educational Interpreting	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$65	\$0
SIGN 267	Sign Practicum I	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$65	\$0
SIGN 268	Sign Practicum II	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$65	\$0
SIGN 270	Advanced Interpreting	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$8	\$0
SIGN 271	Advanced Sign to Voice	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$8	\$0

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**2022 - 2023  
Tuition and Course Fee Information**

Course	Course Title	Bill Hrs.	Tuition^ (Bill Hrs x Tuition)					Registration Fee^ Per semester, not course)	Student Support^ (Bill hrs x \$15)	Course Fees	
			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
SIGN 295	Ind Study in Sign Language	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15		
SOCL 120	Introduction to Sociology	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
SOCL 254	Marriage and Family	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
SOCL 255	Contemporary Social Problems	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
SOCL 260	Race and Ethnicity	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
SOCL 295	Independent Study in Sociology	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15		
SOWK 101	Introduction to Social Work	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$5	\$0
SPAN 121	Elementary Spanish I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
SPAN 122	Elementary Spanish II	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
SPAN 201	Intermediate Spanish I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
SPAN 202	Intermediate Spanish II	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
STAT 170	Introduction to Statistics	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
STAT 215	Intro to Probability and Stats	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
STPR 145	Foundations Sterile Processing	6.5	\$741	\$1,482	\$2,223	\$2,594	\$371	\$25	\$98	\$142	\$0
STPR 148	Sterile Processing Externship	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$53	\$0
SURG 100	Fundamentals of Surgical Tech	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$273	\$0
SURG 101	The Surgical Patient	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$273	\$0
SURG 103	Surgical Asepsis	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$268	\$0
SURG 108	Surgical Pharmacology	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$273	\$0
SURG 109	Basic Surgical Procedures	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$273	\$0
SURG 110	Advanced Surgical Procedures	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$273	\$0

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## 2022 - 2023 Tuition and Course Fee Information

Course	Course Title	Bill Hrs.	Tuition^ (Bill Hrs x Tuition)					Registration Fee^ Per semester, not course)	Student Support^ (Bill hrs x \$15)	Course Fees	
			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
SURG 111	Surgical Specialty/Prof Prep	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$560	\$0
SURG 121	Applied Surgical Techniques I	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$661	\$484
SURG 122	Applied Surgical Techniques II	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$747	\$0
SURG 123	Applied Surgical Techiq III	8	\$912	\$1,824	\$2,736	\$3,192	\$456	\$25	\$120	\$413	\$0
SURG 124	Applied Surgical Techniques IV	8	\$912	\$1,824	\$2,736	\$3,192	\$456	\$25	\$120	\$413	\$0
TECH 102	General Industry Safety	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$109	\$11
THEA 110	Introduction to Theatre	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
THEA 114	Intro to Technical Theatre	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$35	\$0
THEA 115A	Tech Thea II-Set/Light Design	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
THEA 115B	Tech Thea II-Prop Design/Const	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
THEA 115C	Tech Thea II-Costume Des/Const	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
THEA 115D	Tech Thea II-Produc/Stage Mgmt	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
THEA 120	Introduction to Acting	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
THEA 131	Studio Theatre Performance I	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$20	\$0
THEA 132	Studio Theatre Performance II	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$20	\$0
THEA 141	Acting I - Contemporary	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
THEA 143	Stage Voice for the Actor	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
THEA 150	Acting for the Camera	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$50	\$0
THEA 160	Stage Combat	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
THEA 170	Stage Combat II: Film Combat	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
THEA 171	Play Analysis	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		

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**2022 - 2023  
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THEA 173	Movement for the Actor	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
THEA 181	Improvisation	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
THEA 210	Theatre History	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
THEA 220	Play Directing	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
THEA 224	Special Subjects in Theater	1.5	\$171	\$342	\$513	\$599	\$86	\$25	\$23		
THEA 225	Building a Character	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30		
THEA 233	Studio Theatre Performance III	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60	\$20	\$0
THEA 240	Acting-Shakespeare	4	\$456	\$912	\$1,368	\$1,596	\$228	\$25	\$60		
THEA 283	Audition Workshop	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		
THEA 285	Stage Makeup	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$65	\$0
WELD 103	Combination Welding	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$465	\$0
WELD 105	Advanced ARC Welding	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$468	\$0
WELD 108	Welding for Non-Majors	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$410	\$0
WELD 110	Gas Metal ARC Welding	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$465	\$0
WELD 111	Gas Tungsten ARC Welding	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$468	\$0
WELD 115	Robotic MIG Welding	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$390	\$0
WELD 125	Structural Print Reading/Weld	2	\$228	\$456	\$684	\$798	\$114	\$25	\$30	\$35	\$0
WELD 140	Creative Welding	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45	\$405	\$0
WELD 170	Special Topics in Welding	0.25	\$29	\$57	\$86	\$100	\$14	\$25	\$4		
WELD 191	Welding Project Lab	1	\$114	\$228	\$342	\$399	\$57	\$25	\$15		
WELD 201	Tool and Die Welding	4.5	\$513	\$1,026	\$1,539	\$1,796	\$257	\$25	\$68	\$455	\$10

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			District Resident (\$114)	In-State (\$228)	Out-of-State (\$342)	Int'l Student (\$399)	Senior Citizen (\$57)*			Refundable	Non-Refundable
WELD 205	Pipe Welding	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$465	\$0
WELD 220	Structural Fab & Inspection	6	\$684	\$1,368	\$2,052	\$2,394	\$342	\$25	\$90	\$465	\$0
WELD 250	Welding Internship	3	\$342	\$684	\$1,026	\$1,197	\$171	\$25	\$45		

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## 2022-2023 Course Descriptions

### **ACAD 100 First Year College Experience**

**Credit Hours: 1 / Billing Hours: 1**

First Year Experience introduces students to college and the skills they will need for success in college. Students will learn and apply strategies for adjusting to college and improving class performance. Topics include academic and self-management issues, such as campus resources, study techniques, diversity, communication, critical thinking and problem solving, career planning, time management, goal-setting, finances and stress-management. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 or concurrent enrollment in (ENGL 098 or ENGL 099 or ESOL 098 or ESOL 099)

### **ACCG 100 Practical Accounting Non-Major**

**Credit Hours: 3 / Billing Hours: 3**

Students will learn the bookkeeping procedures necessary for preparation of financial statements and payroll. (Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 4 and Math Level 4

### **ACCG 101 Accounting Info for Management**

**Credit Hours: 3 / Billing Hours: 3**

Students will learn to interpret financial statements and use this information for analysis, budgeting, and decision-making. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 4 and Math Level 4

### **ACCG 102 Special Topics in Accounting**

**Credit Hours: 1 to 4 / Billing Hours: 1 to 4**

This course explores current issues, knowledge, and skills relevant to the accounting profession. Specific topics vary by semester; check the schedule for the semester's topic. (Sp)

- Prerequisite Course: None
- Placement Score: None. Prerequisite is determined by the section.

## 2022-2023 Course Descriptions

### **ACCG 160 Payroll Systems and Taxes**

**Credit Hours: 2 / Billing Hours: 2**

This course covers laws affecting payroll, calculation of payroll and payroll taxes using both manual and computer payroll systems, preparation of tax forms for payroll taxes, sales and use taxes, and personal property taxes. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 4 and Math Level 4
- Recommended: ACCG 100 or equivalent work experience
- Course Note: Knowledge of Microsoft Excel is recommended, and access to Microsoft Excel is needed to complete required assignments.

### **ACCG 161 Accounting with Quickbooks**

**Credit Hours: 2 / Billing Hours: 2**

Students will have hands-on experience in setting up an accounting system for a new or existing company using the QuickBooks general ledger accounting software. Students also will learn how to perform numerous types of accounting procedures using QuickBooks. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 4 and Math Level 4
- Recommended: ACCG 100 or equivalent coursework or equivalent work experience.

### **ACCG 210 Principles of Financial Accg**

**Credit Hours: 4 / Billing Hours: 4**

This course introduces the basic concepts of financial accounting, including the processing and reporting of business transactions throughout the accounting cycle of service and merchandising businesses. The course includes the preparation and analysis of the financial statements, including accounting for cash, internal controls, inventories, receivables, plant assets, current liabilities, long-term liabilities, bonds, equity, statement of cash flows, as well as financial statement analysis. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Math Level 4
- Course Note:
  - Textbooks for this course are included in the course fee. Access to the textbooks will be given on the first day of class.
  - Access to Microsoft Excel is needed to complete required assignments.



## 2022-2023 Course Descriptions

### **ACCG 211 Principles of Managerial Accg**

**Credit Hours: 4 / Billing Hours: 4**

This course emphasizes developing an understanding of cost and managerial accounting. Students will learn how to use managerial accounting tools for analysis, reporting, and facilitating decision-making. They will also learn about product costing, budgeting, and cost control methods. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in ACCG 210
- Placement Score: Reading Level 5 and Math Level 4
- Recommended: Intermediate Algebra or higher
- Course Note:
  - Textbooks for this course are included in the course fee. Access to the textbooks will be given on the first day of class.
  - Access to Microsoft Excel is needed to complete required assignments.

### **ACCG 220 Intermediate Accounting I**

**Credit Hours: 4 / Billing Hours: 4**

Intermediate Accounting I is the first in a two-course sequence focusing on financial accounting and reporting, especially for publicly-traded corporations. Topics include the environment of financial accounting, accounting theory, financial statement preparation, time value of money concepts, and specific issues in accounting for current and long-term assets. (F,Sp)

- Prerequisite Course: Minimum 2.0 in ACCG 211
- Placement Score: Reading Level 5
- Course Note: Knowledge of Microsoft Excel recommended, and access to Microsoft Excel is needed to complete required assignments.

### **ACCG 221 Intermediate Accounting II**

**Credit Hours: 4 / Billing Hours: 4**

Intermediate Accounting II is the second in a two-course sequence, focusing on financial accounting and reporting, especially for publicly-traded corporations. Topics include accounting for investments, liabilities, and shareholders' equity. In addition, the statement of cash flows and accounting changes and error correction are reviewed in depth. (F,Sp)

- Prerequisite Course: Minimum 2.0 in ACCG 220
- Placement Score: Reading Level 5
- Course Note: Knowledge of Microsoft Excel is recommended, and access to Microsoft Excel is needed to complete required assignments.

## 2022-2023 Course Descriptions

### **ACCG 230 Cost/Managerial I**

**Credit Hours: 4 / Billing Hours: 4**

This course focuses on accounting for manufacturing; cost-volume-profit analysis, responsibility accounting, decision models, activity based costing and activity based management. Other topics include: Just-In-Time inventory, absorption vs. variable costing, role-responsibility and professional ethics of the accountant. Computer applications are emphasized. (F,Sp)

- Prerequisite Course: Minimum 2.0 in ACCG 211
- Placement Score: Reading Level 5
- Course Note: Knowledge of Microsoft Excel is recommended, and access to Microsoft Excel is needed to complete required assignments.

### **ACCG 240 Federal Income Tax I**

**Credit Hours: 4 / Billing Hours: 4**

This class is the first in a two-semester sequence in federal income tax. This course deals with taxation of individuals from a historical and theoretical perspective, as well as preparation of individual income tax returns under current tax law. (Sp,Su)

- Prerequisite Course: Minimum 2.0 in ACCG 210
- Placement Score: Reading Level 5

### **ACCG 241 Federal Income Tax II**

**Credit Hours: 4 / Billing Hours: 4**

This class is the second in a two-semester sequence in federal income tax. This course deals with the taxation of corporations, s-corporations, LLC's, partnerships, estates, and trusts from a historical and theoretical perspective, and as well as preparation of tax and information returns under current tax law. (F,Sp)

- Prerequisite Course: Minimum 2.0 in ACCG 240
- Placement Score: Reading Level 5

## 2022-2023 Course Descriptions

### **ACCG 245     Accounting Internship**

**Credit Hours: 2 / Billing Hours: 2**

This course provides an opportunity to apply classroom learning to a career-related position by working a minimum of 128 hours at an approved work site. A student may do an internship at his/her own job only if the duties are new, accounting related, and provide an appropriate learning situation. (F,Sp,Su)

- Prerequisite Course: None. Department Approval is required.
- Placement Score: None
- Recommended: Minimum of 8 upper level ACCG credits

### **ACCG 250     Advanced Accounting**

**Credit Hours: 2 / Billing Hours: 2**

This course covers business consolidations, foreign currency accounting, and International Financial Reporting Standards (IFRS) as tested on the CPA Exam. (F)

- Prerequisite Course: Minimum 2.0 in ACCG 221
- Placement Score: Reading Level 5
- Course Note: Knowledge of Microsoft Excel is recommended, and access to Microsoft Excel is needed to complete required assignments.

### **ACCG 260     Accounting Systems**

**Credit Hours: 4 / Billing Hours: 4**

Accounting Systems prepares students to work with and design information systems. Students analyze systems, work with computerized accounting systems, database design, and problem solving with spreadsheets. (F,Sp)

- Prerequisite Course: Minimum 2.0 in ACCG 211
- Placement Score: Reading Level 5
- Course Note: Knowledge of Microsoft Excel is recommended, and access to Microsoft Excel is needed to complete required assignments.

### **ACCG 266     Independent Study Accounting     Credit Hours: 1 to 4 / Billing Hours: 1 to 4**

With this course, students will learn accounting topics currently not included in existing courses. It is expected that the student will spend approximately 48 hours per credit. (F,Sp,Su)

- Prerequisite Course: Department Approval

## 2022-2023 Course Descriptions

### ACCG 271 Principles of Finance

**Credit Hours: 3 / Billing Hours: 3**

This course emphasizes the short- and long-term decisions a financial manager may face. Topics include working capital management, risk, cost of capital, capital markets, long-term debt, stocks and dividend policy, mergers and acquisitions, and international financial markets as these topics relate to obtaining financing for a business. (Sp,Su)

- Prerequisite Course: Minimum 2.0 in ACCG 211
- Placement Score: Reading Level 5
- Course Note: Knowledge of Microsoft Excel recommended, and access to Microsoft Excel is needed to complete required assignments.

### ACCG 280 Governmental Accounting

**Credit Hours: 2 / Billing Hours: 2**

Applications of fund accounting principles are applied to governmental (local and state) and not-for-profit entities. Students learn skills necessary to understand the organization, accounting functions, auditing, and financial reporting practices of governmental and non profit organizations. Governmental Accounting Standards Board (GASB) and Financial Accounting Standards Board (FASB) requirements are taught. (F)

- Prerequisite Course: Minimum 2.0 in ACCG 211
- Placement Score: Reading Level 5
- Course Note: Knowledge of Microsoft Excel recommended, and access to Microsoft Excel is needed to complete required assignments.

### ACCG 290 Auditing

**Credit Hours: 4 / Billing Hours: 4**

Students will primarily learn about the audit of historical financial statements as performed by certified public accounting firms. Material covered on the CPA exam will be emphasized. (Sp)

- Prerequisite Course: Minimum 2.0 in ACCG 221 or concurrently
- Placement Score: Reading Level 5
- Course Note: Knowledge of Microsoft Excel recommended, and access to Microsoft Excel is needed to complete required assignments.

## 2022-2023 Course Descriptions

### **AEET 175 Special Topics/Altern Energy Credit Hours: .25 to 8 / Billing Hours: .25 to 11**

This course offers students the opportunity to learn new or advanced skills in Alternative Energy Engineering Technology and other related topics. Specific content may vary with each offering and will be related to the Alternative Energy Engineering Technology Program and profession. (F,Sp,Su)

- Prerequisite Course: Determined by Section

### **AEET 275 Sustainable Building Design Credit Hours: 4 / Billing Hours: 6**

This course is a capstone project lab that offers students the opportunity to apply advanced skills in sustainable energy efficient architectural design and building science at a project construction site. The course will incorporate concepts that were acquired in prior coursework. Specific content may vary based on project specific requirements. (F, Sp, Su)

- Prerequisite Course: None. Department Approval is required.
- Placement Score: None

### **AEET 280 Alternative Energy Practicum Credit Hours: 4 / Billing Hours: 4**

Special research projects and/or individual readings are used to apply personal and professional experience to the academic area of interest. Each accepted student will submit a plan that will be approved by the program advisor. The completion of a written project report is required. (F, Sp, Su)

- Prerequisite Course: None. Department Approval is required.
- Placement Score: None

## 2022-2023 Course Descriptions

### **AERO 110      USAF Heritage & Values I-Lab      Credit Hours: 1 / Billing Hours: 2**

This Lab course augments AFROTC academic curriculum by providing prospective Air Force officers the opportunities and feedback needed to develop the leadership, managerial and supervisory skills required of successful Air Force officers. Physical Training (PT) enhances fitness levels of cadets and prepares them to meet AFROTC and Air Force standards, while motivating cadets to pursue a physically fit and active lifestyle. Attendance is mandatory except as arranged with the Operations Flight Commander, through the cadet wing chain of command. (F)

- Prerequisite Course: None
- Placement Score: None. Department approval is required.
- Course Note: Call Aerospace Studies at MSU at (517) 355-2168 for specific days and times.

### **AERO 111      USAF Heritage & Values I      Credit Hours: 1 / Billing Hours: 1**

This course provides an introduction to the U.S. Air Force today. Course topics include mission and organization, group leadership problems, and introduction to communication skills. Includes a leadership laboratory. (F)

- Prerequisite Course: None
- Placement Score: None. Department approval is required.
- Course Note: Call Aerospace Studies at MSU, (517) 355-2168, for specific days and times.

### **AERO 112      USAF Heritage & Values II      Credit Hours: 1 / Billing Hours: 1**

This course provides an introduction to the U.S. Air Force today. Course topics include officership and professionalism, group leadership problems, and introduction to communication skills. Includes a leadership laboratory. (Sp)

- Prerequisite Course: None
- Placement Score: None. Department approval is required.
- Course Note: Call Aerospace Studies at MSU, 517-355-2168, for specific information regarding the Aerospace Studies program.

## 2022-2023 Course Descriptions

### **AERO 113      USAF Heritage & Values II-Lab      Credit Hours: 1 / Billing Hours: 2**

This lab course augments AFROTC academic curriculum by providing prospective Air Force officers the opportunities and feedback needed to develop the leadership, managerial and supervisory skills required of successful Air Force officers. Physical Training (PT) enhances fitness levels of cadets and prepares them to meet AFROTC and Air Force standards, while motivating cadets to pursue a physically fit and active lifestyle. Attendance is mandatory except as arranged with the Operations Flight Commander, through the cadet wing chain of command. (Sp)

- Prerequisite Course: None
- Placement Score: None. Department approval is required.
- Course Note: Call Aerospace Studies at MSU, 517-355-2168 for specific information regarding the Aerospace Studies program.

### **AERO 210      USAF Team & Ldrshp Fund I-Lab      Credit Hours: 1 / Billing Hours: 2**

This lab course augments AFROTC academic curriculum by providing prospective Air Force officers the opportunities and feedback needed to develop the leadership, managerial and supervisory skills required of successful Air Force officers. Physical Training (PT) enhances fitness levels of cadets and prepares them to meet AFROTC and Air Force standards, while motivating cadets to pursue a physically fit and active lifestyle. Attendance is mandatory except as arranged with the Operations Flight Commander, through the cadet wing chain of command. (F)

- Prerequisite Course: None
- Placement Score: None. Department approval is required.
- Course Note: Call Aerospace Studies at MSU at (517) 355-2168 for specific days and times

## 2022-2023 Course Descriptions

### **AERO 211      USAF Team & Leadership Fund I      Credit Hours: 1 / Billing Hours: 1**

This course focuses on Air Force heritage. Course topics include evaluation of air power concepts and doctrine, introduction to ethics and values, introduction to leadership, and the continuing application of communication skills. Includes a leadership laboratory. (F)

- Prerequisite Course: None
- Placement Score: None. Department approval is required.
- Course Note: Call Aerospace Studies at MSU, (517) 355-2168, for specific days and times.

### **AERO 212      USAF Team & Leadership Fund II      Credit Hours: 1 / Billing Hours: 1**

Course topics include the role of technology in the growth of air power, group leadership problems, and the continuing application of communication skills. Includes a leadership laboratory. (Sp)

- Prerequisite Course: None
- Placement Score: None. Department approval is required.
- Course Note: Call Aerospace Studies at MSU, 517-355-2168, for specific days and times.

### **AERO 213      USAF Team/Leadership Fund II-Lab      Credit Hours: 1 / Billing Hours: 2**

This lab course augments AFROTC academic curriculum by providing prospective Air Force officers the opportunities and feedback needed to develop the leadership, managerial and supervisory skills required of successful Air Force officers. Physical Training (PT) enhances fitness levels of cadets and prepares them to meet AFROTC and Air Force standards, while motivating cadets to pursue a physically fit and active lifestyle. Attendance is mandatory except as arranged with the Operations Flight Commander, through the cadet wing chain of command. (Sp)

- Prerequisite Course: None
- Placement Score: None. Department approval is required.
- Course Note: Call Aerospace Studies at MSU at 517-355-2168 for specific days and times.



## 2022-2023 Course Descriptions

### **ANTH 120 Introduction to Anthropology**

**Credit Hours: 3 / Billing Hours: 3**

What does it mean to be human? This course is designed to explore this question through the study of the four sub-disciplines of anthropology: biological anthropology, archaeology, anthropological linguistics, and cultural anthropology. We will focus not on thinking of these subfields as four disparate disciplines but rather as four perspectives that, when combined, provide a holistic, comparative, and global understanding of human condition. (F, Sp)

- Prerequisite Course: None
- Placement Scores: Reading Level 5 and Writing Level 6

### **ANTH 270 Cultural Anthropology**

**Credit Hours: 3 / Billing Hours: 3**

This course is an introduction to culture from holistic, comparative, and global perspectives, and explores capabilities like language, ecological adaptation, family, and healing systems, acquired by humans as members of their society. (F,Sp,Su)

- Prerequisite Course: None
- Placement Scores: Reading Level 5 and Writing Level 6

### **ANTH 271 Medical Anthropology**

**Credit Hours: 3 / Billing Hours: 3**

Medical Anthropology examines the connections between culture and health and illness. The course focuses on contemporary and alternative medicine, including traditional and native healing; and disease patterns in different cultures. A cross-cultural perspective that is invaluable in working with the health of diverse populations is explored. (F, Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### **ANTH 272 Food and Sustainability**

**Credit Hours: 3 / Billing Hours: 3**

Students will learn about why humans eat what they eat and of the intimate relationship between culture and food economies. They will gain an understanding of the global food industry, its position of power, and its impact on non-Western cultures. This course will have an optional Service Learning Project. (F, Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: ANTH 120 or ANTH 270 or SOCL 120.

## 2022-2023 Course Descriptions

### **ANTH 275      Physical Anthro & Archaeology                      Credit Hours: 4 / Billing Hours: 4**

An overview of human biological and cultural evolution as evidenced in fossil records. Mechanisms of evolution and cultural adaptation will be traced from pre-historic origins through the development of modern homo sapiens. Major theoretical approaches and methodologies within the subdisciplines of anthropology will be incorporated. (F)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: SOCL 120 and (BIOL 145 or BIOL 201 or High School Biology)

### **ANTH 280      Forensic Anthropology                                      Credit Hours: 3 / Billing Hours: 3**

Forensic anthropologists apply the principles of skeletal biology and anthropological theory to medico-legal contexts. As an introduction to the methodology of forensic anthropologists and relevant themes, students will engage with current and past forensic cases. Students will be exposed to ethical issues, controversies, excavation, and treatment of the dead in forensic research. The course is designed to focus on practical applications of forensic anthropology with a focus on problem-oriented research studies. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### **APPR 170      Inside Wireman Apprentice 1-A                              Credit Hours: 4 / Billing Hours: 4**

First of fifteen courses specifically for IBEW/JATC apprentices. Basic electrical safety, using state/federal standards/practices, in the home, electrical laboratory, and in construction and industry are covered. The installation of various wiring systems in wood frame and masonry construction, nonmetallic-sheathed cable, electrical metallic tubing, flexible metal and rigid conduit are also covered. (F,Sp,Su)

- Prerequisite Course: Current IBEW Electrical Apprentice

## 2022-2023 Course Descriptions

### **APPR 171      Inside Wireman Apprenticeship 1-B                      Credit Hours: 4 / Billing Hours: 4**

Introduces IBEW/JATC apprentices to practical level electricity, use of meters to measure quantities, basic circuit calculations, basic household wiring installation, motor and transformer behavior investigation. Concepts in basic and vector algebra, and trigonometry to solve DC electric circuit problems, including units, Ohm's law, network analysis, series parallel and combination DC circuits inductance and capacitance, and a review of codes/standards will be covered. (F,Sp,Su)

- Prerequisite Course: Current IBEW Electrical Apprenticeship

### **APPR 172      Inside Wireman Apprenticeship 1-C                      Credit Hours: 4 / Billing Hours: 4**

Basic electrical safety practices, including state/federal standards/practices, in the home, laboratory and within construction and industry, construction and interpretation of prints emphasizing standard/nonstandard symbols are covered. Calculations of branch circuits, feeders, motor circuits and service sizes using the National Electrical Code. Uninterruptible power supplies, signaling and safety systems are also covered. (F,Sp,Su)

- Prerequisite Course: Current IBEW Electrical Apprenticeship

### **APPR 173      Inside Wireman Apprenticeship 2-A                      Credit Hours: 4 / Billing Hours: 4**

Structure and scope of the National Electrical Code, including how to locate Ohm's law, voltage drop, wire and conduit sizing and installation method code sections. Utilizes basic and vector algebra and trigonometry concepts to solve AC electric circuit problems. Network analysis, series parallel and combination AC circuits, inductance and capacitance are covered. (F,Sp,Su)

- Prerequisite Course: Current IBEW Electrical Apprenticeship

### **APPR 174      Inside Wireman Apprenticeship 2-B                      Credit Hours: 4 / Billing Hours: 4**

Students will study the installation of nonmetallic sheathed cable, flexible metal conduit, electrical metallic tubing and rigid conduit. This is a practical introduction to AC theory. (F,Sp,Su)

- Prerequisite Course: Current IBEW Electrical Apprenticeship

## 2022-2023 Course Descriptions

### **APPR 175      Inside Wireman Apprenticeship 2-C                      Credit Hours: 4 / Billing Hours: 4**

Practical introduction to single- and three-phase transformers, motors and alternators. Construction and interpretation of prints emphasizing standard/nonstandard symbols. National Electrical Code and State of Michigan rules are reviewed. (F,Sp,Su)

- Prerequisite Course: Current IBEW Electrical Apprenticeship

### **APPR 176      Inside Wireman Apprenticeship 3-A                      Credit Hours: 4 / Billing Hours: 4**

This course introduces the student to solid-state circuitry used in industry. Students will study diodes, transistors, SCRs, triacs, optical isolators, transducers, power circuits, etc. Laboratory will include oscilloscope usage. The course also includes an introduction to Boolean algebra and digital circuits. (F,Sp,Su)

- Prerequisite Course: Current IBEW Electrical Apprenticeship

### **APPR 177      Inside Wireman Apprenticeship 3-B                      Credit Hours: 4 / Billing Hours: 4**

Introduction to Boolean algebra, digital circuits and solid-state circuitry used in industry. Diodes, transistors, SCRs triacs, optical isolators, transducers, power circuits, oscilloscopes etc. are studied and used. Installation of nonmetallic sheathed cable, flexible metal conduit, electrical metallic tubing and rigid conduit are practiced. (F,Sp,Su)

- Prerequisite Course: Current IBEW Electrical Apprenticeship

### **APPR 178      Inside Wireman Apprenticeship 3-C                      Credit Hours: 4 / Billing Hours: 4**

Interpretation and construction of prints emphasizing standard/nonstandard symbols. Calculate branch circuit, feeder, motor circuit, and service sizes using the National Electrical Code. Review of the National Electrical Code with focus on location and interpretation. Uninterruptible power supplies, signaling, safety systems and State of Michigan electrical rules are also reviewed. (F,Sp,Su)

- Prerequisite Course: Current IBEW Electrical Apprenticeship

## 2022-2023 Course Descriptions

### **APPR 179      Inside Wireman Apprenticeship 4-A                      Credit Hours: 4 / Billing Hours: 4**

Relay logic and controls using industrial standards are covered. Use of correct symbols and standard construction of wiring and ladder diagrams is emphasized. Students will wire three-phase motor control circuits utilizing two- and three-wire control, and machine control circuits utilizing limit and proximity switches, timers, relays, etc. (F,Sp,Su)

- Prerequisite Course: Current IBEW Electrical Apprenticeship

### **APPR 180      Inside Wireman Apprenticeship 4-B                      Credit Hours: 4 / Billing Hours: 4**

Covers relay logic and controls using industrial standards. Use of correct symbols and standard construction of wiring and ladder diagrams is emphasized. Wiring three-phase motor control circuits utilizing two- and three-wire control and machine control circuits utilizing limit and proximity switches, timers, relays, etc. are covered. (F,Sp,Su)

- Prerequisite Course: Current IBEW Electrical Apprenticeship

### **APPR 181      Inside Wireman Apprenticeship 4-C                      Credit Hours: 4 / Billing Hours: 4**

Construction and interpretation of prints emphasizing standard/nonstandard symbols. State of Michigan electrical rules and National Electrical Code (NEC) review focusing on locating and interpreting codes. Use of the index method to discuss interpretation of the NEC to calculate branch circuit, feeder, motor circuit and service sizes. Uninterruptible power supplies, signaling and safety systems are covered. (F,Sp,Su)

- Prerequisite Course: Current IBEW Electrical Apprenticeship

### **APPR 182      Inside Wireman Apprenticeship 5-A                      Credit Hours: 4 / Billing Hours: 4**

This course covers various code calculations using the NEC and state electrical code in preparation for the State of Michigan journeyman's exam. (F,Sp,Su)

- Prerequisite Course: Current IBEW Electrical Apprenticeship

## 2022-2023 Course Descriptions

### **APPR 183      Inside Wireman Apprentice 5-B                      Credit Hours: 4 / Billing Hours: 4**

For apprentices with field experience and basic electrical training. Covers security and fire alarm systems, sensors, instrumentation setup and calibration, theory of flow, pressure level, temperature, pneumatics, telephone wiring, high voltage safety and testing, heating, ventilating, air conditioning (HVAC) theory, programmable controllers, controls and troubleshooting, and uninterruptible power supplies. (F,Sp,Su)

- Prerequisite Course: Current IBEW Electrical Apprentice

### **APPR 184      Inside Wireman Apprentice 5-C                      Credit Hours: 4 / Billing Hours: 4**

Covers programmable logic controllers with focus on common operating principles. Includes capabilities, similarities, and differences among controllers, programming (examine on/off, timers and counters) and connecting external devices to Allen-Bradley and Modicon. Includes review of the National Electrical Code and the State of Michigan electrical rules. (F,Sp,Su)

- Prerequisite Course: Current IBEW Electrical Apprentice

### **APPR 220      Special Topics/Electricians                      Credit Hours: .25 to 8 / Billing Hours: .25 to 11**

This course offers apprentice and journey electricians the opportunity to learn new or advanced skills in the commercial and residential electrical industry and other related topics. Specific content may vary with each offering and will be related to the electrical profession. (F,Sp,Su)

- Prerequisite Course: Apprentice or Journey Electrician

### **APPR 225      Fire Alarms    Credit Hours: 3 / Billing Hours: 4**

Covers fire alarm systems, circuits, fundamentals, installation practices, interfaced systems, supervising stations, system requirements, testing and maintenance, dwellings, basic troubleshooting, related code requirements (NEC and the National Fire Alarm Code), and NICET testing preparation. Upon successful completion, students will be prepared to take the NICET Level II Fire Alarm Technician Examination. (F,Sp,Su)

- Prerequisite Course: Current IBEW Apprentice or Journeyman

## 2022-2023 Course Descriptions

### **APPR 227      Supervisor Training      Credit Hours: 4 / Billing Hours: 4**

This course will offer students practical advice about how to handle real-life, on-the-job situations. Students will take on the role of a job site supervisor as it relates to blueprint reading, work layout, manpower, materials, tools, etc. (F,Sp,Su)

- Prerequisite Course: Current IBEW Apprentice or Journeyman

### **APPR 228      Conduit Fabrication      Credit Hours: 3 / Billing Hours: 4**

This course will provide a comprehensive overview of conduit bending and fabrication procedures to develop basic competencies for field applications. (F,Sp,Su)

- Prerequisite Course: Current IBEW Apprentice or Journeyman

### **APPR 230      Motor Control Level I      Credit Hours: 3 / Billing Hours: 4**

Relay logic controls using industrial standards are covered. Use of correct symbols and standard construction of wiring and ladder diagrams is emphasized. Students will wire three-phase motor control circuits utilizing two- and three-wire control, and machine control circuits utilizing limit and proximity switches, timers, relays, etc. (F,Sp,Su)

- Prerequisite Course: Current IBEW Apprentice or Journeyman

### **APPR 231      Motor Control Level II      Credit Hours: 3 / Billing Hours: 4**

Advanced relay logic and controls using industrial standards are covered. Use of symbols and standard construction of wiring and ladder diagrams is emphasized. Students will wire three-phase motor control circuits utilizing advanced controls including two- and three-wire control, and machine control circuits utilizing limit and proximity switches, timers, relays, etc., reversing controls, plugging techniques, and multiple-motor controls. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in APPR 230

## 2022-2023 Course Descriptions

### **ARCH 105    Architecture Appreciation**

**Credit Hours: 2 / Billing Hours: 2**

This course will introduce students to the practice of architecture and its allied professions while building a foundation for further coursework within the architecture curriculum. Fundamental aesthetic, social, and environmental issues in architecture and design, including practice, creative processes and electronic media will be examined. (F)

- Prerequisite Course: None
- Placement Score: Reading Level 4 and Writing Level 4

### **ARCH 107    Sustainable Site Design**

**Credit Hours: 3 / Billing Hours: 4**

This course covers the fundamentals of landscape architecture and the reconnection of a site to its environment through the study of site analysis and design, earthwork and grading, accessibility, water conservation and supply, and landscaping. Preparation of sustainable site plan drawings will be created in accordance with course topics. (Sp)

- Prerequisite Course: Minimum 2.0 in ((DCTM 101 or concurrently) or Architectural Drafting Placement Test 80%)
- Placement Score: Reading Level 4 and Writing Level 4 and (Math Level 4 or minimum 2.0 in MATH 105 or MATH 106)

### **ARCH 110    Visual Communications I**

**Credit Hours: 3 / Billing Hours: 4**

Architectural graphics is the focus of this course and will introduce students to basic techniques of freehand sketching, drafting, and perspective drawings. Rendering skills, shading, and introductory model building will also be addressed. The production of two-dimensional black and white architectural rendering and presentation drawings will be studied. (F)

- Prerequisite Course: Minimum 2.0 in DCTM 101 or concurrently or Architectural Drafting Placement Test 80%
- Placement Score: Reading Level 4 and Writing Level 4 and (Math Level 4 or minimum 2.0 in MATH 105 or MATH 106)



## 2022-2023 Course Descriptions

### **ARCH 111 Arch Design Fundamentals**

**Credit Hours: 3 / Billing Hours: 4**

Examination of the principles and elements of two-dimensional design as it relates to architecture. Specific case studies of buildings that exemplify these theories as well as organization and circulation of space and form will be analyzed. Topics include basic design theory and practice, green design project application, and visual/verbal presentation techniques. (F)

- Prerequisite Course: None
- Placement Score: Reading Level 4 and Writing Level 4
- Recommended: ARCH 107 or concurrently

### **ARCH 113 Materials & Methods of Constr.**

**Credit Hours: 4 / Billing Hours: 6**

An introduction to and evaluation of building materials that explores the implications of design realities, material capabilities, code limitations, and regulations on the construction process. Social, environmental, and economic impacts, life-cycle analysis, cost, sourcing, energy efficiency, and value engineering including a value system for selecting environmentally preferable products will be discussed. (F)

- Prerequisite Course: Minimum 2.0 in (DCTM 102 or ELTE 102 or HVAC 102 or METS 102 or WELD 102 or concurrently)
- Placement Score: Reading Level 4 and Writing Level 4

### **ARCH 114 Architectural Drawing/CAD I**

**Credit Hours: 4 / Billing Hours: 6**

This course introduces architecture technology students to computer-aided drafting for residential application. Basic commands, drafting techniques, drawing accuracy, and industry standards will be emphasized. Lectures, in class demonstration, and lab sessions will be utilized to create two-dimensional residential drawings with value and importance placed on green design and sustainability. (F)

- Prerequisite Course: Minimum 2.0 in DCTM 101 or concurrently or Architectural Drafting Placement Test 80%
- Placement Score: Reading Level 4 and Writing Level 4 and (Math Level 4 or minimum 2.0 in MATH 105 or MATH 106)

## 2022-2023 Course Descriptions

### **ARCH 118**     **Architecture Design/Planning**     **Credit Hours: 4 / Billing Hours: 6**

One in a sequence of design studio courses focusing on programmatic green building design. Emphasis is on code, research, accessibility, and adaptive use while solving small to medium scale architecture design problems. Topics include environmental and site issues, space planning, and construction document development. Applied studio assignments build on knowledge and skills acquired. (Sp)

- Prerequisite Course: Minimum 2.0 in (ARCH 110 and ARCH 114)
- Placement Score: Reading Level 4 and Writing Level 4 and Math Level 4

### **ARCH 120**     **Visual Communications II**     **Credit Hours: 3 / Billing Hours: 4**

A continuation of Visual Communication I. Students will gain knowledge of basic color rendering techniques using a variety of media to enhance drawing skills and realistically render surfaces two/three-dimensionally. Specific shading, texture, light and composition techniques - both freehand and computer generated - will be explored. Composition/verbal presentation of projects will be emphasized. (Sp)

- Prerequisite Course: Minimum 2.0 in ARCH 110
- Placement Score: Reading Level 4 and Writing Level 4 and Math Level 4

### **ARCH 124**     **Architectural Drawing/CAD II**     **Credit Hours: 4 / Billing Hours: 6**

As the continuation of Architectural Drawing/Basic CAD I, students will build on their computer-aided drafting skills for commercial application. Drawing accuracy and industry standards will be emphasized. Lectures, in-class demonstration, and lab sessions will be utilized to create two dimensional commercial drawings. (Sp)

- Prerequisite Course: Minimum 2.0 in ARCH 114
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 5

## 2022-2023 Course Descriptions

### **ARCH 125    Environmental Systems**

**Credit Hours: 4 / Billing Hours: 4**

This course is designed for students of both architecture and allied professions. All elements affecting interior environments of a commercial or residential structure, such as electrical and HVAC systems, water efficiency, sustainable site and material selection, and passive solar design will be studied. Energy efficient and responsible construction practices will be emphasized. (F)

- Prerequisite Course: None
- Placement Score: Reading Level 4 and Writing Level 4 and (Math Level 4 or minimum 2.0 in MATH 105 or MATH 106)

### **ARCH 126    Architecture Model Building**

**Credit Hours: 3 / Billing Hours: 4**

Students in this course will enhance their design and communication skills by developing various techniques for building three-dimensional architectural models. Projects constructed will range from the most basic of study model using readily available sustainable materials, to more sophisticated presentation models focusing on the use of responsible and earth sustaining materials. (Sp)

- Prerequisite Course: Minimum 2.0 in (DCTM 101 or Architectural Drafting Placement Test 80%)
- Placement Score: Reading Level 4 and Writing Level 4 and (Math Level 4 or minimum 2.0 in MATH 105 or MATH 106)

### **ARCH 141    History of Architecture I**

**Credit Hours: 3 / Billing Hours: 3**

Beginning with ancient times, this course studies the major civilizations and works of architecture, and analyzes the form and function of the built environment contributed by the most significant of the Western civilizations. A variety of visual media will be used to present the major theories, architectural works, and the significant personalities contributing to architecture up to the Italian Renaissance. (F)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

## 2022-2023 Course Descriptions

### **ARCH 142 History of Architecture II**

**Credit Hours: 3 / Billing Hours: 3**

This course is the second in a series of the study of architectural history of the western world. The works and figures of architecture and the decorative arts in western architectural history from the 1600's to contemporary times are examined. (Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### **ARCH 146 Preservation/Adaptive Use Arch**

**Credit Hours: 3 / Billing Hours: 4**

An overview of the principles and practices of the greenest and most sustainable type of architecture; recycling, preservation, and adaptive use of existing buildings. Students will have the opportunity to work on an actual building using material forensic investigation to determine material conditions and history, apply adaptive use design, and sustainable preservation practices. (F)

- Prerequisite Course: Minimum 2.0 in (ARCH 110 or concurrently)
- Placement Score: Reading Level 4 and Writing Level 4 and (Math Level 4 or minimum 2.0 in MATH 105 or MATH 106)

### **ARCH 175 Special Topics in Architecture Credit Hours: .25 to 8 / Billing Hours: .25 to 11**

This course offers students the opportunity to learn new or advanced skills in environmentally responsible design and evaluation, computer aided drafting or other topics as applied to architecture. Specific content may vary with each offering and will be related to the Architecture Program and profession. (F,Sp,Su)

- Prerequisite Course: Determined by Section

### **ARCH 176 Special Topic/Architecture P/Z Credit Hours: .25 to 8 / Billing Hours: .25 to 11**

This course offers students the opportunity to learn new or advanced skills in computer aided drafting or other topics as applied to architecture. Specific content may vary with each offering and will be related to the Architecture Program and profession. This course will be graded on a Pass/Fail basis. (F, Sp, Su)

- Prerequisite Course: Determined by Section

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*F=Fall; Sp=Spring; Su=Summer*

*Online courses may require students to travel to an LCC campus or request an approved non-LCC testing site (additional fees may apply) for proctored exams. For more information, please visit the [Testing Services webpage](#)*

## 2022-2023 Course Descriptions

### **ARCH 218 Commercial Arch Planning**

**Credit Hours: 4 / Billing Hours: 6**

In this intermediate level course, students will use previously obtained drawing, research, and presentation skills to design, delineate, and present a light commercial project from basic schematics to presentation drawings. Students will be introduced to environmentally responsible design considerations and applications at the earliest design and planning stages of a project. (F)

- Prerequisite Course: Minimum 2.0 in ARCH 114
- Placement Score: Reading Level 4 and Writing Level 4 and Math Level 4

### **ARCH 220 Commercial Arch Drawing**

**Credit Hours: 4 / Billing Hours: 6**

In this capstone course, students will complete a set of commercial construction documents based on their schematic design developed in ARCH218 using previously obtained CAD and structural theory skills. Students will further research appropriate energy saving design systems to minimize the environmental footprint of their building design. (Sp)

- Prerequisite Course: Minimum 2.0 in ARCH 218
- Placement Score: Reading Level 4 and Writing Level 4 and Math Level 4

### **ARCH 233 Revit Architecture BIM I**

**Credit Hours: 4 / Billing Hours: 6**

This course is an introduction to Autodesk's Revit Architecture, a three-dimensional building information modeling software (BIM) that generates all phases of design from concept sketches through construction documentation. Students will develop three-dimensional parametric models and standard two-dimensional construction drawings for typical construction use. (F)

- Prerequisite Course: None
- Placement Score: Reading Level 4 and Writing Level 4 and (Math Level 4 or minimum 2.0 in MATH 105 or MATH 106)

### **ARCH 235 Arch AutoCAD Independent Study**

**Credit Hours: 1 to 4 / Billing Hours: 1 to 4**

This course is intended to give advanced architectural students an opportunity to complete a special project(s) that relates to the student's curriculum. The student will research, outline, design and construct a project(s) of their own selection, with the approval and guidance of the instructor, using the AutoCAD software program. (F,Sp,Su)

- Prerequisite Course: None. Department Approval is required.
- Placement Score: None

## 2022-2023 Course Descriptions

### **ARCH 243     Revit Architecture BIM II**

**Credit Hours: 4 / Billing Hours: 6**

As the continuation of Revit Architecture BIM I, students will build on their three-dimensional building information software (BIM) and parametric modeling skills for construction drawings. Drawing accuracy and industry standards will be emphasized. Lectures, in-class demonstration, and lab sessions will be utilized to create two and three dimensional construction documents. (Sp)

- Prerequisite Course: Minimum 2.0 in ARCH 233
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 5

### **ARCH 275     Sustainable Building Design**

**Credit Hours: 4 / Billing Hours: 6**

This course is a capstone project lab that offers students the opportunity to apply advanced skills in sustainable energy efficient architectural design and building science at a project construction site. The course will incorporate concepts that were acquired in prior coursework. Specific content may vary based on project specific requirements. (F, Sp)

- Prerequisite Course: None. Department Approval is required.
- Placement Score: None

### **ARCH 290     Architectural Internship**

**Credit Hours: 2 to 4 / Billing Hours: 2 to 4**

This course provides Architectural Technology students with practical work experience in industry. Students work for an employer in a supervised environment that provides an opportunity to apply knowledge and skills learned in the classroom and lab to an actual job situation. (Su)

- Prerequisite Course: None. Department Approval is required.
- Placement Score: None

### **ARCH 295     Arch Independent Study**

**Credit Hours: 1 to 4 / Billing Hours: 1 to 4**

This course will give advanced architectural students an opportunity to complete a special project(s) that relates to their architectural curriculum. With the approval and guidance of an instructor, the students will research, outline, design, and construct a project(s) of their own selection. (F,Sp,Su)

- Prerequisite Course: None. Department Approval is required.
- Placement Score: None

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*F=Fall; Sp=Spring; Su=Summer*

*Online courses may require students to travel to an LCC campus or request an approved non-LCC testing site (additional fees may apply) for proctored exams. For more information, please visit the [Testing Services webpage](#)*

## 2022-2023 Course Descriptions

### **ARTS 102      Design & Communication**

**Credit Hours: 3 / Billing Hours: 4**

An examination of visual communications theory, process and history. Students will study the universal elements and principles of two-dimensional design and their applications in monochromatic, still, and time-based media. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6 or (Reading Level 4 and Writing Level 4 and ENGL 099 concurrently)
- Recommended: Computer experience
- Course Note: Face-to-Face sections use Adobe Photoshop CC on Macintosh computers. Online, Hybrid, and ORT students are required to have semester-long access to Adobe Photoshop CC to complete their assignments. Students may access this software in the LCC TLC Computer Lab. Access to a Wacom Intuos or Bamboo Digital Drawing Tablet is highly recommended but not required.

### **ARTS 103      Spatial Dynamics I**

**Credit Hours: 3 / Billing Hours: 4**

This is an introductory course exploring the elements and principles of three dimensional design. The course will examine traditional and narrative-based potentials or materials and objects. (F,Sp)

- Prerequisite Course: Minimum 2.5 in ARTS 102 or concurrently
- Placement Score: Reading Level 5 and Writing Level 6
- Course Note: Students purchase own art supplies and materials.

### **ARTS 105      Adobe Photoshop for Non-Majors**

**Credit Hours: 2 / Billing Hours: 3**

This course is designed to give non-majors an introduction to the Adobe Photoshop CC software. Students will learn file formats and saving files properly, scanning, color correction and adjustment, compositing, and image manipulation of print and digital images for web use and printed output. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: None
- Recommended: Computer experience
- Course Note: Online, Hybrid, and ORT students are required to have semester-long access to Adobe Photoshop CC to complete their assignments.

## 2022-2023 Course Descriptions

### ARTS 131 Drawing I

**Credit Hours: 3 / Billing Hours: 4**

An introductory course in visual thinking, conceptual drawing, and studio practices. Students will learn to translate verbal and written concepts through creative processes into visual information by creating sketches, developmental drawings, and finished imagery. Fundamental elements of drawing and principles of perspective, with a focus on drawing from observation, are covered. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### ARTS 132 Figure Drawing

**Credit Hours: 3 / Billing Hours: 4**

An intermediate level course in visual thinking, conceptual drawing, and studio practices exploring fundamental elements of drawing, visualization, and perception of the human figure, using a variety of drawing media and methods. Live models will be used. (F,Sp,Su)

- Prerequisite Course: Minimum 2.5 in ARTS 131
- Placement Score: Reading Level 5 and Writing Level 6

### ARTS 136 Figure Sculpture

**Credit Hours: 3 / Billing Hours: 4**

A studio course in the 3-Dimensional representation of the human figure. The student will use various modeling tools to sculpt the figure in clay. Projects will include: gestural sketches, anatomical details, and reclining, seated, and standing full-figure poses. Live models will be used. (F,Sp)

- Prerequisite Course: Minimum 2.5 in ARTS 132
- Placement Score: None



## 2022-2023 Course Descriptions

### ARTS 151      Color and Design

**Credit Hours: 3 / Billing Hours: 4**

This is an introduction to additive and subtractive color theory and practice. Students explore how the color properties of hue, saturation, and value relate to design and examine color interactions, color relationships, and the physical and psychological effects of light and color. Digital and traditional color media are used. (F,Sp)

- Prerequisite Course: Minimum 2.5 in ARTS 102 and ARTS 131
- Placement Score: Reading Level 5 and Writing Level 6
- Course Note: This course uses Photoshop CC on Macintosh computers. Online, Hybrid, and ORT students are required to have semester-long access to Adobe Photoshop CC to complete their assignments.

### ARTS 153      Drawing II

**Credit Hours: 3 / Billing Hours: 4**

This is an intermediate level course in visual thinking, conceptual drawing, and perspective drawing. Students will use creative processes to express verbal and written concepts as visual information ideate through preparatory drawings and develop visualizations with a variety of media. (Sp)

- Prerequisite Course: Minimum 2.5 in ARTS 102 and ARTS 131
- Placement Score: Reading Level 5 and Writing Level 6

### ARTS 162      Type Communications

**Credit Hours: 3 / Billing Hours: 4**

An introduction to the utilization of type in a variety of visual communications with an emphasis on creativity and problem solving. Students will be introduced to the tools and techniques of manual and digital type formatting in professional type layout for print and web purposes. (F,Sp,Su)

- Prerequisite Course: Minimum 2.5 in ARTS 102 or concurrently
- Placement Score: Reading Level 5 and Writing Level 6
- Course Note: Online, Hybrid, and ORT students are required to have semester-long access to Adobe Illustrator CC. Students have access to this software in the LCC TLC Computer Lab.

## 2022-2023 Course Descriptions

### ARTS 164      Vector Drawing

**Credit Hours: 3 / Billing Hours: 4**

A creative course involving vector-based illustration software. Students will draw by manipulation of algorithmically created arcs, lines, and curves to form shapes. The focus is on graphics information communication. (F,Sp)

- Prerequisite Course: Minimum 2.5 in ARTS 102 and ARTS 131 or concurrently
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: ARTS 162
- Course Note: Adobe Illustrator CC on Macintosh computers is used. Online, Hybrid, and ORT students are required to have semester-long access to Adobe Illustrator CC.

### ARTS 171      Adobe Photoshop

**Credit Hours: 3 / Billing Hours: 4**

This course provides an introduction to computer manipulation of digital images using Adobe Photoshop through projects, learning activities, assessments, and exploration of resources. (F,Sp)

- Prerequisite Course: Minimum 2.5 in (ARTS 102 or PHOT 118) or concurrently
- Placement Score: Reading Level 5 and Writing Level 6
- Course Note: Adobe Photoshop CC software is used. Online, Hybrid, and ORT students are required to have semester-long access to Adobe Photoshop CC to complete their assignments. Students have access to these in the LCC TLC Computer Lab.

### ARTS 173      Web Design I

**Credit Hours: 3 / Billing Hours: 4**

This course provides an introduction to web design and Adobe Dreamweaver through projects, learning activities, assessments, and exploration of resources. (F,Sp)

- Prerequisite Course: Minimum 2.5 in ARTS 171 or concurrently
- Placement Score: Reading Level 5 and Writing Level 6
- Course Note: This course uses Adobe Dreamweaver CC on Macintosh computers. Online, Hybrid, and ORT students are required to have semester-long access to Adobe Dreamweaver CC to complete their assignments.

## 2022-2023 Course Descriptions

### **ARTS 175**      **Creative Design and Publishing**      **Credit Hours: 3 / Billing Hours: 4**

An introductory course concerned with creative page layout. The focus is on using Adobe InDesign CC and incorporating the Adobe Creative Suite for layout, prepress, and repurposing. (F,Sp)

- Prerequisite Course: Minimum 2.5 in ARTS 102 and ARTS 162 or concurrently
- Placement Score: Reading Level 5 and Writing Level 6
- Course Note: Online, Hybrid, and ORT students are required to have semester-long access to Adobe InDesign CC

### **ARTS 179**      **Web Design II**      **Credit Hours: 3 / Billing Hours: 4**

This course continues training and skills learned in Web Design I through projects, learning activities, assessments, and exploration of resources. Students will also learn about the web design workflow including planning, research, content, and creative development. (Sp)

- Prerequisite Course: Minimum 2.0 in ARTS 173
- Placement Score: Reading Level 5 and Writing Level 6
- Course Note: This course uses Adobe Illustrator and Photoshop CC. Online, Hybrid, and ORT students are required to have semester-long access to Adobe Illustrator and Photoshop CC to complete their assignments.

### **ARTS 183**      **Design Markets and Influences**      **Credit Hours: 3 / Billing Hours: 3**

An introductory course that examines the theory, practice, and development of modern and contemporary graphic design, typography, and imagery. The emphasis is on conceptual design and relevant styles and techniques used to achieve design, marketing and advertising goals. This course investigates how the various styles and techniques of the periods discussed reflect and affect design ideas, issues and social values. (Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: HUMS 212
- Course Note: Online, Hybrid, and ORT students are required to have semester-long access to Adobe Illustrator or Photoshop CC.

## 2022-2023 Course Descriptions

### **ARTS 195      Employ/Busn Issues for Artists      Credit Hours: 1 / Billing Hours: 1**

An introduction to business, legal, and marketing issues relevant to visual artists. Students will be introduced to copyright, contracts and negotiation concerns, and basic record keeping. (F)

- Prerequisite Course: None
- Placement Score: None

### **ARTS 200      Painting I      Credit Hours: 3 / Billing Hours: 4**

An introduction to oil and/or acrylic painting. The course examines the basic materials, tools, techniques, and modes of expression of painting. (F,Sp)

- Prerequisite Course: None
- Placement Score: None
- Course Note: Students purchase own art supplies and materials (approx. \$200).

### **ARTS 201      Painting II      Credit Hours: 3 / Billing Hours: 4**

A continuation of Painting I (ARTS200) emphasizing more advanced techniques and increasingly complex problems in painting. A variety of media, techniques, and approaches is explored. (F,Sp)

- Prerequisite Course: Minimum 2.5 in ARTS 200
- Placement Score: None
- Course Note: Students purchase own art supplies and materials (approx. \$200).

### **ARTS 207      Sculpture      Credit Hours: 3 / Billing Hours: 4**

This course introduces basic sculpture techniques, such as carving, casting, and modeling, with emphasis on understanding issues of line, plane, shape, and volume. Plaster, clay, and wood are utilized to help the student understand the form and content of sculpture. Contemporary and historical sculpture topics supplement this course. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4
- Recommended: Minimum 2.5 in ARTS 103
- Course Note: Students purchase own art supplies and materials.

## 2022-2023 Course Descriptions

### **ARTS 226      Storyboards & Animatics**

**Credit Hours: 3 / Billing Hours: 4**

Focuses on applying industry-standard storyboarding and animatic techniques. Topics include the purposes and formats of storyboards and the application of storyboarding techniques to the creation of storyboards with or without a written script. Completed storyboards will be digitized and edited using various software to produce an animatic. (F,Sp)

- Prerequisite Course: Minimum 2.5 in ARTS 151
- Placement Score: Reading Level 5 and Writing Level 6
- Course Note: This course uses the Adobe Creative Suite on Macintosh computers. Online, Hybrid, and ORT students are required to have semester-long access to Adobe Illustrator and Photoshop CC.

### **ARTS 229      Web Design III**

**Credit Hours: 3 / Billing Hours: 4**

An advanced course in interaction and its application to web design problems. Focuses on the structuring of information, conceptualization and sequencing in the design of web sites. (F)

- Prerequisite Course: Minimum 2.0 in ARTS 179
- Placement Score: Reading Level 5 and Writing Level 6
- Course Note: This course uses Adobe Dreamweaver CC on Macintosh computers. Online, Hybrid, and ORT students are required to have semester-long access to Adobe Dreamweaver CC.

### **ARTS 232      Comp Graphics/2-D Animation**

**Credit Hours: 3 / Billing Hours: 4**

Creation of 2-D animations using the computer. Emphasis is on the theory and principles of animation. Student will develop an animation of a bipedal character. (F)

- Prerequisite Course: Minimum 2.5 in ARTS 132 and ARTS 151 and ARTS 171
- Placement Score: Reading Level 5 and Writing Level 6
- Course Note: This course uses the Adobe Creative Suite on Macintosh computers. Online, Hybrid, and ORT students are required to have semester-long access to Adobe Creative Suite.

## 2022-2023 Course Descriptions

### **ARTS 234      Comp Graphics/3-D Animation I                      Credit Hours: 3 / Billing Hours: 4**

Concepts and techniques of 3D computer animation. An introduction to the world of Digital Form, Space and Lighting. Topics covered in this course include the theories of 3-D space, surface modeling, rendering, lighting and key frame animation. Includes an overview of the history of 3D computer modeling, rendering and animation. (F,Sp)

- Prerequisite Course: Minimum 2.5 in ARTS 105 or ARTS 171
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: PHYS 120
- Course Note: This course uses Autodesk Maya on Macintosh computers. Online, Hybrid, and ORT students are required to have semester-long access to Autodesk Maya.

### **ARTS 235      Comp Graphics/3-D Animation II                      Credit Hours: 3 / Billing Hours: 4**

This course builds upon ARTS 234. It continues the approach of increasing skills and artistic practice in all areas of 3D animation: concept, modeling, animation and rendering. Course also includes topics such as: texture mapping, particle systems, dynamic simulation and basic kinematic techniques. (F,Sp)

- Prerequisite Course: Minimum 2.5 in ARTS 234
- Placement Score: Reading Level 5 and Writing Level 6
- Course Note: This course uses Autodesk Maya on Macintosh computers. Online, Hybrid, and ORT students are required to have semester-long access to Autodesk Maya.

### **ARTS 240      Art for Elementary Teachers                      Credit Hours: 3 / Billing Hours: 4**

Especially for elementary school teachers responsible for the student art experience. Emphasis on developing a greater art appreciation, awareness of art forms, and competency working with a variety of art media. Covers the creative and mental growth of children and their needs in an art situation. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: EDUC 201 and EDUC 220
- Course Note: EDUC201 and EDUC220 are prerequisites for this course to transfer to Central Michigan University.

## 2022-2023 Course Descriptions

### **ARTS 251      Graphic Design Communications      Credit Hours: 3 / Billing Hours: 4**

A comprehensive overview of design communications and the role of the graphic artist. Methods, computer software and hardware issues will be covered with the focus on persuasive design communications. (F,Sp)

- Prerequisite Course: Minimum 2.5 in ARTS 164 and ARTS 175
- Placement Score: Reading Level 5 and Writing Level 6
- Course Note: This course uses the Adobe CC Suite on Macintosh computers. Online, Hybrid, and ORT students are required to have semester-long access to Adobe Creative Suite.

### **ARTS 252      Graphic Design Publications      Credit Hours: 3 / Billing Hours: 4**

Publication design and the graphic artist's role in design and production of longer documents is the focus of this advanced collaborative course. The emphasis is on concept, typography and visual elements in a weekly, monthly or quarterly publication. (F,Sp)

- Prerequisite Course: Minimum 2.5 in ARTS 251
- Placement Score: Reading Level 5 and Writing Level 6
- Course Note: This course uses the Adobe CC Suite on Macintosh computers. Online, Hybrid, and ORT students are required to have semester-long access to Adobe Creative Suite.

### **ARTS 253      Graphic Design Branding      Credit Hours: 3 / Billing Hours: 4**

This advanced class focuses on branding of products and services for mass market advertising. The course will focus on aspects relevant to a marketing campaign as well as on creating innovative concepts and developing an effective personal design style. (F,Sp)

- Prerequisite Course: Minimum 2.5 in ARTS 251
- Placement Score: Reading Level 5 and Writing Level 6
- Course Note: This course uses the Adobe CC Suite on Macintosh computers. Online, Hybrid, and ORT students are required to have semester-long access to Adobe Creative Suite.

## 2022-2023 Course Descriptions

### ARTS 269 The Portfolio

**Credit Hours: 2 / Billing Hours: 2**

Under advisor supervision, students will assemble their best work into a cohesive, relevant presentation for the purpose of securing career-oriented employment. Job search/market skills content, including creative resumes, letter-writing, and self-promotion will focus on matching individual presentations to specific career goals. ARTS269 is intended as the final program course. (F,Sp)

- Prerequisite Course: None. Department Approval is Required
- Placement Score: None
- Course Note: Fine Art and transfer students should see an Art, Design and Multimedia advisor before enrolling in ARTS 269. Please check with the Communication, Media and the Arts Department Office in GB 1222 for current department approval forms.

### ARTS 281 Art Internship

**Credit Hours: 3 / Billing Hours: 3**

Students will gain pre-career experience by working in a professional environment under the supervision of a professional artist/designer. Regularly scheduled progress reports will be given and discussed with supervising faculty member. A typical internship will average 160-210 hours in a semester. (F,Sp,Su)

- Prerequisite Course: None. Department Approval is required.
- Placement Score: None

### ASTR 201 Introductory Astronomy

**Credit Hours: 4 / Billing Hours: 5**

A survey course of astronomy. Topics include the celestial sphere, apparent motions, and orbital mechanics; the nature of light, spectroscopy and astronomical instrumentation; the Earth, the Moon, the Sun and the solar system; stellar nucleosynthesis, and stellar characteristics, distances, classification and evolution; and galaxies and cosmology. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6 and [Math Level 5 or (MATH 107 or MATH 109 concurrently)]
- Recommended: It is recommended that students taking ASTR 201 have taken a High School Physics or Physical Science course



## 2022-2023 Course Descriptions

### **AUTB 106 Refinishing I**

**Credit Hours: 5 / Billing Hours: 8**

The material in this course will form the basis for all automotive refinishing work. Surface preparation, material selection and the use of various refinishing equipment will be covered. (F, Sp)

- Prerequisite Course: Minimum 2.0 in (AUTB 101 or concurrently)
- Placement Score: Reading Level 3 and Writing Level 2 and Math Level 3

### **AUTB 107 Non-Structural Repair I**

**Credit Hours: 5 / Billing Hours: 8**

This course introduces the student to basic repairs that involve parts removal and replacement. Students will also perform simple body repairs on steel panels. All work will be completed according to industry standards. (F, Sp)

- Prerequisite Course: Minimum 2.0 in (AUTB 101 or concurrently)
- Placement Score: Reading Level 3 and Writing Level 2 and Math Level 3

### **AUTB 114 Collision Repr Welding/Cutting**

**Credit Hours: 3 / Billing Hours: 5**

This course will present welding processes that will be the basis of many of the repair techniques in the collision repair industry. MIG, resistance spot welding, and plasma arc cutting are included. (F,Sp)

- Prerequisite Course: Minimum 2.0 in (AUTB 101 or concurrently)
- Placement Score: Reading Level 3 and Writing Level 2 and Math Level 3

### **AUTB 136 Refinishing II**

**Credit Hours: 5 / Billing Hours: 8**

This course builds on skills developed in AUTB 106. Refinishing, spot repairs and color matching with a variety of refinish materials will be stressed. Defect analysis causes and cures will be covered. (Sp)

- Prerequisite Course: Minimum 2.0 in (AUTB 106 or AUTB 118)
- Placement Score: Reading Level 3 and Writing Level 2 and Math Level 3 and Department Approval
- Course Note: For students wishing to enroll in this course, please call 517-483-5338 for Department Approval.

## 2022-2023 Course Descriptions

### **AUTB 137    Non-Structural Repair II**

**Credit Hours: 5 / Billing Hours: 8**

This course builds on AUTB 107-Non Structural Repair I. Students will perform repairs that include welded/bonded parts removal and replacement. Students will also perform advanced repairs on steel, aluminum, and plastic panels. All work will be completed according to industry standards. (Sp)

- Prerequisite Course: Minimum 2.0 in (AUTB 107 and (AUTB 114 or concurrently))
- Placement Score: Reading Level 3 and Writing Level 2 and Math Level 3 and Department Approval

### **AUTB 150    Struct Analysis/Damage Repr I**

**Credit Hours: 4 / Billing Hours: 6**

This course addresses the repair, measurement, and analysis of unibody and full-frame vehicles. The student will learn how to diagnose damage using computerized measuring equipment. The proper operation and setup of frame machine(s) and measuring equipment will also be covered. (Sp)

- Prerequisite Course: Minimum 2.0 in ((AUTB 106 or AUTB 118) and AUTB 107 and AUTB 114)
- Placement Score: Reading Level 4 and Writing Level 4 and Math Level 4 and Department Approval

### **AUTM 102    Automotive/Collision Safety**

**Credit Hours: 1 / Billing Hours: 1**

This course will introduce students to automotive industry standard practices for shop safety, tool safety, and personal safety. Students will be familiarized with shop policies and procedures including hazardous waste disposal, along with laws and regulations that affect automotive repair facilities. Students will learn how to use various types of lifting equipment. (F, Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 3 and Writing Level 2 and [Math Level 3 or Minimum 2.0 in (MATH 105 or MATH 106)]
- Course Note: Students need to bring their own safety glasses and dress in appropriate work clothes to start working in the lab on the first day of class. Books are included as part of the course fee. \$16 of the Course Fee is non-refundable.

## 2022-2023 Course Descriptions

### **AUTM 111 Automotive Electrical I**

**Credit Hours: 4 / Billing Hours: 6**

This course prepares students for ASE and State of Michigan certification testing in automotive electrical systems. Topics include electrical system theory and operation, diagnosis, and repair of automotive electrical/electronic circuits, electrical wiring, battery, and starting and charging systems. This course meets NATEF Master Automotive Service Technology (MAST) standards for electrical/electronic systems. (F, Sp)

- Prerequisite Course: Minimum 2.0 in [(AUTM 102 or concurrently) or AUTM 101]
- Placement Score: Reading Level 3 and Writing Level 2 and [Math Level 3 or Minimum 2.0 in (MATH 105 or MATH 106)]
- Course Note: Students need to bring their own safety glasses and dress in appropriate work clothes to start working in the lab on the first day of class. Books are included as part of the course fee. \$35 of the Course Fee is non-refundable.

### **AUTM 112 Battery/Start/Charge Systems**

**Credit Hours: 2 / Billing Hours: 3**

This course covers automotive battery, starter and charging systems theory, operation and diagnosis. This course meets NATEF Maintenance and Light Repair (MLR) and Master Automotive Service Technology (MAST) standards for electricity/electronics. (F, Sp)

- Prerequisite Course: Minimum 2.0 in ((AUTM 110 or concurrently) or AUTO 111)
- Placement Score: Reading Level 3 and Writing Level 2 and Math Level 3
- Course Note: Students need to bring their own safety glasses and dress in appropriate work clothes to start working in the lab on the first day of class. Books are included as part of the course fee.

## 2022-2023 Course Descriptions

### **AUTM 113 Automotive Electrical II**

**Credit Hours: 4 / Billing Hours: 6**

This course prepares students for ASE and State of Michigan certification testing in automotive electrical systems. Topics include electrical system theory and operation, diagnosis, and repair of automotive comfort and convenience accessories, instrumentation, and lighting circuits. This course meets NATEF Master Automotive Service Technology (MAST) standards for electrical/electronics systems. (F, Sp)

- Prerequisite Course: Minimum 2.0 in [(AUTM 111 or concurrently) or AUTM 110]
- Placement Score: Reading Level 3 and Writing Level 2 and [Math Level 3 or minimum 2.0 in (MATH 105 or MATH 106)]
- Course Note: Students need to bring their own safety glasses and dress in appropriate work clothes to start working in the lab on the first day of class. Books are included as part of the course fee. \$35 of the Course Fee is non-refundable.

### **AUTM 125 Manual Drive Train and Axles**

**Credit Hours: 4 / Billing Hours: 6**

This course prepares students for ASE and State of Michigan certification testing in manual drivetrains and axles. Topics include theory and operation, maintenance, diagnosis, disassembly, inspection, repair, and overhaul of manual transmissions/transaxles, clutch systems, differentials, four-wheel drive systems, and other driveline components. This course meets NATEF Master Automotive Service Technology (MAST) standards for manual transmissions. (F, Sp)

- Prerequisite Course: Minimum 2.0 in [(AUTM 102 or concurrently) or AUTM 101]
- Placement Score: Reading Level 3 and Writing Level 2 and [Math Level 3 or Minimum 2.0 in (MATH 105 or MATH 106)]
- Course Note: Students need to bring their own safety glasses and dress in appropriate work clothes to start working in the lab on the first day of class. Books are included as part of the course fee. \$35 of the Course Fee is non-refundable.

## 2022-2023 Course Descriptions

### **AUTM 126 Automatic Transmissions**

**Credit Hours: 4 / Billing Hours: 6**

This course prepares students for ASE and State of Michigan certification testing in automatic transmissions. Topics include transmission theory and operation, maintenance, diagnosis, disassembly, inspection, repair, and overhaul of modern electronic automatic transmissions/transaxles. This course meets NATEF Master Automotive Service Technology (MAST) standards for automatic transmissions. (F, Sp)

- Prerequisite Course: Minimum 2.0 in [(AUTM 111 or concurrently) or AUTM 110]
- Placement Score: Reading Level 3 and Writing Level 2 and [Math Level 3 or Minimum 2.0 in (MATH 105 or MATH 106)]
- Course Note: Students need to bring their own safety glasses and dress in appropriate work clothes to start working in the lab on the first day of class. Books are included as part of the course fee. \$35 of the Course Fee is non-refundable.

### **AUTM 131 Automotive Engine Repair**

**Credit Hours: 4 / Billing Hours: 6**

This course prepares students for ASE and State of Michigan certification testing in automotive engine repair. Topics include theory and operation, maintenance, diagnosis, disassembly, inspection, repair, and overhaul of engines, cooling systems, lubrication systems, and in-vehicle and out-of-vehicle engine servicing. This course meets NATEF Master Automotive Service Technology (MAST) standards for engine repair. (Sp)

- Prerequisite Course: Minimum 2.0 in [(AUTM 111 or concurrently) or AUTM 110]
- Placement Score: Reading Level 3 and Writing Level 2 and [Math Level 3 or minimum 2.0 in (MATH 105 or MATH 106)]
- Course Note: Students need to bring their own safety glasses and dress in appropriate work clothes to start working in the lab on the first day of class. Books are included as part of the course fee. \$35 of the Course Fee is non-refundable.

## 2022-2023 Course Descriptions

### **AUTM 141    Braking Systems and ABS**

**Credit Hours: 4 / Billing Hours: 6**

This course prepares students for ASE and State of Michigan certification testing in braking systems. Topics include theory and operation, maintenance, diagnosis, disassembly, inspection, and repair of disc and drum braking systems, anti-lock brake/traction control systems, and related brake components. This course meets NATEF Master Automotive Service Technology (MAST) standards for brakes. (F)

- Prerequisite Course: Minimum 2.0 in [(AUTM 111 or concurrently) or AUTM 110]
- Placement Score: Reading Level 3 and Writing Level 2 and [Math Level 3 or Minimum 2.0 in (MATH 105 or MATH 106)]
- Course Note: Students need to bring their own safety glasses and dress in appropriate work clothes to start working in the lab on the first day of class. Books are included as part of the course fee. \$35 of the Course Fee is non-refundable.

### **AUTM 151    Suspension and Steering**

**Credit Hours: 4 / Billing Hours: 6**

This course prepares students for ASE and State of Michigan certification testing in suspension and steering. Topics include theory and operation, maintenance, diagnosis, disassembly, inspection, and repair of suspension and steering systems, wheel alignment, wheels and tires, and steering/suspension related components. This course meets NATEF Master Automotive Service Technology (MAST) standards for suspension and steering. (F)

- Prerequisite Course: Minimum 2.0 in [(AUTM 111 or concurrently) or AUTM 110]
- Placement Score: Reading Level 3 and Writing Level 2 and [Math Level 3 or Minimum 2.0 in (MATH 105 or MATH 106)]
- Course Note: Students need to bring their own safety glasses and dress in appropriate work clothes to start working in the lab on the first day of class. Books are included as part of the course fee. \$35 of the Course Fee is non-refundable.

## 2022-2023 Course Descriptions

### **AUTM 161 Auto Heating/Air Conditioning** **Credit Hours: 4 / Billing Hours: 6**

This course prepares students for ASE and State of Michigan certification testing in heating and air conditioning. Topics include theory and operation, maintenance, diagnosis, inspection and repair of automobile heating, ventilation, and air conditioning systems; and recovery, recycling, and handling of refrigerants. This course meets NATEF Master Automotive Service Technology (MAST) standards for heating, ventilation, and air conditioning. (Sp)

- Prerequisite Course: Minimum 2.0 in [(AUTM 111 or concurrently) or (HERT 125 or concurrently) or AUTM 110]
- Placement Score: Reading Level 3 and Writing Level 2 and [Math Level 3 or minimum 2.0 in (MATH 105 or MATH 106)]
- Course Note: Students need to bring their own safety glasses and dress in appropriate work clothes to start working in the lab on the first day of class. Books are included as part of the course fee. \$35 of the Course Fee is non-refundable.

### **AUTM 180 Intro to Alternative Fuels** **Credit Hours: 2 / Billing Hours: 2**

Students will use various sources in the alternative fueled vehicle industry to learn what alternative fuels are available. Students will examine the need for alternative fuels including: Propane, Natural Gas, Ethanol and Biodiesel. Students will also learn about new technologies such as Electric Drive and Hydrogen fueled vehicles as well as Fuel Economy and Idle Reduction considerations. (F)

- Prerequisite Course: None
- Placement Score: Reading Level 3 and Writing Level 2 and [Math Level 3 or Minimum 2.0 in (MATH 105 or MATH 106)]

### **AUTM 185 Automotive Special Topics** **Credit Hours: .25 to 8 / Billing Hours: .25 to 11**

The Automotive Special Topics series will feature topics related to the automotive industry. The lectures will allow participants to explore a wide variety of topics that will range from State of Michigan Recertification and Alternative Fuels to Advanced Drivability Diagnosis. Specific topics vary each semester; check the semester schedule book for topics to be offered. (F,Sp,Su)

- Prerequisite Course: Determined by Section

## 2022-2023 Course Descriptions

### **AUTM 211 Automotive Electrical III**

**Credit Hours: 4 / Billing Hours: 6**

This course prepares students for ASE and State of Michigan certification testing in this subject area. Topics include theory and operation, diagnosis, and repair of comfort and convenience accessories, restraint systems, computer multiplexing, entertainment/navigation systems, and advanced electrical technologies. This course meets NATEF Master Automotive Service Technology (MAST) standards for electrical/electronics systems. (Sp)

- Prerequisite Course: Minimum 2.0 in (AUTM 113 or concurrently)
- Placement Score: Reading Level 3 and Writing Level 2 and [Math Level 3 or Minimum 2.0 in (MATH 105 or MATH 106)]
- Course Note: Students need to bring their own safety glasses and dress in appropriate work clothes to start working in the lab on the first day of class. Books are included as part of the course fee. \$35 of the Course Fee is non-refundable.

### **AUTM 270 Gas Eng Drivability Diagnosis**

**Credit Hours: 4 / Billing Hours: 6**

This course prepares students for ASE and State of Michigan certification testing in this subject area. Topics include theory and operation, maintenance, diagnosis, and repair of engine mechanical integrity, fuel delivery systems, powertrain computer systems, and air induction and exhaust systems. This course meets NATEF Master Automotive Service Technology (MAST) standards for engine performance. (F)

- Prerequisite Course: Minimum 2.0 in [(AUTM 211 or concurrently) or AUTM 210]
- Placement Score: Reading Level 3 and Writing Level 2 and Math Level 3
- Course Note: Students need to bring their own safety glasses and dress in appropriate work clothes to start working in the lab on the first day of class. Books are included as part of the course fee. \$35 of the Course Fee is non-refundable.



## 2022-2023 Course Descriptions

### **AUTM 273 Lt. Diesel Drivability Diag.**

**Credit Hours: 4 / Billing Hours: 6**

This course covers engine management of a light duty diesel engine, including diagnosis and repair of electronic diesel fuel injection systems, air induction systems, particulate filter systems and oxidation catalyst systems. This course meets NATEF Automotive Service Technology (AST) and Master Automotive Service Technology (MAST) standards for light diesel engine control systems. (F, Sp)

- Prerequisite Course: Minimum 2.0 in (AUTM 270 or concurrently)
- Placement Score: Reading Level 3 and Writing Level 2 and Math Level 3
- Course Note: Students need to bring their own safety glasses and dress in appropriate work clothes to start working in the lab on the first day of class. Books are included as part of the course fee. \$35 of the Course Fee is non-refundable.

### **AUTM 275 Ignition/Emission Sys Diag.**

**Credit Hours: 4 / Billing Hours: 6**

This course prepares students for ASE and State of Michigan certification testing in ignition and emissions systems. Topics include theory and operation, maintenance, diagnosis, and repair of ignition and emission control systems and computer devices that cause emissions failures. This course meets NATEF Master Automotive Service Technology (MAST) standards for engine performance. (F, Sp)

- Prerequisite Course: Minimum 2.0 in (AUTM 270 or concurrently)
- Placement Score: Reading Level 3 and Writing Level 2 and Math Level 3
- Course Note: Students need to bring their own safety glasses and dress in appropriate work clothes to start working in the lab on the first day of class. Books are included as part of the course fee. \$35 of the Course Fee is non-refundable.

### **AUTM 280 Electric/Fuel Cell Technology**

**Credit Hours: 2 / Billing Hours: 2.5**

This course is designed to help prepare the student to enter the automotive repair and service industry in the area of alternative fuels and advanced technology vehicles. It is an intensive study of vehicle electric and fuel cell theory, application, installation, diagnosis, service and safety regulations. (F)

- Prerequisite Course: Minimum 2.0 in [AUTM 180 and (AUTM 270 or concurrently)]
- Placement Score: Reading Level 3 and Writing Level 2 and Math Level 3
- Course Note: Students need to bring their own safety glasses and dress in appropriate work clothes to start working in the lab on the first day of class. See course syllabus for textbook information. \$40 of the Course Fee is non-refundable.

## 2022-2023 Course Descriptions

### **AUTM 282    Gaseous Fuels**

**Credit Hours: 3 / Billing Hours: 4**

This course is designed to help prepare the student to enter the auto repair and service industry in the area of alternative fuels and advanced technology vehicles. It is an intensive study of three gaseous fuels - natural gas, propane and hydrogen. Theory, application, installation, diagnosis and safety regulations will be covered. (F,Sp)

- Prerequisite Course: Minimum 2.0 in [AUTM 180 and (AUTM 270 or concurrently)]
- Placement Score: Reading Level 3 and Writing Level 2 and Math Level 3
- Course Note: Students need to bring their own safety glasses and dress in appropriate work clothes to start working in the lab on the first day of class. See course syllabus for textbook information. \$40 of the Course Fee is non-refundable.

### **AUTM 284    Hybrid Systems & Maintenance**

**Credit Hours: 4 / Billing Hours: 6**

This course introduces the student to the features of the Internal Combustion Engine (ICE) as they apply to the hybrid vehicle, hybrid drive systems (transaxles and gears), brake systems, HVAC systems, and cooling systems service. First responder, predictive maintenance procedures, hybrid trucks, and Belted Alternator System (BAS) are also examined. (F)

- Prerequisite Course: Minimum 2.0 in (AUTM 180 and AUTM 270)
- Placement Score: Reading Level 3 and Writing Level 2 and Math Level 3
- Course Note: Students need to bring their own safety glasses and dress in appropriate work clothes to start working in the lab on the first day of class. See course syllabus for textbook information.

### **AUTM 286    High Voltage Battery Tech**

**Credit Hours: 4 / Billing Hours: 6**

This course introduces the student to high voltage battery technology: electrical service safety precautions and personal protection, high voltage tools and equipment usage, battery energy management hardware systems, battery removal and installation, and battery rebuilding. (Sp)

- Prerequisite Course: Minimum 2.0 in (AUTM 180 and AUTM 270)
- Placement Score: Reading Level 3 and Writing Level 2 and Math Level 3
- Course Note: Students need to bring their own safety glasses and dress in appropriate work clothes to start working in the lab on the first day of class. See course syllabus for textbook information.

## 2022-2023 Course Descriptions

### **AUTM 288 High Voltage Management**

**Credit Hours: 4 / Billing Hours: 7**

This course introduces the student to AC induction electric machines, permanent magnet electric machines, power inverter systems, electric propulsion sensing systems, communication networks, predictive maintenance, and building an ATV. (F)

- Prerequisite Course: Minimum 2.0 in (AUTM 286 or concurrently)
- Placement Score: Reading Level 3 and Writing Level 2 and Math Level 3
- Course Note: Students need to bring their own safety glasses and dress in appropriate work clothes to start working in the lab on the first day of class. See course syllabus for textbook information.

### **AUTM 290 Automotive Internship**

**Credit Hours: 1 to 4 / Billing Hours: 1 to 4**

Students are able to earn credits while employed as an intermediate/advanced level technician in an auto mechanic shop or dealership. The program coordinator must approve the training station and working conditions. (F, Sp, Su)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None

### **AUTM 296 Automotive Independent Study**

**Credit Hours: 1 to 4 / Billing Hours: 1 to 4**

Special research projects and/or individual readings are used to apply personal and professional experience to the academic area of interest. A presentation or written report is required at the end of the project. (F, Sp, Su)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None

### **AUTM 298 Automotive Service Laboratory**

**Credit Hours: 2 to 6 / Billing Hours: 4 to 9**

This laboratory course is designed to provide work experience and develop trade-entry skills in general and light-line repair. (Su)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None

## 2022-2023 Course Descriptions

### **AVAF 125 Aircraft Systems I**

**Credit Hours: 2 / Billing Hours: 2.75**

The study of fuel management, transfer, defueling and fuel pump systems. The course covers the procedures used to inspect, check, service, troubleshoot and repair aircraft fuel systems and fuel system components. Course material emphasizes fluid quantity indicating, fluid pressure and warning systems. (Sp)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None

### **AVAF 126 Aircraft Systems II**

**Credit Hours: 6 / Billing Hours: 8.25**

This course covers the study, analysis and repair of aircraft landing gear and brake systems and their related warning systems. It also includes the study, inspection, servicing and repair of aircraft hydraulic and pneumatic systems and their related components. (Sp)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None

### **AVAF 127 Aircraft Systems III**

**Credit Hours: 3 / Billing Hours: 4**

This course covers the inspection, checking, troubleshooting, servicing and repair of aircraft heating, cooling, air-conditioning, pressurization, oxygen, ice and rain control, and fire protection systems. (Su)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None

### **AVAF 134 Aircraft Instruments**

**Credit Hours: 2 / Billing Hours: 2.75**

This course covers inspection, checking, servicing, troubleshooting, repair of electronic flight instrument systems, both mechanical and electrical speed, altitude, temperature, pressure and flow instrument systems. Also, special removal and installation techniques applicable to aircraft instruments are included. (Su)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None

## 2022-2023 Course Descriptions

### **AVAF 140 Aircraft Welding**

**Credit Hours: 2 / Billing Hours: 3**

Presents welding applications and methods used in repairs and inspection of aircraft structures in accordance with approved aviation maintenance techniques. (Sp)

- Prerequisite Course: None. Department Approval is required.
- Placement Score: None
- Course Note: Students need to bring their own safety glasses, pliers, leather welding gloves and leather work boots to start welding on the first day of class.

### **AVAF 208 Aircraft Structures I**

**Credit Hours: 4 / Billing Hours: 5.5**

This course introduces the procedures for identification, inspection, testing and repairing of wood, fabric-covered and sheet metal aircraft. The installation and removal of conventional rivets, forming of aircraft sheet metal, installation of special rivets and fasteners, and an introduction to applying finishing materials will also be covered. (Sp)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None

### **AVAF 209 Aircraft Structures II**

**Credit Hours: 4 / Billing Hours: 5.75**

This course covers assembly and rigging of fixed wing and rotary wing aircraft control structures. It provides practical application in removal, installation and adjustment of flight controls by balancing, cable tension and motion studies. Aircraft inspection procedures to insure conformity with flight safety standards will be included. (F)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None

### **AVAF 210 Aircraft Structures III**

**Credit Hours: 4 / Billing Hours: 6**

An advanced course covering inspection, repair, layout, bending and assembly of aircraft sheet metal. Inspection, testing and repair of fiberglass, plastics, honeycomb, composite and laminated structures are practiced. Installation and removal of special fasteners for bonded and composite structures and servicing of aircraft windows, doors and interior furnishings is included. (F)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None

## 2022-2023 Course Descriptions

### **AVAF 211 Aircraft Electrical I**

**Credit Hours: 4 / Billing Hours: 5.75**

An intermediate aviation electrical course concentrating on theory, calculation and measurement of A.C. electrical systems. Includes reading and interpreting aircraft electrical circuit diagrams, including those with solid-state devices and logic functions. The installation, checking and servicing of airframe and engine wiring, controls, switches, indicators and protective devices are also covered. (Sp)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None

### **AVAF 212 Aircraft Electrical II**

**Credit Hours: 4 / Billing Hours: 5.75**

Repair of airframe and engine electrical system components with an emphasis on the inspection, checking, servicing and repair of alternating and direct current systems. General troubleshooting techniques are practiced with special emphasis on A.C. and D.C. electrical systems. (Su)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None

### **AVAF 246 Airframe Certification**

**Credit Hours: 1 / Billing Hours: 1.5**

Study of the Federal Aviation Regulations pertaining to national certification as a licensed airframe mechanic. Includes testing in all required areas of study as a prerequisite to receiving authorization to take the general and airframe national certification test administered by representatives of the Federal Aviation Administration. (F)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None

### **AVAU 100 UAS Exam - Flight Orientation**

**Credit Hours: 2 / Billing Hours: 2.5**

This course covers the fundamentals of unmanned aircraft systems (UAS) pertaining to UAS regulations, National Airspace restrictions, weather effects, UAS performance, human factors, operational pre-flight activities and in-flight control, recordkeeping, and logbooks. This course will prepare the student for the Title 14 CFR Part 107 FAA written examination. (F)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4



## 2022-2023 Course Descriptions

### **AVGM 112 Aviation General II**

**Credit Hours: 6 / Billing Hours: 8**

Introduces the Federal Aviation Regulations involving the mechanic's privileges, limitations and related aviation operations. Includes the selection and use of aviation publications, maintenance forms, records, reports, aircraft drawings, graphs and charts, symbols, blueprints and system schematics. Also focuses on aircraft ground operations and servicing of related aircraft systems. (F)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None

### **AVGM 113 Aviation General III**

**Credit Hours: 4 / Billing Hours: 5**

This initial aviation electrical course offers instruction in basic electrical theory and its aviation application. It includes the calculation and measurement of voltage, current resistance, continuity and power; and the theory, inspection and servicing of aircraft lead-acid and ni-cad batteries; and the construction of a volt-ohm meter. (F)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None

### **AVGM 114 Materials and Processes**

**Credit Hours: 5 / Billing Hours: 7**

This course covers identification and selection of the appropriate aviation hardware, hand tools, cleaning materials, fluid lines and nondestructive testing methods. Performance of nondestructive testing, precision measurements, aircraft cleaning and corrosion control, fabrication, installation and testing of fluid lines is included. (F)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None

### **AVPP 241 Reciprocating Engine**

**Credit Hours: 8 / Billing Hours: 11.25**

Presents the theory and practices used in the removal, inspection, overhaul, service, repair and installation of reciprocating engines. This course also studies the inspection, service, repair and troubleshooting of reciprocating engine lubrication systems. (F)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None



### **AVPP 251      Reciprocating Engine Systems                      Credit Hours: 2 / Billing Hours: 2.5**

This course covers the inspection, servicing, troubleshooting and repair of reciprocating engine cooling and exhaust systems. In addition, the inspection requirements necessary to meet established conformity and standards of airworthiness are studied; and reciprocating engine operations and adjustments are conducted using FAA and maintenance publication procedures. (Sp)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None

### **AVPP 253      Reciprocating Ignition Systems                      Credit Hours: 5 / Billing Hours: 6.75**

This course covers the operation, analysis, inspection, service and repair of reciprocating engine ignition systems and components. This includes magnetos, ignition harnesses, spark plugs and starter systems. (Sp)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None

### **AVPP 255      Reciprocating Induction Sys                      Credit Hours: 4 / Billing Hours: 5.5**

Study and analysis of reciprocating engine fuel systems and components. Includes inspection, checking, servicing, troubleshooting and repair of carburetors, water injection systems, heat exchangers, superchargers, intake and induction manifolds and other engine fuel system components. Also includes carburetor overhaul procedures. (Sp)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None

### **AVPP 257      Aircraft Propeller Systems                      Credit Hours: 4 / Billing Hours: 5.5**

Covers the study, analysis, service and repair of aircraft propellers, systems and controls. Includes propeller synchronizing, ice control, lubrication, balancing, pitch control, repair procedures and removal, and installation of both fixed-pitch and variable-pitch propellers. (Sp)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None

## 2022-2023 Course Descriptions

### **AVPP 259 Turbine Engine I**

**Credit Hours: 4 / Billing Hours: 5.5**

This course covers the theory of operation and design of the varied turbine engine powerplants and turbine-driven auxiliary power unit types, including the induction and cooling systems of each. (Sp)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None

### **AVPP 261 Turbine Engine II**

**Credit Hours: 4 / Billing Hours: 5.5**

This course covers inspection, checking, servicing, repair, removal, installation and troubleshooting of turbine engines and systems. A detailed study of the lubrication system and inspection procedures to insure conformity with FAA specifications and standards are included. (Su)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None

### **AVPP 263 Turbine Engine Systems**

**Credit Hours: 2 / Billing Hours: 2.75**

This course is a detailed study of turbine-engine ignition, pneumatic and electric starters, exhaust and thrust reverser, fire detection and protection, fuel metering and electronic fuel control systems and components. Study also includes inspection, checking, servicing, repair and troubleshooting procedures. (Su)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None

### **AVPP 265 Powerplant Instruments**

**Credit Hours: 2 / Billing Hours: 2.5**

This course covers the inspection and repair of turbine and reciprocating engine instruments. Troubleshooting of mechanical/electrical fluid rate-of-flow, temperature, pressure, RPM and airflow indicators will be included. (Su)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None

## 2022-2023 Course Descriptions

### **AVPP 267      Powerplant Certification**

**Credit Hours: 1 / Billing Hours: 1.5**

Study of the Federal Aviation Regulations pertaining to national certification as a licensed powerplant mechanic. Includes testing in all required areas of study as a prerequisite to receiving authorization to take the powerplant national certification tests administered by representatives of the Federal Aviation Administration. (Su)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None

### **BIOL 120      Environmental Science**

**Credit Hours: 4 / Billing Hours: 6**

Students will develop an ecological knowledge base to allow them to understand how human actions impact the environment. They will develop applied analytical skills through laboratories, fieldwork, simulations and a discussion of contemporary issues. They will investigate and evaluate basic ecological and environmental issues. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: (Reading Level 5 or ENGL 099 concurrently) and Writing Level 6
- Course Note:
  - The course fee for this course includes the price of the electronic textbook and web access from Cengage publishers. You do not need to purchase an additional textbook. If you want to purchase printed loose-leaf pages of the textbook, you may purchase them at a discount from Cengage once class has started.
  - An online course also has some labs requiring students to physically tour a field lab facility or to do simple experiments at home.

### **BIOL 121      Biol Foundation for Physiology**

**Credit Hours: 4 / Billing Hours: 6**

Topics include atomic structure, chemical bonding, organic molecules, biological molecules, enzymes, metabolism, cell structure and function, passage of materials across membranes, harvesting energy, mitosis, meiosis, and the relationship between DNA, RNA, and protein synthesis. Designed for students preparing for health careers. Recommended prerequisite for BIOL 201 and 202. (F,Sp,Su)

- Prerequisite Course: None

## 2022-2023 Course Descriptions

### **BIOL 125**      **Introductory Biology**

**Credit Hours: 4 / Billing Hours: 5**

This is an introductory biology course for non-science majors. Lecture and lab topics include cell theory, evolution, a survey of life, and basic plant and animal anatomy. Students will analyze scientific data and investigate current biological issues. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### **BIOL 127**      **Cell Biology**

**Credit Hours: 4 / Billing Hours: 6**

Lecture topics include the biochemistry of carbohydrates, lipids and proteins; structure and function of prokaryotic and eukaryotic cells; biochemistry of respiration and photosynthesis; and molecular genetics, regulation of gene expression, and biotechnology. Laboratory stresses techniques of cell and molecular biology and molecular genetics. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in [CHEM 120 or (CHEM 151 or concurrently)]
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 4

### **BIOL 128**      **Organismal Biology**

**Credit Hours: 4 / Billing Hours: 6**

This course examines adaptations of organisms to changing environments. Major emphasis is on physiological adaptations, natural selection, and ecology. Lab topics include a survey of the kingdoms, behavior experiments, and field studies. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6 and [Math Level 4 or minimum 2.0 in (MATH 105 or MATH 106)]

### **BIOL 145**      **Intro Anatomy and Physiology**

**Credit Hours: 4 / Billing Hours: 6**

An introductory course in human anatomy and physiology which combines lecture and laboratory experiences to provide a basic understanding of the structure and function of body systems. Designed for vocational programs, that include emergency medical technicians, massage therapists, medical technicians, and medical transcriptionists, as well as for non-science majors. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6 and [Math Level 4 or Minimum 2.0 in (MATH 105 or MATH 106)]

## 2022-2023 Course Descriptions

### **BIOL 201      Human Anatomy**

**Credit Hours: 4 / Billing Hours: 6**

A lecture and laboratory study of the anatomy of the human body that includes the structures of the integumentary, skeletal, muscular, nervous, cardiovascular, lymphatic, respiratory, digestive, urinary, endocrine, and reproductive systems. Designed for students preparing for allied health occupations such as nursing, radiologic technology, dental hygiene, sonography, physician's assistant, physical/occupational therapy, mortuary science, and surgical technology. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6 and [Math Level 4 or Minimum 2.0 in (MATH 105 or MATH 106)]
- Recommended: Minimum 2.0 in (BIOL 121 or BIOL 127 or CHEM 120 or CHEM 151) or passing score on Health Biology Proficiency Test.

### **BIOL 202      Human Physiology**

**Credit Hours: 4 / Billing Hours: 5**

The physiology, regulation, biochemistry, and integration of various organ systems in the human body are presented. Emphasis is on normal function, but appropriate clinical aspects may be discussed. Laboratory topics complement the lecture. Designed for students preparing for health occupations such as nursing, radiologic technology and dental hygiene. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in BIOL 201 or concurrently and [Minimum 2.0 in MATH 109 or (MATH 119 or STAT 170 concurrently) or Math Level 5 noted below]
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 5

### **BIOL 203      Microbiology**

**Credit Hours: 3 / Billing Hours: 3**

An introduction to bacteria, viruses, and other microorganisms as they relate to human health. Emphasis on bacterial and viral structure, life cycles, and genetics; antimicrobial therapy; immunology and host defenses; epidemiology, treatment, and prevention of infectious human diseases. Designed for health career and other science students. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6 and [Math Level 4 or Minimum 2.0 in (MATH 105 or MATH 106)]
- Recommended: Minimum 2.0 in (BIOL 121 or BIOL 127 or CHEM 120 or CHEM 151) or passing score on Health Biology Proficiency Test.

## 2022-2023 Course Descriptions

### **BIOL 204      Microbiology Laboratory**

**Credit Hours: 1 / Billing Hours: 3**

Basic laboratory principles of microbiology for allied health students. Emphasis on microscopy, aseptic cultivation and enumeration of microorganisms, differential staining, assays of antimicrobial agents, and diagnostic laboratory techniques. Students will identify unknown bacterial species. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in BIOL 203 or concurrently
- Placement Score: Reading Level 5 and Writing Level 6 and [Math Level 4 or Minimum 2.0 in (MATH 105 or MATH 106)]

### **BIOL 210      Natural Resource Conservation**

**Credit Hours: 4 / Billing Hours: 6**

This course examines the renewable natural resources and the policies which govern their use in Michigan. Lecture topics include ecology, water, wildlife, forests, and soils. Laboratory investigations include measurement techniques, environmental problem solving and field studies. (F)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6 and [Math Level 4 or Minimum 2.0 in (MATH 105 or MATH 106)]

### **BIOL 260      Botany**

**Credit Hours: 4 / Billing Hours: 6**

An introduction to the study of plants that includes structure and function, development, and ecology. Emphasis will be placed on the diversity, adaptations, and life cycles of major plant groups. Laboratory will complement the basic concepts with emphasis on physiology, systematics, and species of value to medicine and agriculture. (F)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: One semester of college-level biology

## 2022-2023 Course Descriptions

### **BIOL 265      Zoology**

**Credit Hours: 4 / Billing Hours: 6**

Topics include principles of taxonomy; early animal development; the diversity of animal body plans; and protozoan biology. Course deals principally with taxonomy, early development, and comparative anatomy of members within the animal phyla and classes. Groups are surveyed in a phylogenetic approach. (Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6 and [Math Level 4 or Minimum 2.0 in (MATH 105 or MATH 106)]
- Recommended: One semester of college-level biology

### **BIOL 270      Human Genetics**

**Credit Hours: 3 / Billing Hours: 3**

Presents general principles of genetics with specific human application. Topics include Mendelian genetics, mitosis and meiosis, chromosome structure and aberrations, sex determination and x-linkage, molecular basis of inheritance, gene mutations, genetics of immune system, cancer genes, recombinant DNA technology, and genetic screening and counseling. (F, Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6 and [Math Level 4 or Minimum 2.0 in (MATH 105 or MATH 106)]
- Recommended: One semester of college-level biology

### **BIOL 275      Molecular Biology I**

**Credit Hours: 4 / Billing Hours: 6**

Introduces core principles of molecular biology and biochemistry of DNA/RNA structure, gene expression, function and replication, Polymerase Chain Reaction, and recombinant DNA technology. Laboratory training emphasizes reagent preparation, culturing bacteria, isolating and purifying bacterial and plasmid DNA, restriction enzyme digests, agarose gel electrophoresis, and bioinformatics. Current trends in Molecular Biology will be explored. This is the first course in a 2-course sequence. (F)

- Prerequisite Course: Minimum 2.0 in BIOL 127 and CHEM 151 and CHEM 161
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 4

## 2022-2023 Course Descriptions

### **BIOL 276      Molecular Biology II      Credit Hours: 4 / Billing Hours: 6**

Continuation of BIOL 275. Advanced lecture and laboratory topics in molecular biology and biochemistry in gene analysis, gene sequencing, and applications of molecular biotechnology. Laboratory activities include gene cloning and genome editing experiments, and molecular analysis of protein structure and function. This is the second course in a 2-course sequence. (Sp)

- Prerequisite Course: Minimum 2.0 in BIOL 275
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 4

### **BLDT 120      Structural Framing      Credit Hours: 4 / Billing Hours: 6**

This course covers the key concepts for furnishing and installing various components related to floors, walls, and roofs for new and existing residential and light commercial construction according to industry standards and code specifications. (F)

- Prerequisite Course: Minimum 2.0 in (DCTM 102 or ELTE 102 or HVAC 102 or METS 102 or WELD 102 or concurrently)
- Placement Score: Reading Level 4 and Writing Level 4 and (Math Level 4 or minimum 2.0 in MATH 105 or MATH 106)

### **BLDT 130      Building Exterior Construction      Credit Hours: 4 / Billing Hours: 6**

This course covers the key concepts for furnishing and installing various exterior components such as roofing, siding, doors, and windows for new and existing residential and light commercial construction according to industry standards and code specifications. (Sp)

- Prerequisite Course: Minimum 2.0 in (DCTM 102 or ELTE 102 or HVAC 102 or METS 102 or WELD 102) or concurrently
- Placement Score: Reading Level 4 and Writing Level 4 and [Math Level 4 or minimum 2.0 in (MATH 105 or MATH 106)]
- Recommended: BLDT 120 or BLDT 121



## 2022-2023 Course Descriptions

### **BLDT 140      Building Interior Construction      Credit Hours: 4 / Billing Hours: 6**

This course covers the key concepts for furnishing and installing various components related to floor finish, wall finish, ceilings, millwork, and interior doors for new and existing residential and light commercial construction according to industry standards and code specification. (F)

- Prerequisite Course: Minimum 2.0 in (DCTM 102 or ELTE 102 or HVAC 102 or METS 102 or WELD 102 or concurrently)
- Placement Score: Reading Level 4 and Writing Level 4 and (Math Level 4 or minimum 2.0 in MATH 105 or MATH 106)
- Recommended: (BLDT 120 or BLDT 121) and (BLDT 130 or BLDT 125)

### **BLDT150      Intro Masonry/Concrete Const      Credit Hours: 4 / Billing Hours: 6**

This course introduces the basic properties and practices of concrete construction and masonry construction. Upon completion of this course, students will have the knowledge and skills necessary to take the ACI (American Concrete Institute) certification exam for Flatwork Technician. (Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 4 and [Math Level 3 or minimum 2.0 in (MATH 105 or MATH 106)]

### **BLDT 160      Steel Framing      Credit Hours: 4 / Billing Hours: 6**

Students will learn commercial metal stud framing, step-by-step methods to master high-speed metal framing, and learn about new tools, materials and equipment. Students will be introduced to technical and practical experience with light gauge stud design and standards. (F, Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 4 and (Math Level 3 or minimum 2.0 in MATH 105 or MATH 106)
- Recommended: BLDT 120 or BLDT 121 or concurrently

## 2022-2023 Course Descriptions

### **BLDT 170 Special Topics in Construction Credit Hours: .25 to 8 / Billing Hours: .25 to 11**

This course offers students the opportunity to learn new or advanced skills in residential building, woodworking, or other construction-related topics. Specific content may vary with each offering and will be related to the Residential Building program and profession. (F,Sp,Su)

- Prerequisite Course: Determined by Section

### **BLDT 171 Special Topic/Construction P/Z Credit Hours: .25 to 8 / Billing Hours: .25 to 11**

This course offers students the opportunity to learn new or advanced skills in residential building, woodworking, or other construction-related topics. Specific content may vary with each offering and will be related to the Residential Building program and profession. This course will be graded on a Pass/Fail basis. (F, Sp, Su)

- Prerequisite Course: Determined by Section

### **BLDT 180 Builder Pre-Licensure Prep Credit Hours: 4 / Billing Hours: 4**

This course will provide the student with the information needed to pass the Michigan Builder's License Examination as well as techniques for running a successful contracting business. It is approved by the State of Michigan and satisfies the 60-hour pre-license course requirement. The program is for anyone who is interested in becoming a licensed contractor in Michigan. (F, Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 4 and Writing Level 4 and [Math Level 4 or minimum 2.0 in (MATH 105 or MATH 106)]
- Course Note: This course fulfills the State of Michigan 60-hour requirement to apply for a Residential Builder or Maintenance & Alteration Contractor license. If you need more information, call 517-483-5338.

### **BLDT 285 Residential Bldg Internship Credit Hours: 2 to 4 / Billing Hours: 2 to 4**

This course offers students the opportunity to work for a residential builder in an actual job situation. The students can gain experience working with tools used in the industry and applying what they learned in the classroom and laboratory. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in (BLDT 120 or BLDT 121). Departmental Approval is required.
- Placement Score: None
- Restriction: Building Construction Majors

## 2022-2023 Course Descriptions

### **BUSN 118 Introduction to Business**

**Credit Hours: 3 / Billing Hours: 3**

Introduction to principles, problems, and practices related to the world of business. Topics covered include: business management and organization, marketing, finance, economics, supply chain management, and international business. Application of these topics will be done through critical thinking of weekly application assignments, quizzes, and online discussion questions. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4 or (Reading Level 4 and Writing Level 4 and ENGL 099 concurrently)
- Course Note: Some sections of BUSN 118 allow concurrent enrollment in ENGL 098 and NCAS 105. See an academic advisor for sections that allow concurrent enrollment with ENGL 098 and NCAS 105.

### **BUSN 150 Legal Issues: Start Small Busn**

**Credit Hours: 2 / Billing Hours: 2**

This course will introduce, but not limited to, the legal aspects of starting and operating a small business. Topics will include selecting the appropriate legal structure for setting up a business, complying with employment law, protecting intellectual property, avoiding legal disputes, and other legal aspects of purchasing and operating a business. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4
- Course Note: Previously LEGL 150

### **BUSN 160 Starting a Business**

**Credit Hours: 4 / Billing Hours: 4**

This course will introduce students to the world of entrepreneurs and their role in small business. There will be an emphasis on building a "business" which will include the elements of entrepreneurship, management, marketing and finance. The Internet will be used as a resource and many real-life cases will be studied. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4 and Math Level 4

## 2022-2023 Course Descriptions

### **BUSN 201 International Business**

**Credit Hours: 3 / Billing Hours: 3**

Students will analyze the conditions in multiple countries and develop and evaluate present and future SWOT analysis for international business activities. Students will also analyze the relationship between international businesses and institutions and the political, economic, legal, financial management, human resource, and social policies of countries to develop strategies for successful decision-making. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4
- Recommended: BUSN 118

### **BUSN 250 Personal Finance**

**Credit Hours: 3 / Billing Hours: 3**

Provides a broad survey of topics including budgeting, buying and leasing a car, renting, buying or selling a home, credit requirements, time value of money, insurance, and other personal financial planning topics. Not intended to be a financial planning course, but students will need basic knowledge of financial areas. A capstone group project will be used to apply the materials covered in this course. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4 and Math Level 5

### **BUSN 251 Understanding Investments**

**Credit Hours: 3 / Billing Hours: 3**

Study of securities markets which will include an introduction to various types of investments such as mutual funds, real estate, money markets, stocks, bonds, and IRAs. Practice will be conducted to develop an understanding of terminology and application of concepts. Time Value of Money and some of the more prevalent theories, concepts, and skills of investing will be covered to aid in developing strategies for making sound investment decisions. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4 and [Math Level 5 or minimum 2.0 in (MATH 105 or MATH 106)]

## 2022-2023 Course Descriptions

### **BUSN 260 Starting a Business**

**Credit Hours: 4 / Billing Hours: 4**

This course will introduce students to the world of entrepreneurs and their role in small business. There will be an emphasis on building a "business" which will include the elements of entrepreneurship, management, marketing, and finance. The Internet will be used as a resource and many real-life cases will be studied. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4 and Math Level 4

### **BUSN 285 Business Admin Internship**

**Credit Hours: 2 to 5 / Billing Hours: 2 to 5**

The Business Admin Internship is an opportunity for students to work with Lansing area businesses as a team member to explore various careers within the industry. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in BUSN 118
- Placement Score: Reading Level 5 and Writing Level 6

### **CHDV 100 Foundations Early Childhood Ed**

**Credit Hours: 3 / Billing Hours: 3**

This course provides a broad view of essential elements in early childhood education and care including the role of the early childhood education professional. Topics include elements of quality, providing a supportive emotional environment, influences on children's learning including family and culture, and the importance of matching curriculum to development. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 or (Reading Level 4 and ENGL 099 concurrently) and Writing Level 4
- Recommended: Child Development and Early Education Major
- Course Note: To complete an Associate Degree or Certificate in Child Development and Early Education in the shortest possible time, students must enroll in CHDV 100 and CHDV 111 in their first semester.

## 2022-2023 Course Descriptions

### **CHDV 101**    **Child Growth/Develop: 0-12 Yrs**                      **Credit Hours: 4 / Billing Hours: 4**

This course examines the growth and development patterns of children through age twelve in physical, social, emotional, cognitive and language development. This includes the influences of environmental factors which impact development. Students acquire skills in observing and recording child behavior. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 or (Reading Level 4 and ENGL 099 or NCSS 101 concurrently) and Writing Level 4

### **CHDV 111**    **Child Guidance/Communication**                      **Credit Hours: 4 / Billing Hours: 4**

This course, which includes field work, examines interaction skills and environmental structures that foster social and emotional growth in children in early childhood education and care settings. Topics include positive guidance and discipline, effective communication with children, problem solving, and social skill development. (F,Sp)

- Prerequisite Course: Minimum 2.5 in CHDV 100 or concurrently
- Placement Score: Reading Level 5 or (Reading Level 4 and ENGL 099 concurrently) and Writing Level 4
- Course Note:
  - All students must register for 4 hours/week at an approved (by CHDV program) weekday daytime field experience site by sending an [email](mailto:jordanh@lcc.edu) (jordanh@lcc.edu).
  - Students must pass an ICHAT criminal background check and a State of Michigan Central Registry Clearance prior to beginning field experience.
  - Students must submit proof of COVID vaccination prior to beginning field experience.
  - Students who have not submitted proof of a completed ICHAT, Central Registry Clearance, and COVID vaccination by the 2nd week of the semester may be dropped from the course during Enrollment Verification.
  - In addition to regular class time, students are required to complete training online required for field experience. Information will be distributed via the course management site.
  - To complete an Associate Degree or Certificate in Child Development and Early Education in the shortest possible time, students must enroll in CHDV 100 and CHDV 111 in their first semester.

## 2022-2023 Course Descriptions

### **CHDV 113**    **Health/Safety:Early Child Prog**                      **Credit Hours: 2 / Billing Hours: 2**

Examines health and safety issues in early education and care programs. In this context, the focus is on planning strategies and best practices in areas such as prevention/management of communicable diseases, management of allergies and chronic illnesses, nutrition, playgrounds, procedures for handling emergencies and other health/safety issues. (Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 4 and Writing Level 4
- Recommended: Child Development and Early Education Major

### **CHDV 122**    **Creativity and Play**    **Credit Hours: 1 / Billing Hours: 1**

This course examines curriculum and activities which enhance the creative development of children in early childhood education. Students will explore the role of play and hands-on experiences in the development of creativity. Specific information on activities in the areas of art, music, movement, and dramatic play are shared. Information on physical and sensory development is also included. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 4 and Writing Level 4

### **CHDV 123**    **Literacy and Play**    **Credit Hours: 1 / Billing Hours: 1**

This course examines language and literacy development for children birth through age 5. Focus is on planning and supporting language development, emergent reading, and emergent writing through a play-based, developmentally appropriate curriculum. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 4 and Writing Level 4

## 2022-2023 Course Descriptions

### **CHDV 124      Young Investigators: Math/Sci                      Credit Hours: 1 / Billing Hours: 1**

This course focuses on cognitive development in early childhood, highlighting problem-solving skills, math and science experiences, and explorations of the natural world. Through hands-on activities, students will investigate developmentally appropriate experiences for children in early childhood. Appropriate questioning techniques, environments, and ways to integrate exploration and problem-solving into daily routines and other aspects of the curriculum are explored. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 4 and Writing Level 4
- Recommended: Experience in Early Childhood Education and Care

### **CHDV 126      Discovery Learning:Inf/Tod Gps                      Credit Hours: 1 / Billing Hours: 1**

Students will examine infant and toddler early childhood program curriculum opportunities that support children's natural curiosity and exploration, and enhance their discoveries. Students will participate in practical learning experiences to develop teaching strategies designed to enhance the developmental levels and learning styles of infants and toddlers. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 4 and Writing Level 4

### **CHDV 129      Caring for Youngest Learners                      Credit Hours: 2 / Billing Hours: 2**

This course explores developmentally appropriate infant and toddler caregiving practices that support and nurture social-emotional development and learning for children under the age of three. It is designed as an introductory course for those who care for and work with infants and toddlers. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 4 and Writing Level 4

### **CHDV 189      Help Children Value Diversity                      Credit Hours: 1 / Billing Hours: 1**

This course explores how early education and care programs can promote diversity and encourage cultural competence through embracing and respecting similarities and differences and family diversity. Topics include identity formation, bias, cultural awareness, integrating diversity into the program and curriculum, and family culture. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 4 and Writing Level 4



## 2022-2023 Course Descriptions

### CHDV 215 Infant Toddler Program Dev

Credit Hours: 4 / Billing Hours: 4

This course, which includes field work, explores social-emotional and physical environments needed for quality early education and care for infants and toddlers. Focus includes developing positive interactions, relationship skills, developmentally appropriate activities and materials, managing routines, and observation skills. (F,Sp)

- Prerequisite Course: Minimum 2.5 in CHDV 100 and CHDV 101 and (CHDV 111 within 5 years)
- Placement Score: Reading Level 5 and Writing Level 6
- Course Note:
  - All students must register for 4 hours/week at an approved (by CHDV program) weekday daytime field experience site by sending an [email](mailto:jordanh@lcc.edu) (jordanh@lcc.edu).
  - Students must pass an ICHAT criminal background check and a State of Michigan Central Registry Clearance prior to beginning field experience.
  - Students must submit proof of COVID vaccination prior to beginning field experience.
  - Students who have not submitted proof of a completed ICHAT, Central Registry Clearance, and COVID vaccination by the 2nd week of the semester may be dropped from the course during Enrollment Verification.
  - In addition to regular class time, students may be required to complete training online required for field experience. Information will be distributed via the course management site.

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## 2022-2023 Course Descriptions

### **CHDV 220    Preschool Curriculum Approach                      Credit Hours: 4 / Billing Hours: 4**

This course, with fieldwork, explores developmentally appropriate curriculum in various content areas in preschool-age early education settings. Students explore play-based learning and curriculum development that support children's individual growth and development. Other topics include learning environments and materials; observation, documentation and assessment; and planning and evaluating learning experiences. (F,Sp)

- Prerequisite Course: Minimum 2.5 in [CHDV 100 and CHDV 101 and (CHDV 111 within 5 years)]
- Placement Score: Reading Level 5 and Writing Level 6
- Course Note:
  - All students must register for 4 hours/week at an approved (by CHDV program) weekday daytime field experience site by sending an [email](mailto:jordanh@lcc.edu) (jordanh@lcc.edu).
  - Students must pass an ICHAT criminal background check and a State of Michigan Central Registry Clearance prior to beginning field experience.
  - Students must submit proof of COVID vaccination prior to beginning field experience.
  - Students who have not submitted proof of a completed ICHAT, Central Registry Clearance, and COVID vaccination by the 2nd week of the semester may be dropped from the course during Enrollment Verification.
  - In addition to regular class time, students may be required to complete training online required for field experience. Information will be distributed via the course management site.

### **CHDV 222    Caring for School-Age Children                      Credit Hours: 2 / Billing Hours: 2**

This course examines developmentally appropriate programming for school-aged children in after-school, school-age, or before and after care settings. Course topics include professionalism, development and learning needs of the school-age child, environment and program structure, individual and group management, and planning appropriate learning experiences. (F)

- Prerequisite Course: None
- Placement Score: Reading Level 4 and Writing Level 4

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## 2022-2023 Course Descriptions

### CHDV 225 Families and Inclusion

**Credit Hours: 4 / Billing Hours: 4**

This course examines inclusion and family partnerships in early childhood education. It includes: benefits of inclusion and early intervention, strategies to build partnerships with families, dynamics of diverse families, and the role of the early childhood educator as a partner with families to promote learning and development. (F,Sp)

- Prerequisite Course: Minimum 2.5 in CHDV 215 (previously CHDV 221) or CHDV 220
- Placement Score: Reading Level 5 and Writing Level 6

### CHDV 230 Early Childhood Program Admin

**Credit Hours: 3 / Billing Hours: 3**

This course examines the administrative and leadership role of managing an early childhood education program, including state licensed child care homes, group homes and centers. The focus is on identifying effective leadership and management strategies, policies, and procedures required for the operation of a quality early childhood education program. (F,Sp,Su)

- Prerequisite Course: Minimum 2.5 in CHDV 111
- Placement Score: Reading Level 5 and Writing Level 4

## 2022-2023 Course Descriptions

### CHDV 284 Early Childhood Practicum

Credit Hours: 5 / Billing Hours: 5

In this course, with fieldwork, students will plan and implement developmentally appropriate learning experiences to support each and every learner in an early childhood setting. An emphasis is placed on the development of professional skills for working with colleagues, children, and families. (F,Sp)

- Prerequisite Course: Minimum 2.5 in CHDV 215 (previously CHDV 221) and CHDV 220 and [CHDV 225 (previously CHDV 112) or concurrently]
- Placement Score: Reading Level 5 and Writing Level 6
- Course Note:
  - All students must register for 8 hours/week at an approved (by CHDV program) weekday daytime fieldwork site by sending an [email](mailto:jordanh@lcc.edu) (jordanh@lcc.edu).
  - Students must pass an ICHAT criminal background check and a State of Michigan Central Registry Clearance prior to beginning fieldwork.
  - Students must submit proof of COVID vaccination and a TB Test prior to beginning field experience.
  - Students who have not submitted proof of a completed ICHAT, Central Registry Clearance, negative TB Test, and COVID vaccination by the 2nd week of the semester may be dropped from the course during Enrollment Verification.
  - In addition to regular class time, students may be required to complete training online required for field experience. Information will be distributed via the course management site.

### CHDV 297 Child Dev Directed/Indep Study Credit Hours: .25 to 4 / Billing Hours: .25 to 4

This course includes special research, directed study, or service-learning projects in child development. It requires at least 16 hours of independent work for each credit. A learning contract specifying objectives, activities, and outcomes is required. (As Needed)

- Prerequisite Course: None. Program Approval is required.
- Placement Score: None

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## 2022-2023 Course Descriptions

### CHEM 120 Gen Organic & Biological Chem

Credit Hours: 4 / Billing Hours: 4

Introduces topics in general, organic, and biological chemistry that are used in health-related occupations. Included are scientific measurement, atomic structure and bonding, chemical equations and stoichiometry, solutions, acids, bases, buffers, gas behavior, nuclear radiation, organic functional groups, and the biologically important compounds: carbohydrates, lipids, and proteins. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4 and [Math Level 4 or Minimum 2.0 in (MATH 105 or MATH 106)]

### CHEM 125 Basic Chemistry

Credit Hours: 4 / Billing Hours: 4

Intended for students who have not had high school chemistry or who require a refresher course. Measurement, problem solving, chemical formulas, chemical equations, stoichiometry, atomic structure, chemical bonding, gas laws, solutions, and acids and bases are emphasized. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4 and (Math Level 5 or concurrent enrollment in MATH 109)

### CHEM 130 Biochemistry

Credit Hours: 4 / Billing Hours: 4

This course is designed to provide an understanding of the chemistry of life processes. Topics include organic functional groups, enzymes, carbohydrates, lipids, proteins, metabolic pathways, nucleic acids, biochemical genetics, blood and respiratory chemistry, urine, electrolytes, acid-base balance, and hormones. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in CHEM 120 or CHEM 125 or CHEM 151 and Reading Level 5 and Writing Level 6 and (Math Level 4 or minimum 2.0 in MATH 105 or MATH 106).

## 2022-2023 Course Descriptions

### **CHEM 135    Chemistry in Society**

**Credit Hours: 4 / Billing Hours: 5**

A general education course which presents chemistry to non-science majors who must function and make decisions in a society shaped by science and technology. Chemistry knowledge is introduced and applied on a need-to-know basis with respect to issues in society that have significant chemistry components. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6 and [Math Level 4 or minimum 2.0 in (MATH 105 or MATH 106)]

### **CHEM 151    General Chemistry Lecture I**

**Credit Hours: 4 / Billing Hours: 4**

The first of two semester courses designed to provide an in-depth introduction to general chemistry for students who plan careers in the health professions, physical sciences, biological sciences, or engineering. Topics discussed include measurement, aqueous reactions, stoichiometry, thermochemistry, atomic structure, bonding, and acids and bases. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6 and [Math Level 6 or (MATH 109 or MATH 112) or concurrently]
- Recommended: (Minimum 2.0 in CHEM 125 or High School Chemistry) and CHEM 161 concurrently

### **CHEM 152    General Chemistry Lecture II**

**Credit Hours: 3 / Billing Hours: 3**

The second of two semester courses designed to provide an in-depth introduction to general chemistry for students who plan careers in the health professions, sciences, or engineering. Topics include aqueous equilibria, kinetics, nuclear chemistry, oxidation-reduction, transition metals, coordination chemistry, thermodynamics, electrochemistry, and molecular orbitals. (F,Sp,Su)

- Prerequisite Course: Reading Level 5 and Writing Level 6 and (Minimum 2.0 in CHEM 151 and [Math Level 7 or minimum 2.0 in MATH 126 or concurrently]) or (Minimum 3.5 in CHEM 151 and [Math Level 7 or minimum 2.0 in Math 120 or concurrently])

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## 2022-2023 Course Descriptions

### **CHEM 161    General Chemistry Lab I**

**Credit Hours: 1 / Billing Hours: 3**

Laboratory course designed to complement CHEM151. Stresses basic laboratory techniques, writing lab reports, and critical thinking exercises. Topics include density determination, synthesis, empirical formulas, molecular geometry, gas laws, pH, chemical equilibrium, and water hardness. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in CHEM 151 or concurrently
- Placement Score: Reading Level 5 and Writing Level 6 and [Math Level 6 or (MATH 109 or MATH 112) or concurrently]

### **CHEM 162    General Chemistry Lab II**

**Credit Hours: 1 / Billing Hours: 3**

Laboratory course designed to complement CHEM152. CHEM162 is the second semester general chemistry laboratory course. Stresses laboratory techniques and analyzing and reporting laboratory data. Topics include inorganic synthesis, chemical analysis, acid-base and solubility equilibria, oxidation-reduction reactions, and chemical kinetics. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in [CHEM 152 (or concurrently) and CHEM 161] and [(MATH 121 or MATH 126) or concurrently or Math Level 7 as noted below]
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 7

### **CHEM 182    Introductory Organic Chemistry**

**Credit Hours: 3 / Billing Hours: 3**

A survey of the principles of organic chemistry. Introduces the student to structure, nomenclature, chemical and physical properties, selected characteristics, preparations and reactions of the most common classes of organic compounds. Other topics include polymers, optical isomerism, and selected reaction mechanisms. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: Minimum 2.0 in CHEM 151

## 2022-2023 Course Descriptions

### **CHEM 192    Intro Organic Chem Lab**

**Credit Hours: 1 / Billing Hours: 3**

Designed for students in majors such as chemical processing, packaging, agriculture, and forestry who require only one credit of organic lab. It gives students an introduction to common techniques, equipment, and chemicals found in an organic laboratory. Particular attention is given to compounds studied in CHEM182. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in CHEM 182 or concurrently
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: CHEM 151

### **CHEM 251    Organic Chemistry Lecture I**

**Credit Hours: 4 / Billing Hours: 4**

The first lecture course of a two-semester sequence in organic chemistry for chemical engineering, chemical technology, chemistry, or pre-professional majors. Topics include structure and bonding, hybridization, nomenclature, stereochemistry, thermodynamics and kinetics of organic reactions, functional groups including reactions and mechanisms, and applications of infrared and mass spectrometries. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in CHEM 151
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: Minimum 2.0 in CHEM 152

### **CHEM 252    Organic Chemistry Lecture II**

**Credit Hours: 4 / Billing Hours: 4**

Continuation of CHEM251. Topics include aromatic compounds, spectroscopy, organometallic compounds, aldehydes and ketones, carboxylic acids and their derivatives, amines, enolates, phenols, carbohydrates, polymers, and proteins. (F,Sp)

- Prerequisite Course: Minimum 2.0 in CHEM 251
- Placement Score: Reading Level 5 and Writing Level 6

### **CHEM 262    Quantitative Analysis**

**Credit Hours: 3 / Billing Hours: 6**

This course covers the theory and procedures of classical analytical techniques, including gravimetric analysis and titrimetric methods. Use of instruments such as spectrophotometers, pH meters, and others is also included. Designed for laboratory technician preparation, chemistry majors, or transfer students. (F)

- Prerequisite Course: Minimum 2.0 in (CHEM 152 and CHEM 162)
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 7

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## 2022-2023 Course Descriptions

### **CHEM 272    Organic Chemistry Laboratory**

**Credit Hours: 2 / Billing Hours: 6**

Designed for students (in majors such as chemistry, pre-med, and pre-pharmacy) who require more than one credit of organic lab. It gives students experience with the chemicals, techniques, and equipment commonly employed in organic laboratories. Particular attention is given to compounds studied in CHEM251 and 252. (F,Sp)

- Prerequisite Course: Minimum 2.0 in CHEM 251
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: CHEM 252 concurrently

### **CHSE 100    Intro to Health Professions**

**Credit Hours: 3 / Billing Hours: 3**

This course is an overview of healthcare careers. It explores the business of healthcare, safety, and healthcare costs. It includes the introduction to concepts of leadership and management, patient teaching, communications, time management, critical thinking, and career pathways. It includes learning drug dose calculations and medical terminology. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 or (Reading Level 4 and ENGL 099 concurrently) and Writing Level 4
- Course Note: In addition to regular class time, students are required to complete Bloodborne Pathogens and HIPAA training online. Information will be distributed via the course D2L site.

## 2022-2023 Course Descriptions

### CHSE 108 Long-Term Care Nurse Aide

Credit Hours: 4 / Billing Hours: 6.5

This course will prepare an individual to be a nurse aide in a long-term care facility or home health care agency. This state-approved course will provide specific knowledge and skills required for a nurse aide to safely function in a long-term care setting. Upon successful completion, the student is eligible to take the Certified Nurse Assistant (CNA) Exam. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 4 and Writing Level 4
- Course Note: This course provides training for CNA testing, nursing home, and Home Health Aide. Required for clinical:
  - Completion of Bloodborne Pathogens online training; information given first day of class
  - Negative 2-step TB (tuberculosis) tests within the last year
  - Students must pass an ICHAT criminal background check (results to be submitted on first day of course, credit/debit card required)
  - Proof of required immunizations
  - Students MUST meet physical requirements for the duration of course as specified in course syllabus.
  - Students will be charged a \$20 fee for ACEMAPP required documentation/testing.

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## 2022-2023 Course Descriptions

### **CHSE 114 Pathophysiology-Allied Health Credit Hours: 3 / Billing Hours: 3**

General principles of pathophysiology are discussed in order to develop a new way of thinking about disease processes. Concepts of specific disease processes and their effect on normal structure and function of the body are presented. Disease prevention concepts are also discussed. (F,Sp)

- Prerequisite Course: Minimum 2.5 in BIOL 145 or (BIOL 201 and BIOL 202)
- Placement Score: Reading Level 5 and Writing Level 4

### **CHSE 117 Health Law and Ethics Credit Hours: 2 / Billing Hours: 2**

This course presents for discussion, legal and ethical issues arising from the organization and delivery of health care services. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4

### **CHSE 119 Community Health Career Topics Credit Hours: .25 to 8 / Billing Hours: .25 to 11**

This course offers students the opportunity to learn new community health career skills and knowledge. Specific up-to-date content will vary with each seminar and will be related to the community health careers. (As Needed)

- Prerequisite Course: Determined by Section
- Placement Score: Determined by Section

### **CHSE 120 Medical Terminology Credit Hours: 4 / Billing Hours: 4**

Medical Terminology provides an in-depth knowledge of word building, use, pronunciations, spelling, term building, and the application of medical terms in relation to function, structure, and specific disease conditions. Emphasis is placed on medical terms from periodicals, textbooks, and medical care areas. This is a health careers foundational course. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4

1010

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## 2022-2023 Course Descriptions

### **CHSE 123      Medical Ins Billing/Coding I      Credit Hours: 4 / Billing Hours: 4**

This course introduces insurance billing and diagnostic and procedure coding using the International Classification of Diseases (ICD-10-CM), Current Procedural Terminology (CPT), and National Healthcare Common Procedures Coding System (HCPCS) coding systems. The course also introduces the legal and compliance issues and their relationship to insurances. (F)

- Prerequisite Course: Minimum 2.5 in CHSE 120 or concurrently. Computer, keyboarding, and internet skills and experience required.
- Placement Score: Reading Level 5 and Writing Level 4

### **CHSE 124      Medical Ins Billing/Coding II      Credit Hours: 4 / Billing Hours: 4**

The course provides comprehensive billing directions for BCBS (Blue Cross Blue Shield), Medicare, Medicaid, commercial insurances including HMOs, managed care, and worker's compensation. (Sp)

- Prerequisite Course: Minimum 2.5 in (CHSE 120 and CHSE 123)
- Placement Score: Reading Level 5 and Writing Level 4

### **CHSE 125      Comp-Med Ins Billing/Coding      Credit Hours: 2 / Billing Hours: 2**

This course, in combination with CHSE 124, introduces students to software used in medical office billing and coding. Students learn to record charges/payments/information; schedule appointments; ICD-10-CM (International Classification of Diseases, Tenth Revision, Clinical Modification), and CPT (Current Procedure Terminology) coding; produce claim forms and patient statements; and build office databases. (Sp)

- Prerequisite Course: Minimum 2.5 in (CHSE 120 and CHSE 123)
- Placement Score: Reading Level 5 and Writing Level 4

### **CHSE 127      Medical Ins Billing/Coding III      Credit Hours: 3 / Billing Hours: 3**

The focus of this course is coding and billing for inpatient and outpatient hospital-based services. Students will be introduced to the ICD-10-CM, ICD-10-PCS, CPT, and HCPCS diagnostic and procedure codes. DRGs and their impact are discussed, as are recording charges using the UB-04 and CMS 1500 claim forms. Students will post payments, review and resubmit claims, and perform account receivable follow-up and collections. (Sp)

- Prerequisite Course: Minimum 2.5 in CHSE 124 or concurrently
- Placement Score: Reading Level 5 and Writing Level 4

1011

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## 2022-2023 Course Descriptions

### CHSE 130 Medical Ins Bill/Code Extern

**Credit Hours: 3 / Billing Hours: 3**

This course provides students with worksite experience and training that is both physician office and hospital based. This experience will reinforce skills learned in CHSE 123, 124, 125, and 127, and prepare students for an entry-level position in the medical billing and coding field. Students are required to attend lectures which will include discussion of professional workplace skills, resume writing, and interviewing skills. (F,Sp,Su)

- Prerequisite Course: Minimum 2.5 in CHSE 125 and CHSE 127. Program Approval is required.
- Placement Score: Reading Level 5 and Writing Level 4
- Course Note: Required:
  - Minimum age of 18 required
  - Completion of Bloodborne Pathogens and HIPAA Training online; information given at orientation.
  - Negative 2-step TB (tuberculosis) skin test within the last year.
  - Students must pass an ICHAT criminal background check prior to worksite placement; information given at orientation.
  - Students will be charged a \$20 fee for ACEMAPP required documentation/testing.

### CHSE 131 Electronic Hlth Records Intro

**Credit Hours: 2 / Billing Hours: 2**

This course introduces students to the Electronic Health Record (EHR) and its impact on health career-related job responsibilities. Through hands-on experience, students gain an awareness of how EHRs are used in different healthcare settings and how they change the nature of the work performed by individuals throughout the health care field. (F,Sp)

- Prerequisite Course: Minimum 2.5 in CHSE 120 or concurrently
- Placement Score: Reading Level 5 and Writing Level 4

## 2022-2023 Course Descriptions

### CHSE 136 EKG Technician

**Credit Hours: 3.5 / Billing Hours: 4**

This course teaches the theory and skills to perform process and explain electrocardiography and holter monitoring. Anatomy, physiology, pathology, and basic cardiac rhythm recognition is presented. Hands-on instruction and practice are included. Successful students may become certified through the American Certification Agency for Healthcare Professionals and/or the Cardiovascular Credentialing Institute. (F,Sp)

- Prerequisite Course: Minimum 2.5 in CHSE 120 or concurrently
- Placement Score: Reading Level 5 and Writing Level 4
- Course Note: Required completion of Bloodborne Pathogens & HIPAA Training online; information given at first class session. \$44 of the course fee is for a medical kit and is non-refundable. Students will be charged a \$20 fee for ACEMAPP required documentation/testing.

### CHSE 139 Community Health Career Topics Credit Hours: .25 to 8 / Billing Hours: 0 to 8

This course offers students the opportunity to learn new community health career skills and knowledge. Specific up-to-date content will vary with each seminar and will be related to the community health careers. (As Needed)

- Prerequisite Course: Determined by Section
- Placement Score: Determined by Section

### CHSE 143 Phlebotomy Technician

**Credit Hours: 2 / Billing Hours: 3**

This course is designed to prepare a person to function as a phlebotomy technician. It will provide the knowledge and skill necessary to safely and skillfully ensure patient identification, obtain a blood sample from a patient, and properly handle specimens after collection. The course includes lecture and campus laboratory. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 or (Reading Level 4 and ENGL 099 concurrently) and Writing Level 4
- Course Note: Required:
  - Completion of Bloodborne Pathogens Training online; information will be distributed via the course D2L site and/or in class.
  - Students will be charged a \$50 fee for ACEMAPP required documentation/testing.
  - The ACEMAPP fee covers both CHSE 143 and CHSE 144 if taken within the same year.

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## 2022-2023 Course Descriptions

### CHSE 144 Phlebotomy Externship

**Credit Hours: 4 / Billing Hours: 4**

This course is designed to enable the student to apply procedures learned in CHSE 143, Phlebotomy Technician, to a clinical laboratory setting. While at the worksite (clinical laboratory), students will be under the supervision of a preceptor. The course includes required lectures which cover professionalism, resume writing, and interviewing skills; a practical review of techniques; and worksite experience. (F,Sp,Su)

- Prerequisite Course: Minimum 2.5 in CHSE 143 within 1 year. Program Approval required
- Placement Score: Reading Level 5 and Writing Level 4
- Course Note: Students will be charged a \$50 fee for ACEMAPP required documentation. Required:
  - Minimum age of 18 required
  - Completion of Bloodborne Pathogens and HIPAA training online; information given at orientation
  - Negative 2-step TB (tuberculosis) skin test

### CHSE 150 CHSE Directed/Indep Study Credit Hours: .25 to 4 / Billing Hours: .25 to 7

This course is designed to update, enhance, or remediate knowledge, skills, and competencies for the returning Community Health Services Education student through evaluation of previous learning, self-study, lecture/lab sessions, and/or scheduling into a supervised clinical component. A learning contract specifying objectives, activities and outcomes is required. (As Needed)

- Prerequisite Course: None. Program Approval is required.
- Placement Score: None

## 2022-2023 Course Descriptions

### CHSE 151 Patient Care Technician

**Credit Hours: 6 / Billing Hours: 9.25**

This course prepares the Certified Nurse Assistant (CNA) to be a Patient Care Technician (PCT) in a hospital or other acute care setting, adding to a student's previous training in a long-term care setting. Specific knowledge, skills, and training required to deliver safe basic patient care are covered (i.e., personal needs, phlebotomy, EKG). Successful completion of this course provides eligibility to take the National Certified Patient Care Technician (NCPCT) exam. (F,Sp)

- Prerequisite Course: Minimum 2.5 in CHSE 108 within one year or current CNA Certification and Program Approval.
- Placement Score: Reading Level 5 or (Reading Level 4 and ENGL 099 concurrently) and Writing Level 4
- Corequisite Course: NCHE 102
- Course Note: Provides training for national PCT certification and hospital. Students will be charged a \$50 fee for ACEMAPP required documentation. Required:
  - Minimum age of 18 required.
  - Completion of Bloodborne Pathogens, HIPAA & Sparrow online training; information given first day of class.
  - Negative 2-step TB (tuberculosis) tests within the last year.
  - Students must pass an ICHAT criminal background check. Results of ICHAT to be submitted on first day of course (credit card required).
  - Proof of required immunizations. 6) Students must meet PHYSICAL REQUIREMENTS for the duration of course as specified in course syllabus.

### CHSE 235 Pharmacy Technician

**Credit Hours: 4 / Billing Hours: 4**

This course is designed to introduce students to the skills necessary for a pharmacy technician position in a hospital or retail pharmacy. Students will be prepared to function with knowledge and accuracy in dispensing and control of drugs in either setting. Successful completion prepares students for the technical portion of the Pharmacy Technician Certification Board National Certification Exam. Review of certification and exam requirements, along with additional prerequisites, will be needed prior to taking the exam. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4 and Math Level 4
- Course Note: Minimum age of 18 required to enroll in this course.



## 2022-2023 Course Descriptions

### CHSE 236      Pharmacy Technician Externship      Credit Hours: 3 / Billing Hours: 3

This externship experience introduces the student to the skills necessary to perform the function of a pharmacy technician relative to prescription review, an introduction to prescription software, label preparation, and product selection during a hands-on activity in a live pharmacy environment. Students will be under preceptor supervision while at a hospital or community pharmacy. Students are required to attend lectures which cover professionalism, resume writing, and interviewing skills. (F,Sp,Su)

- Prerequisite Course: Minimum 2.5 in CHSE 235 within 1 year. Program Approval required.
- Placement Score: Reading Level 5 and Writing Level 4 and Math Level 4
- Course Note: Required:
  - Minimum age of 18 required.
  - Completion of Bloodborne Pathogens and HIPAA Training online; information given at orientation.
  - Negative 2-step TB (tuberculosis) skin test within the last year.
  - Students must pass an ICHAT criminal background check prior to worksite placement; information given at orientation.
  - Students will be charged a \$50 fee for ACEMAPP required documentation.

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## 2022-2023 Course Descriptions

### CITA 110 Intro to Microsoft Office

Credit Hours: 3 / Billing Hours: 3

This course provides an introduction to MS Office. It is designed to develop basic operational proficiency while using Microsoft Office (Word, Excel, Access, and PowerPoint). Students learn how to use word processing, spreadsheet, database, and presentation software. Topics include creating business letters, business memos, elementary spreadsheets, elementary database structures, and slide presentations. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 4
- Recommended: Windows and keyboarding experience
- Course Note:
  - Students must be able to use web browsers and online learning tools including assignment folders, discussion boards, and e-mail. They must also have Windows file management skills, including the ability to upload and download files, make folders, move and extract files.
  - This course requires the use of a PC computer running Windows 7 or higher, 4GB Ram, High Speed Internet Connection - 2 Mbit or higher, Microsoft Office 2016 and have a SAM Cengage account. Mac computers are not recommended, but if they are used, desktop virtualization of the Windows environment is required. Equipment and software is provided for students that wish to complete assignments at student computer labs located at Main, West, or East Campuses. Office 365 is available to LCC students at no cost using links from the College website.

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*F=Fall; Sp=Spring; Su=Summer*

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## 2022-2023 Course Descriptions

### CITA 115      Microsoft PowerPoint

**Credit Hours: 3 / Billing Hours: 3**

This course introduces students to the fundamental features of Microsoft PowerPoint. Topics include creating presentations using themes, graphic elements, interactive elements and animation effects. Students will prepare presentations for distribution in a variety of formats. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 4
- Recommended: Windows and keyboarding experience
- Course Note:
  - Students must be able to use web browsers and online learning tools including assignment folders, discussion boards, and e-mail. They must also have Windows file management skills, including the ability to upload and download files, make folders, move and extract files.
  - This course requires the use of a PC computer running Windows 7 or higher, 4GB Ram, High Speed Internet Connection - 2 Mbit or higher, Microsoft Office 2016 and a MyLab for Office 2016 account. Mac computers are not fully compatible and are not recommended. Office 365 is available to LCC students at no cost using links from the College website.
  - **\*\*MyLabIT:** You only need to purchase one MyLabIT 2016 account that can be used for CITA115 PowerPoint, CITA133 Access, CITA126 Excel, and CITA226 Advanced Excel. CITA119 Word and CITA219 Advanced Word require a separate MyLabIT 2016 account. An e-book that covers all the classes listed above comes with MyLabIT from the MBS bookstore so a print book is optional if you have a second monitor or device for using your e-book while you work.

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## 2022-2023 Course Descriptions

### CITA 119      Microsoft Word

**Credit Hours: 3 / Billing Hours: 3**

This course introduces students to the fundamental features of Microsoft Word. Major topics include formatting text; creating footnotes, lists, tables, columns, newsletters and charts; inserting graphics; and exposure to mail merge. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 4
- Recommended: Windows and keyboarding experience
- Course Note:
  - Students must be able to use web browsers and online learning tools including assignment folders, discussion boards, and e-mail. They must also have Windows file management skills, including the ability to upload and download files, make folders, move and extract files.
  - This course requires the use of a PC computer running Windows 7 or higher, 4GB Ram, High Speed Internet Connection - 2 Mbit or higher, Microsoft Office 2016 and a MyLabIT for Office 2016 account. Mac computers are not fully compatible and are not recommended. Equipment and software is provided for students that wish to complete assignments at student computer labs located on Main, West, and East campuses. Office 365 is available to LCC students at no cost using links from the College website.
  - **\*\*MyLabIT:** You only need to purchase one MyLabIT 2016 account that can be used for CITA119 Word and CITA219 Advanced Word. CITA115 PowerPoint, CITA133 Access, CITA126 Excel, and CITA226 Advanced Excel courses require a separate MyLabIT 2016 account. An e-book that covers both CITA119 and CITA219 comes with MyLabIT from the MBS bookstore so a print book is optional if you have a second monitor or device for using your e-book while you work.

1019

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## 2022-2023 Course Descriptions

### CITA 126

### Microsoft Excel

**Credit Hours: 3 / Billing Hours: 3**

This course provides introductory through intermediate level training in Excel spreadsheets. Instruction includes creating worksheets and charts, using formulas and functions, creating Subtotal and PivotTable reports, and working with multiple worksheets. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 Recommended: Windows and keyboarding experience
- Course Note:
  - Students must be able to use web browsers and online learning tools including assignment folders, discussion boards, and e-mail. They must also have Windows file management skills, including the ability to upload and download files, make folders, move and extract files.
  - This course requires the use of a PC computer running Windows 7 or higher, 4GB Ram, High Speed Internet Connection - 2 Mbit or higher, Microsoft Office 2016 and a MyLabIT for Office 2016 account. Mac computers are not fully compatible and are not recommended. Equipment and software is provided for students that wish to complete assignments at student computer labs located on Main, West, and East campuses. Office 365 is available to LCC students at no cost using links from the College website.
  - \*\*MyLabIT: You only need to purchase one MyLabIT 2016 account that can be used for CITA115 PowerPoint, CITA133 Access, CITA126 Excel, and CITA226 Advanced Excel. CITA119 Word and CITA219 Advanced Word require a separate MyLabIT 2016 account. An e-book that covers all the classes listed above comes with MyLabIT from the MBS bookstore so a print book is optional if you have a second monitor or device for using your e-book while you work.

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## 2022-2023 Course Descriptions

### CITA 133

### Microsoft Access Database

**Credit Hours: 3 / Billing Hours: 3**

This course provides introductory through intermediate level training in the creation of database management systems using Microsoft Access. Instruction includes an introduction to Microsoft Access, database creation and maintenance, database querying, the generation of custom forms and reports, and integration of Access with other programs. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 4
- Recommended: Windows and keyboarding experience
- Course Note:
  - Students must be able to use web browsers and online learning tools including assignment folders, discussion boards, and e-mail. They must also have Windows file management skills, including the ability to upload and download files, make folders, move and extract files.
  - This course requires the use of a PC computer running Windows 7 or higher, 4GB Ram, High Speed Internet Connection - 2 Mbit or higher, Microsoft Office 2016 and have a MyLabIT for Office 2016 account. Mac computers are not recommended, but if they are used, desktop virtualization of the Windows environment is required. Equipment and software is provided for students that wish to complete assignments at the Main, West or East Campus computer labs. Office 365 is available to LCC students at no cost using links from the College website. Students may request Microsoft Access 2016 from their instructor through the Microsoft Imagine program at no additional cost.
  - \*\*MyLabIT: You only need to purchase one MyLabIT 2016 account that can be used for CITA115 PowerPoint, CITA133 Access, CITA126 Excel, and CITA226 Advanced Excel. CITA119 Word and CITA219 Advanced Word require a separate MyLabIT 2016 account. An e-book that covers all the classes listed above comes with MyLabIT from the MBS bookstore so a print book is optional if you have a second monitor or device for using your e-book while you work.

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## 2022-2023 Course Descriptions

### CITA 140      Microsoft Outlook

**Credit Hours: 3 / Billing Hours: 3**

Students will use Outlook to manage typical business office communication needs. The course includes sending and organizing email, creating contacts, managing calendars and scheduling meetings. Students organize and archive data, and use email filters. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 4
- Recommended: Windows and keyboarding experience
- Course Note:
  - This class requires Microsoft Outlook 2016. Students must be able to use web browsers and online learning tools including assignment folders, discussion boards, and e-mail. They must also have Windows file management skills, including the ability to upload and download files, make folders, move and extract files.
  - This course requires the use of a PC computer running Windows 7 or higher, 4GB Ram, High Speed Internet Connection - 2 Mbit or higher, and Microsoft Office 2016. Mac users are required to use Windows-based computers or desktop virtualization of the Windows environment for certain parts of the course. Equipment and software is provided for students that wish to complete assignments at student computer labs located at Main, West, and East campuses. Office 365 is available to LCC students at no cost using links from the College website.

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## 2022-2023 Course Descriptions

### CITA 219      **Advanced Microsoft Word**

**Credit Hours: 3 / Billing Hours: 3**

This course provides advanced level training using Microsoft Word. Topics include advanced table features, mail merge, creating forms, working with master and subdocuments, embedding and linking objects, and macros. (Sp)

- Prerequisite Course: Minimum 2.0 in CITA 119
- Placement Score: Reading Level 4
- Recommended: Windows and keyboarding experience
- Course Note:
  - Students must be able to use web browsers and online learning tools including assignment folders, discussion boards, and e-mail. They must also have Windows file management skills, including the ability to upload and download files, make folders, move and extract files.
  - This course requires the use of a PC computer running Windows 7 or higher, 4GB Ram, High Speed Internet Connection - 2 Mbit or higher, Microsoft Office 2016 and have a MyLabIT for Office 2016 account. Mac computers are not recommended, but if they are used, desktop virtualization of the Windows environment is required. Equipment and software is provided for students that wish to complete assignments at student computer labs located at Main, West, and East campuses. Office 365 is available to LCC students at no cost using links from the College website.
  - **\*\*MyLabIT:** You only need to purchase one MyLabIT 2016 account that can be used for CITA119 Word and CITA219 Advanced Word. CITA115 PowerPoint, CITA133 Access, CITA126 Excel, and CITA226 Advanced Excel courses require a separate MyLabIT 2016 account. An e-book that covers both CITA119 and CITA219 comes with MyLabIT from the MBS bookstore so a print book is optional if you have a second monitor or device for using your e-book while you work.

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## 2022-2023 Course Descriptions

### CITA 226      Microsoft Excel-Advanced

**Credit Hours: 3 / Billing Hours: 3**

This course introduces more complex functions and Excel tools used in financial, and statistical analysis. Additional topics include data imports, web queries, share and merge workbooks. Students customize Excel toolbars and automate tasks with macros. Data validation and auditing tools are introduced. This course, together with CITA126, helps prepare for the Excel Microsoft Office Specialist (MOS) exams. (F,Sp,Su)

- Prerequisite Course: Minimum 2.5 in CITA 126
- Placement Score: Reading Level 5
- Course Note:
  - Students must be able to use web browsers and online learning tools including assignment folders, discussion boards, and e-mail. They must also have Windows file management skills, including the ability to upload and download files, make folders, move and extract files.
  - This course requires the use of a PC computer running Windows 7 or higher, 4GB Ram, High Speed Internet Connection - 2 Mbit or higher, Microsoft Office 2016 and have a MyLabIT for Office 2016 account. Mac computers are not recommended, but if they are used, desktop virtualization of the Windows environment is required. Equipment and software is provided for students that wish to complete assignments at student computer labs located at Main, West, and East campuses. Office 365 is available to LCC students at no cost using links from the College website.
  - **\*\*MyLabIT:** You only need to purchase one MyLabIT 2016 account that can be used for CITA119 Word and CITA219 Advanced Word. CITA115 PowerPoint, CITA133 Access, CITA126 Excel, and CITA226 Advanced Excel courses require a separate MyLabIT 2016 account. An e-book that covers both CITA119 and CITA219 comes with MyLabIT from the MBS bookstore so a print book is optional if you have a second monitor or device for using your e-book while you work.

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## 2022-2023 Course Descriptions

### **CITA 229 Special Topics in Applications**      **Credit Hours: .25 to 6 / Billing Hours: .25 to 6**

This course offers students the opportunity to learn new computer software application skills and knowledge. Specific up-to-date content will vary with each offering and will be related to the information technology professional. (F,Sp,Su)

- Prerequisite Course: Determined by Section

### **CITC 282 Ethical Hacking**      **Credit Hours: 3 / Billing Hours: 3**

This course provides an in-depth understanding of hacking phases, various attack vectors, and preventative countermeasures. Content will include how hackers think and act maliciously, allowing students to be better positioned to set up security infrastructure and defend against future attacks. This course will prepare students for the CompTIA Pentest+ certification. (F, Sp)

- Prerequisite Course: Minimum 2.0 in CITN 280
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 4.

### **CITC 285 System Defense**      **Credit Hours: 3 / Billing Hours: 3**

This course will provide students with targeted content and integrated hands-on skills for applying behavioral analytics to networks and devices to prevent, detect, and combat cybersecurity threats through continuous security monitoring. The course will prepare students for the CompTIA CySA+ certification exam. (F, Sp)

- Prerequisite Course: Minimum 2.0 in CITN 280
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 4.

### **CITC 287 Cybersecurity Incident Respons**      **Credit Hours: 3 / Billing Hours: 3**

The course addresses various underlying principles and techniques for detecting and responding to current and emerging computer security threats. Content will include how to handle various types of incidents, risk assessment methodologies, and various laws and policy related to incident handling. This will prepare students for ECIH Industry Certification. (F, Sp)

- Prerequisite Course: Minimum 2.0 in CITN 280
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 4

## 2022-2023 Course Descriptions

### **CITC 290      Cybersecurity Risk Management      Credit Hours: 4 / Billing Hours: 4**

This course covers the technical knowledge and skills required to architect, engineer, integrate, and implement secure solutions across complex environments to support a resilient enterprise while considering the impact of governance, risk, and compliance requirements. The course will prepare students for the (ISC)<sup>2</sup> CISSP certification exam. (F, Sp)

- Prerequisite Course: Minimum 2.0 in CITN 280
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 4.

### **CITD 120      SQL Concepts      Credit Hours: 3 / Billing Hours: 3**

This course introduces the student to Structured Query Language (SQL). Topics include relational database concepts, queries, special operators, and the join operation. Students will gain experience in ANSI standard SQL. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 4 and Writing Level 4
- Recommended: CITF 108 or CITP 110

### **CITD 227      Database Independent Study      Credit Hours: .25 to 4 / Billing Hours: .25 to 4**

This course includes special research, projects, or other independent study in Database. Students may enroll to update or enhance knowledge, skills, and competencies. Advanced students may explore topics related to, but not included in the curriculum. Grading criteria and course objectives are determined at the first meeting. (F,Sp,Su)

- Prerequisite Course: None. Department Approval is required

### **CITD 229      Special Topics in Database      Credit Hours: .25 to 6 / Billing Hours: .25 to 6**

This course offers students the opportunity to learn new Database Management skills and knowledge. Specific up-to-date content will vary with each offering and will be related to the Database professional. (F,Sp,Su)

- Prerequisite Course: Determined by Section

## 2022-2023 Course Descriptions

### **CITD 250      Database Concepts**

**Credit Hours: 3 / Billing Hours: 3**

Students learn the functions of a database management system. The relational model and SQL are used. Normalization and database design are covered. The CODASYL model is discussed and emerging trends are studied. (F)

- Prerequisite Course: Minimum 2.0 in [CITF 110 and (CITP 110 or CITP 150)]
- Placement Score: Reading Level 5 and Writing Level 6

### **CITF 108      Microsoft Windows**

**Credit Hours: 2 / Billing Hours: 2**

This course is designed to provide students with a broad base of knowledge that is necessary for enhancing PC productivity through the efficient utilization of Microsoft Windows for file, application, and system use and management. Topics include the use of Windows Interface Objects, Utilities, Help features, Multimedia features, Internet features, closely related applications, and Applets. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 3
- Course Note: The course's textbook is based on MS Windows 10 and uses some examples based on MS Office 2016 programs. Online students are expected to already own a Windows 10 computer to complete required course work.

## 2022-2023 Course Descriptions

### **CITF 110      Intro Computer Info Systems**

**Credit Hours: 3 / Billing Hours: 3**

This course provides an introduction to computers, their role in managing business information systems, their influence on society, and their use in personal productivity. It includes a hands-on introduction to major microcomputer tools: word processors, spreadsheets, presentation software, and database management systems. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 4 and Writing Level 4
- Course Note:
  - Students must be able to use web browsers and online learning tools including drop boxes, discussion boards, and e-mail. They must also have Windows file management skills, including the ability to upload and download files, make folders, move and zip files.
  - This course requires the use of a PC computer running Windows 7 or higher, 4GB Ram, High Speed Internet Connection - 2 Mbit or higher, and Microsoft Office 2016. Mac users are required to use Windows-based computers or desktop virtualization of the Windows environment for certain parts of the course. Equipment and software is provided for students that wish to complete assignments at the Main or West Campus computer labs. Office 365 is available to LCC students at no cost using links from the College website. Students may request Microsoft Access 2016 from their instructor through the Microsoft Imagine program at no additional cost.

### **CITF 120      Operating Systems Concepts**

**Credit Hours: 3 / Billing Hours: 3**

The course covers what operating systems are, why they exist, what they do, and how they interface with the operators and programmers. Main memory management and processor scheduling are studied along with device and file management. Case studies of current operating systems are studied. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5
- Recommended: CITF 110 and (CITP 110 or CITP 150)

## 2022-2023 Course Descriptions

### **CITF 140      Information Technology Ethics      Credit Hours: 3 / Billing Hours: 3**

This course explores the ethical dilemmas that confront IT professionals. Ethical codes of various organizations will be studied. Students will learn to apply critical thinking skills to the discussion of ethical questions. Topics will include privacy, intellectual property rights, software development, network administration, and the use of the Internet. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### **CITF 227      Computer Foundations Ind Study      Credit Hours: .25 to 4 / Billing Hours: .25 to 4**

This course includes special research, projects, or other independent study in a computer foundations area. Students may enroll to update or enhance knowledge, skills, and competencies. Advanced students may explore topics related to, but not included in the curriculum. Grading criteria and course objectives are determined at the first meeting. (F,Sp,Su)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None

### **CITF 229      Special Topics in Foundations      Credit Hours: .25 to 6 / Billing Hours: .25 to 6**

This course offers students the opportunity to learn new computer foundational skills and knowledge. Specific up-to-date content will vary with each offering and will be related to the information technology professional. (F,Sp,Su)

- Prerequisite Course: Determined by Section

### **CITF 240      IT Project Management      Credit Hours: 3 / Billing Hours: 3**

This course provides a comprehensive introduction to IT Project Management and covers the basic concepts of project scope, planning, execution, and closure. Students will develop project plans; track to those plans; manage ambiguity and risks; and make changes to the plan. This course covers the objectives for CompTIA Project+ certification. (F,Sp)

- Prerequisite Course: Minimum 2.0 in (CITF 110 or CITS 125)
- Placement Score: Reading Level 4 and Writing Level 4

## 2022-2023 Course Descriptions

### **CITF 260      Systems Analysis and Design**

**Credit Hours: 4 / Billing Hours: 4**

This course presents concepts and techniques used in the development of computer business application systems. The traditional approach for systems development is presented and compared to the approach used in a 4th Generation Environment. Techniques for structured analysis and project management techniques will be used. Recent developments in analysis, including Computer Assisted Software Engineering (CASE) and Object-Oriented Analysis will be introduced. (Sp)

- Prerequisite Course: Minimum 2.0 in [CITF 110 and (CITP 110 or CITP 150)]
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 4

### **CITN 115      IoT & Automation Fundamentals**

**Credit Hours: 5 / Billing Hours: 6**

This course provides an introduction to home technology integration with emphasis on the following: computer networking, audio/video, home security, industry standards, home lighting control, HVAC management, water system controls, home access controls and automated home features, low voltage wiring, and user interfaces. All topics are covered in lecture and lab experiments. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 4 and Writing Level 4

### **CITN 120      Networking Concepts**

**Credit Hours: 3 / Billing Hours: 3**

The student in this course learns the fundamentals of Local Area Networks (LANs) and Wide Area Networking (WAN). Communication standards such as the OSI 7 layer model and the Internet are introduced. Business and consumer use of these technologies will be discussed. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 4 and Writing Level 4
- Recommended: CITF 110

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## 2022-2023 Course Descriptions

### CITN 220 Introduction to Networks

**Credit Hours: 3 / Billing Hours: 3**

This course introduces architecture, structure, functions, components, and models of computer networks, including the Internet. Students examine networking layers, their roles and services, and learn to build and troubleshoot basic LANs. This course follows the objectives for the first course in the Cisco Networking Academy CCNA Routing and Switching curriculum. (F,Sp)

- Prerequisite Course: Minimum 2.0 in CITS 125
- Placement Score: Reading Level 5 and Writing Level 6 and [Math Level 4 or Minimum 2.0 in (MATH 105 or MATH 106)]
- Course Note:
  - This course is the first in the four-course Cisco Networking Academy sequence preparing students to test for the CCNA-RS certification.
  - It is an accelerated 8-week course in the first half-semester.
  - Students should plan for the extra time required for an accelerated course.
  - We strongly recommend that students enroll in this course at the same time as CITN 225, which takes place during the second half of the semester.

### CITN 222 Wireless Networking & Security

**Credit Hours: 3 / Billing Hours: 3**

This course provides the student with the ability to understand the fundamentals of RF networks and describe the functionality of WLAN components. Students are provided with the skills to install, configure, secure, and troubleshoot WLAN hardware peripherals and protocols. This course prepares the student for the Certified Wireless Network Technician exam. (F,Sp)

- Prerequisite Course: Minimum 2.0 in CITS 125
- Placement Score: Reading Level 5 and Writing Level 6 and [Math Level 4 or Minimum 2.0 in (MATH 105 or MATH 106)]



## 2022-2023 Course Descriptions

### **CITN 225      Switch Route Wireless Essentials      Credit Hours: 3 / Billing Hours: 3**

This course describes the architecture, components, and operations of devices in a small network. Students learn how to configure a router and a switch for basic functionality. This course is the second course in the Cisco Networking Academy CCNA Routing and Switching curriculum, and can lead to Cisco CCENT Certification. (F,Sp)

- Prerequisite Course: Minimum 2.0 in (CITN 220 within 2 years or concurrently)
- Placement Score: Reading Level 5 and Writing Level 6 and [Math Level 4 or Minimum 2.0 in (MATH 105 or MATH 106)]
- Course Note:
  - This course is the second in the four-course Cisco Networking Academy sequence preparing students to test for the CCNA-RS certification.
  - It is an accelerated 8-week course in the second half-semester.
  - Students should plan for the extra time required for an accelerated course.
  - We strongly recommend that students take this course immediately following CITN 220, enrolling in both courses in the same semester.

### **CITN 227      Networking Independent Study      Credit Hours: .25 to 4 / Billing Hours: .25 to 4**

This course includes special research, projects, or other independent study in Networking. Students may enroll to update or enhance knowledge, skills, and competencies. Advanced students may explore topics related to, but not included in the curriculum. Grading criteria and course objectives are determined at the first meeting. (F,Sp,Su)

- Prerequisite Course: None. Department Approval is require
- Placement Score: None

### **CITN 229      Special Topics in Networking      Credit Hours: .25 to 6 / Billing Hours: .25 to 6**

This course offers the opportunity to learn new computer networking skills and knowledge. Specific up-to-date content will vary with each offering and will be related to the networking profession. (F,Sp,Su)

- Prerequisite Course: Determined by Section

## 2022-2023 Course Descriptions

### **CITN 230      Linux/UNIX Operating System      Credit Hours: 3 / Billing Hours: 3**

The student in this course learns to install, use and administer a Linux operating system, including user account management, network operation, and application software for Linux. Practical hands-on training is used throughout. (F,Sp)

- Prerequisite Course: Minimum 2.0 in [(CITF 120 or CITS 125) and (CITN 220 or CITS 225)]
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 3

### **CITN 239      Special Topics/Networking P/Z      Credit Hours: .25 to 6 / Billing Hours: .25 to 6**

This course offers the opportunity to learn new computer networking skills and knowledge. Specific up-to-date content will vary with each offering and will be related to the networking profession. This course will be graded on a Pass/Fail basis. (F,Sp,Su)

- Prerequisite Course: Determined by Section

### **CITN 240      Ent Networking Sec Automation      Credit Hours: 3 / Billing Hours: 3**

This course describes the architecture, components, and operations of routers and switches in a larger and more complex network. Students learn how to configure routers and switches for advanced functionality. This course is the third in the Cisco Networking Academy CCNA Routing and Switching curriculum. (F,Sp)

- Prerequisite Course: Minimum 2.0 in CITN 225 within 2 years
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 4
- Course Note:
  - This course is the third in the four-course Cisco Networking Academy sequence preparing students to test for the CCNA-RS certification.
  - It is an accelerated 8-week course in the first half-semester.
  - Students should plan for the extra time required for an accelerated course.
  - We strongly recommend that students enroll in this course at the same time as CITN 245, which takes place during the second half of the semester.

## 2022-2023 Course Descriptions

### CITN 244      **Securing Networking Devices**

**Credit Hours: 3 / Billing Hours: 3**

This course introduces students to basic tasks needed to secure network routers and switches. Students will gain hands-on experience securing Cisco devices. This course covers the objectives of the Cisco Certified Network Associate - Security course (CCNA-S). (F,Sp)

- Prerequisite Course: Minimum 2.0 in CITN 225
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 4

### CITN 245      **Connecting Networks**

**Credit Hours: 3 / Billing Hours: 3**

This course discusses the WAN technologies and network services required by converged applications in a complex network. This course is the fourth course in the Cisco Networking Academy CCNA Routing and Switching curriculum and can lead to Cisco CCNA Routing and Switching Certification. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in CITN 240 within 2 years or concurrently
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 4
- Course Note:
  - This course is the fourth in the four-course Cisco Networking Academy sequence preparing students to test for the CCNA-RS certification.
  - It is an accelerated 8-week course in the second half-semester.
  - Students should plan for the extra time required for an accelerated course.
  - We strongly recommend that students take this course immediately following CITN 240, enrolling in both courses in the same semester.
  - Students will receive a voucher during this course for the Cisco CCNA-RS Certification Exam.

### CITN 250      **Microsoft Network Server**

**Credit Hours: 3 / Billing Hours: 3**

The student in this course learns installation, security, and best administration techniques for Microsoft Windows Servers. (F,Sp)

- Prerequisite Course: Minimum 2.0 in (CITF 120 or CITS 125)
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 3

## 2022-2023 Course Descriptions

### **CITN 253      Networking with Windows Server      Credit Hours: 3 / Billing Hours: 3**

This class features the functionality of networking available in Windows Server. It covers DNS, DHCP, and IPAM implementations, in addition to remote access solutions, such as VPN and Direct Access. It also covers implementation of software-defined networking (SDN) solutions, such as Hyper-V Network Virtualization (HNV) and Network Controller. (F)

- Prerequisite Course: Minimum 2.0 in CITN 250
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 3

### **CITN 256      Identity with Windows Server      Credit Hours: 3 / Billing Hours: 3**

This class focuses on the identity functionality in Windows Server. It covers the installation and configuration of Active Directory Domain Services (AD DS), in addition to Group Policy. It also covers functionality such as Active Directory Certificate Services (AD CS), Active Directory Federations Services (AD FS), and Web Application proxy implementations. (Sp)

- Prerequisite Course: Minimum 2.0 in CITN 253
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 3

### **CITN 280      IT Security Foundations      Credit Hours: 3 / Billing Hours: 3**

This course provides a comprehensive introduction to IT security, covering basic concepts of data integrity, confidentiality, and availability, and focusing on relevant threats and countermeasures. Students will be prepared to evaluate Information Security needs of organizations and to develop policies addressing these needs. This course covers the objectives identified for CompTIA Security+ certification. (F,Sp)

- Prerequisite Course: Minimum 2.0 in (CITN 220 or CITS 225)
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 3
- Recommended: CITN 230 or CITN 250

## 2022-2023 Course Descriptions

### **CITO 100      Cloud Foundations with AWS      Credit Hours: 3 / Billing Hours: 3**

This course introduces cloud computing on the Amazon Web Services (AWS) platform. Students study cloud computing principles, core services, cost models, security practices, migration options, and general management. This course aligns with the objectives for the AWS Certified Cloud Practitioner certification. (F, Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 4 and Writing Level 4 and [Math Level 4 or (Minimum 2.0 in MATH 105 or MATH 106)]

### **CITO 120      Cloud Architecting with AWS      Credit Hours: 3 / Billing Hours: 3**

This course introduces cloud architecting on the Amazon Web Services (AWS) platform. Students study and design architectures for workloads that must prioritize combinations of fault tolerance, availability, tiered applications, decoupling, elasticity, scalability, costs, and security. This course aligns with the objectives for the AWS Certified Solutions Architect Associate certification. (F, Sp)

- Prerequisite Course: Minimum 2.0 in (CITP 110 and CITS 125)
- Placement Score: Reading Level 4 and Writing Level 4 and Math Level 4 or Minimum 2.0 in (MATH 105 or MATH 106)

### **CITP 110      Intro to Programming - Python      Credit Hours: 4 / Billing Hours: 4**

Students are introduced to the fundamental techniques for understanding, designing, developing, and testing object-oriented programs through the use of scientific method. Topics include: structured program design; basic programming control structures; algorithm and logic design; functions; classes; methods; random number generators; user interface design; and working with data in files. Students are required to complete computer-based assignments using the Python programming language. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and [Math Level 4 or Minimum 2.0 in (MATH 105 or MATH 106)]
- Course Note: Students with little or no experience in programming are recommended to take a face-to-face version of this class rather than an online section. For further questions about the course requirements, please contact the Program office at 517-267-6406.

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*F=Fall; Sp=Spring; Su=Summer*

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### **CITP 130      Intro to Mobile App Devel**

**Credit Hours: 3 / Billing Hours: 3**

The course will introduce students to the various platforms and application (apps) in use on mobile devices. Platforms will include Apple iOS, Google Android OS, and others as appropriate. Students will create applications (apps), test, and debug for each platform using specialized development environments. (F, Sp, Su)

- Prerequisite Course: Minimum 2.0 in (CITP 110 or CPSC 230) or concurrently
- Placement Score: Reading Level 5 and Writing Level 6 and [Math Level 4 or Minimum 2.0 in (MATH 105 or MATH 106)]

### **CITP 140      Software Testing**

**Credit Hours: 3 / Billing Hours: 3**

This course is an introduction to software testing and quality assurance. The fundamentals of software testing are covered including test planning, test case design, the types of testing, such as performance and regression. Also covered are test management, automation, and how people and organizational issues affect testing. (F, Sp)

- Prerequisite Course: Minimum 2.0 in (CITP 110 or concurrently)
- Placement Score: Reading Level 5 and [Math Level 4 or Minimum 2.0 in (MATH 105 or MATH 106)]

### **CITP 150      Intro to VB.NET Programming**

**Credit Hours: 4 / Billing Hours: 4**

This course introduces students to programming concepts through the use of the Visual Basic.NET programming environment. Students learn to develop business applications by designing and creating a user interface and writing the necessary procedures. Students also learn and use logic development tools and object oriented programming terminology and techniques. (F,Sp)

- Prerequisite Course: Minimum 2.0 in (CITP 110 or CPSC 230)
- Placement Score: Reading Level 5 and Math Level 4

## 2022-2023 Course Descriptions

### **CITP 180      Intro to C#.NET Programming      Credit Hours: 4 / Billing Hours: 4**

Students will use Microsoft Visual Studio .NET to become familiar with the C# .NET programming language by designing, implementing, and testing programming projects. Topics include creating and using methods and classes; inheritance; exception handling, and using controls. (F,Sp)

- Prerequisite Course: Minimum 2.0 in (CITP 110 or CPSC 230)
- Placement Score: Reading Level 5 and Math Level 4

### **CITP 190      Intro to Programming in JAVA      Credit Hours: 4 / Billing Hours: 4**

This course introduces students to basic programming concepts using the Java Programming language. It introduces object-oriented programming methodology and features provided by the Java language. During the course, students will review sound programming practices and learn accepted Java programming procedures. Students will create and modify simple Java applications and applets. (F,Sp)

- Prerequisite Course: Minimum 2.0 in (CITP 110 or CPSC 230)
- Placement Score: Reading Level 5 and Math Level 4

### **CITP 220      Game Design & Development      Credit Hours: 2 / Billing Hours: 4**

This course provides a hands-on introduction to special research and projects utilizing Web development and programming skills. Student may enroll to update or enhance knowledge, mastery, and competencies. Specific content may vary with each offering and will be related to gaming, simulation, and software development industries. (F, Sp, Su) Placement Scores:Reading

- Prerequisite Course: Minimum 2.0 in CITP 180
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 4
- Recommended: CITP 150

### **CITP 227      Programming Independent Study      Credit Hours: .25 to 4 / Billing Hours: .25 to 4**

This course includes special research, projects, or other independent study in Programming. Students may enroll to update or enhance knowledge, skills, and competencies. Advanced students may explore topics related to, but not included in the curriculum. Grading criteria and course objectives are determined at the first meeting. (F,Sp,Su)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None

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*F=Fall; Sp=Spring; Su=Summer*

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## 2022-2023 Course Descriptions

### **CITP 229 Special Topics in Programming**      **Credit Hours: .25 to 6 / Billing Hours: .25 to 6**

This course offers students the opportunity to learn new computer programming skills and knowledge. Specific up-to-date content will vary with each offering and will be related to the computer programming profession. (F,Sp,Su)

- Prerequisite Course: Determined by Section

### **CITP 230 Mobile App Devel for Android**      **Credit Hours: 4 / Billing Hours: 4**

This course teaches students to develop applications (Apps) for mobile devices using either a Windows or an Apple computer. Programming language (SDK Software Development Kit) taught will feature Java for Android Development. Students will create several mobile applications via a popular IDE (Integrated Development Environment) to run on Android devices. (F, Sp)

- Prerequisite Course: Minimum 2.0 in CITP 130
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 4

### **CITP 235 Mobile App Devel for Apple**      **Credit Hours: 4 / Billing Hours: 4**

This course teaches students to develop applications (Apps) for mobile devices using an Apple computer. Programming language (SDK Software Development Kit) taught will feature C/Objective-C and/or Swift for iOS Development. Students will create several mobile applications via Apple's Xcode (IDE) to run on Apple mobile devices. (F, Sp)

- Prerequisite Course: Minimum 2.0 in CITP 130
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 4

### **CITP 240 Advanced Software Testing**      **Credit Hours: 3 / Billing Hours: 3**

This course is the second in a sequence of software testing classes. It covers in more detail testing procedures, test management, and testing techniques. Also included are test tools and automation as well as people skills and team composition for a successful quality assurance team. (Sp)

- Prerequisite Course: Minimum 2.0 in CITP 140
- Placement Score: Reading Level 5 and Math Level 4



## 2022-2023 Course Descriptions

### **CITP 250      Advanced VB.NET Programming      Credit Hours: 4 / Billing Hours: 4**

This course is a second course in the VB.NET programming sequence and leads to the creation of functional Windows and Web based application programs. Topics include writing user requirements, creating test scenarios and test plans, advanced form design, error handlers, data validation, object oriented programming concepts, database access and programming, use of collections and developing help systems. (Sp)

- Prerequisite Course: Minimum 2.0 in CITP 150
- Placement Score: Reading Level 5 and Math Level 4

### **CITP 280      Advanced C#.NET Programming      Credit Hours: 4 / Billing Hours: 4**

Students will use Microsoft Visual Studio .NET to become familiar with advanced C#.NET programming concepts including database and web programming. Topics include using threads, database interaction using ADO.Net, interfacing to Crystal Reports, and creating web applications. (F,Sp)

- Prerequisite Course: Minimum 2.0 in CITP 180 within the last two years
- Placement Score: Reading Level 5 and Math Level 4

### **CITP 290      Adv JAVA Programming for Busn      Credit Hours: 4 / Billing Hours: 4**

This course introduces advanced Java Programming concepts. Students will use sound programming practices and accepted Java programming procedures. Students will create and modify computer programs as might be encountered in creating Java applications for industry. Topics covered in this course provide a strong preparation for the Sun Certified Programmer Certification. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in [CITP 190 and (CITW 160 or concurrently)] within the last two years
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 4

### **CITP 295      Programming Internship      Credit Hours: 3 / Billing Hours: 3**

This internship provides the student with on-the-job experience as a computer programmer. The student is expected to write or maintain programs, test programs, create documentation, and perform analysis. It is designed to be the culmination of the Computer Programmer/Analyst Associate Degree and as final preparation for entering the job market. (F,Sp,Su)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None

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## 2022-2023 Course Descriptions

### **CITS 110      Helpdesk Support Specialist**

**Credit Hours: 3 / Billing Hours: 3**

This course will teach self-management and soft-skills to provide helpdesk customer service and support including processes and associated technologies in a technical or non-technical environment. (F, Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6 and [Math Level 4 or Minimum 2.0 in (MATH 105 or MATH 106)]

### **CITS 125      Computer Support: A+ Cert Prep**

**Credit Hours: 6 / Billing Hours: 6**

This course provides students with the skills to diagnose and correct problems that computer users encounter. The student receives practical hands-on experience in installing, maintaining, and troubleshooting computer hardware and software while developing their communication skills and professionalism. This course includes the current CompTIA A+ certification exams that are required to receive CompTIA A+ certification. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4 and [Math Level 3 or Minimum 2.0 in (MATH 105 or MATH 106)]
- Course Note: Students will receive vouchers during the class for the CompTia A+ Certification exams.

### **CITS 170      Basic Electronic for PC Repair**

**Credit Hours: 6 / Billing Hours: 7**

This course begins with basic electricity concepts and discusses basic electricity, basic electronics, electric circuits, diodes, transistors, digital devices, and digital circuits. Course work includes lab exercises each week. (F)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 2 and [Math Level 4 or Minimum 2.0 in (MATH 105 or MATH 106)]
- Recommended: Math Level 5

## 2022-2023 Course Descriptions

### **CITS 176      Computer Troubleshooting      Credit Hours: 4 / Billing Hours: 4**

This course provides students with the skills necessary to troubleshoot and repair desktop and laptop computers. Students will be instructed in the proper selection and use of the tools needed to perform diagnostics and preventative maintenance on personal computers. The course also stresses the importance of following proper safety and ESD procedures. (Sp)

- Prerequisite Course: Minimum 2.0 in (CITS 125 or concurrently)
- Placement Score: Reading Level 5 and Writing Level 2 and Math Level 4

### **CITS 225      Networking for PC Technicians      Credit Hours: 3 / Billing Hours: 3**

This course provides students with the practical skills to setup, maintain, and manage Local Area Networks. Students will receive a comprehensive introduction to networking standards and protocols, networking hardware and software, transmission basics, Internet connectivity, wireless networking, network security, and convergence technologies. This course includes the CompTIA Network+ certification exam. (F,Sp)

- Prerequisite Course: Minimum 2.0 in CITS 125
- Placement Score: Reading Level 5 and Writing Level 4 and Math Level 3
- Course Note: Students will receive vouchers during the class for the CompTia Network+ Certification exams

### **CITS 227      Comp Support Indepen Study      Credit Hours: .25 to 4 / Billing Hours: .25 to 4**

This course includes special research, projects, or other independent study in Computer Support. Students may enroll to update or enhance knowledge, skills, and competencies. Advanced students may explore topics related to, but not included in the curriculum. Grading criteria and course objectives are determined at the first meeting. (F,Sp,Su)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None

### **CITS 229      Special Topics/Support      Credit Hours: .25 to 6 / Billing Hours: .25 to 6**

This course offers the opportunity to learn new computer support skills and knowledge. Specific up-to-date content will vary with each offering and will be related to the computer support profession. (F,Sp,Su)

- Prerequisite Course: Determined by Section

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*F=Fall; Sp=Spring; Su=Summer*

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## 2022-2023 Course Descriptions

### **CITS 230      Computer Virtualization      Credit Hours: 3 / Billing Hours: 3**

This course presents the concepts and techniques used in computer virtualization. The course describes virtualization, hypervisors and virtual machines. Hands-on activities will cover the installation and management of virtual machines in a variety of computing environments. (F)

- Prerequisite Course: Minimum 2.0 in CITS 125
- Placement Score: Reading Level 4 and Writing Level 4 and Math Level 3
- Recommended: Minimum 2.0 in CITS 225 or CITN 230

### **CITS 285      IT Professional Internship      Credit Hours: 2 to 3 / Billing Hours: 2 to 3**

Designed to be the culmination of information systems students' associate degree program. It is intended to give the student live work experiences as a specialist in computer systems or support. It is to be taken at the end of the student's curriculum as final preparation for entering the job market. (F,Sp,Su)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None

### **CITW 150      Internet Literacy      Credit Hours: 3 / Billing Hours: 3**

This course teaches hands-on skills and builds knowledge for Internet professionals. It is designed to explore the potential uses of the Internet for business and communication including the use of email, search engines, discussion boards, and other Internet applications including web page development. This course also discusses the rapidly changing world of the Internet. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: Familiarity with Windows

### **CITW 160      Web Development HTML & CSS      Credit Hours: 3 / Billing Hours: 3**

This course explores techniques of web page construction using HTML and CSS languages. Students will construct individual web pages using HTML to contain graphics, text, and web forms with presentation controlled by CSS style sheets. Students will demonstrate their understanding and application of the concepts introduced during the semester by creating an individual website project. (F, Sp, Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

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## 2022-2023 Course Descriptions

### **CITW 165      Web Development JavaScript**

**Credit Hours: 3 / Billing Hours: 3**

This course explores advanced techniques of web page and website construction using HTML, HTML5, CSS, CSS3, and JavaScript for website behavior. Students will create several W3C compliant web pages that will respond to user input (client-side) via browsers using these technologies. (F,Sp)

- Prerequisite Course: Minimum 2.0 in CITW 160
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: Math Level 4

### **CITW 175      Web Site Management**

**Credit Hours: 3 / Billing Hours: 3**

This course presents a comprehensive introduction to web site planning, promotion, security, and legal issues associated with web site management. Students explore web-based communication tools, domain names, web site hosting, shopping cart software and manage an individual web site to demonstrate concepts presented throughout the semester. (F, Sp)

- Prerequisite Course: Minimum 2.0 in (CITW 160 or ARTS 173) or concurrently
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: Math Level 4

### **CITW 180      Web Development ASP.NET**

**Credit Hours: 4 / Billing Hours: 4**

This course provides instruction in building web sites using Microsoft ASP.NET. Students create dynamic, flexible, and interactive web pages that interact with a database. Students explore server controls, validation controls, security issues, user authentication, and manage an individual web site to demonstrate concepts presented throughout the semester. (Sp)

- Prerequisite Course: Minimum 2.0 in [CITW 160 and (CITP 150 or CITP 180)]
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 4

### **CITW 185      Web Development PHP & MySQL**

**Credit Hours: 4 / Billing Hours: 4**

This course provides instruction in building web sites using PHP scripting language. Students will learn how to create dynamic, flexible, and interactive web pages, connect to and update a MySQL database as well as develop an individual web site throughout the semester. (F, Sp)

- Prerequisite Course: Minimum 2.0 in (CITW 160 or ARTS 173) or concurrently
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: Math Level 4

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## 2022-2023 Course Descriptions

### **CITW 227    Web Independent Study**

**Credit Hours: .25 to 4 / Billing Hours: .25 to 4**

This course includes special research, projects, or other independent study in computer web skills. Students may enroll to update or enhance knowledge, skills, and competencies.

Advanced students may explore topics related to, but not included in the curriculum. Grading criteria and course objectives are determined at the first meeting. (F,Sp,Su)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None

### **CITW 229    Special Topics/Web**

**Credit Hours: .25 to 6 / Billing Hours: .25 to 6**

This course offers students the opportunity to learn new computer web skills and knowledge related to the World Wide Web. Specific up-to-date content will vary with each offering and will be related to the computer web profession. (F,Sp,Su)

- Prerequisite Course: Determined by Section

### **CIVL 101    Civil Drafting**

**Credit Hours: 3 / Billing Hours: 4**

This course emphasizes plotting land surveying descriptions, traverses, contours, profiles, cross-sections, templates, and the three views required in highway work. Students will learn how to read basic highway plans and make sketches from field notes. (F)

- Prerequisite Course: None
- Placement Score: None

### **CIVL 110    Density Certification**

**Credit Hours: 2 / Billing Hours: 2**

Students will study techniques and equipment used in determining properties of aggregates, concrete and other materials. Each student will receive a density certification card after successfully completing the course. (Sp)

- Prerequisite Course: None
- Placement Score: None

## 2022-2023 Course Descriptions

### **CIVL 120      Surveying**

**Credit Hours: 4 / Billing Hours: 6**

Introduces students to surveying technology and the use of the latest equipment. Emphasis is placed on developing skills in operation and the proper handling of high-tech equipment used in the surveying business. Good field work habits and office engineering are covered. (F)

- Prerequisite Course: None
- Placement Score: Minimum 2.0 in MATH 114 or Math Level 5

### **CIVL 124      Route Survey**

**Credit Hours: 4 / Billing Hours: 6**

This course includes surveying computations in such areas as horizontal curves, vertical curves, spirals and data needed for highway construction layout. Also includes work with surveying computation software and fieldwork with total stations. (Sp)

- Prerequisite Course: Minimum 2.5 in CIVL 120
- Placement Score: Math Level 5

### **CIVL 131      Traffic Technology**

**Credit Hours: 3 / Billing Hours: 3**

This course introduces basic principles of traffic engineering design, signing and pavement marking, traffic signalization and how these elements are used to improve motorists' safety. Emphasis is placed on the use of these devices in and around construction zones. Basic concepts on traffic flow and capacity analysis will be presented. (F)

Prerequisite Courses: None Placement Scores: None

- Prerequisite Course: None
- Placement Score: None

### **CIVL 135      Soils Technology**

**Credit Hours: 3 / Billing Hours: 3**

Exploring, sampling, testing and evaluating subsurface materials and their effect on construction are covered in this course. Includes an introduction to methods of subsurface drainage, soil classifications and physical properties of soils; and discussion, demonstration and performance with equipment used in density testing. (Sp)

- Prerequisite Course: Minimum 2.0 in MATH 114 or Math Level noted below
- Placement Score: Math Level 5

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*F=Fall; Sp=Spring; Su=Summer*

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## 2022-2023 Course Descriptions

### **CIVL 141 Site Inspection**

**Credit Hours: 3 / Billing Hours: 3**

This course introduces students to the principles of construction inspection including safety practices (MIOSHA), legal aspects, reporting, and applicable specifications, codes and standards. (Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 3 and Writing Level 2 and [Math Level 4 or minimum 2.0 in (MATH 105 or MATH 106)]

### **CIVL 143 Site Dsgn & Layout/Civil Techn**

**Credit Hours: 3 / Billing Hours: 4**

In this course, students apply road and land development procedures, and interpret survey data in assembling sets of construction drawings. Topics include developing cross sections, road profiles, and utility layouts. (Sp)

- Prerequisite Course: Minimum 2.0 in CIVL 101
- Placement Score: None

### **CIVL 170 Special Topics/Civil Tech**

**Credit Hours: .25 to 8 / Billing Hours: .25 to 11**

This course offers students the opportunity to learn new or advanced skills in Civil Technology and other related topics. Specific content may vary with each offering and will be related to the Civil Technology Program and profession. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: None

### **CIVL 171 Special Topics/Civil Tech P/Z**

**Credit Hours: .25 to 8 / Billing Hours: .25 to 11**

This course offers students the opportunity to learn new or advanced skills in Civil Technology and other related topics. Specific content may vary with each offering and will be related to the Civil Technology Program and profession. This course will be graded on a Pass/Fail basis. (F,Sp,Su)

- Prerequisite Course: Determined by Section

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## 2022-2023 Course Descriptions

### **CIVL 225 Civil Tech Independent Study**

**Credit Hours: 1 to 4 / Billing Hours: 1 to 4**

Students are allowed to undertake special research projects to apply to their professional experience and academic major. A minimum of 48 hours of work per credit is required and the completion of a written project report. This course cannot be audited. (Sp)

- Prerequisite Course: None
- Placement Score: None
- Restriction: Civil Technology Majors

### **CIVL 241 Statics/Strength of Materials**

**Credit Hours: 4 / Billing Hours: 5**

Structural terminology and concepts are introduced. General behavior of structural members in compression, stress, strain, creep, fatigue, yield, tension, shear, bending and torsion due to different loading conditions are studied. Loads and forces, conditions of stability and equilibrium in structural frames and free body analysis for reactions and member forces are considered. (F, Sp)

- Prerequisite Course: None
- Placement Score: Minimum 2.0 in MATH 114 or Math Level 5

### **CIV L290 Civil Technology Internship**

**Credit Hours: 2 to 4 / Billing Hours: 2 to 4**

This course provides Civil Technology students with practical work experience in industry. Students work for an employer in a supervised environment which provides an opportunity to apply knowledge and skills learned in the classroom and lab to an actual job situation. (Su)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None

### **CJUS 101 Intro to Criminal Justice**

**Credit Hours: 3 / Billing Hours: 3**

An orientation course designed to provide students with a current, coordinated, and comprehensive overview of criminal justice as an institution and as a system. It will emphasize historical, philosophical, constitutional, and organizational perspectives. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4

## 2022-2023 Course Descriptions

### **CJUS 102**      **Crime Causes and Conditions**      **Credit Hours: 3 / Billing Hours: 3**

Why do some individuals pursue a life of crime? This course introduces and analyzes the past, present, and future of criminology. Sociological, psychological, and biological factors are examined to determine their interaction with and impact on criminal behavior. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4

### **CJUS 103**      **Criminal Law**      **Credit Hours: 3 / Billing Hours: 3**

This course is a study of substantive criminal law. Includes the classification of crimes, common law concepts, elements of specific crimes, and discussion of current trends in criminal law nationally and locally. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in CJUS 101 or concurrently
- Placement Score: Reading Level 5 and Writing Level 4

### **CJUS 104**      **Theory of Patrol**      **Credit Hours: 3 / Billing Hours: 3**

This course is designed to introduce the student to the concepts and theories of patrol and the delivery of police services. The class will cover areas such as police field operations, community policing, basic field procedures, traffic direction and enforcement, arrest, reports and records. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4
- Recommended: CJUS 101

### **CJUS 106**      **Intro to Juvenile Justice**      **Credit Hours: 3 / Billing Hours: 3**

This course emphasizes the legal foundation, as defined by Michigan law, upon which the criminal justice practitioner must rely in dealing with the juvenile offender and the juvenile victim. In addition, this course will introduce the student to the juvenile offender. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4



## 2022-2023 Course Descriptions

### **CJUS 126      Juvenile Offenders/Families      Credit Hours: 3 / Billing Hours: 3**

This course takes an in-depth look at the diverse nature of juvenile offenders and their family backgrounds. Issues impacting juvenile behavior will be discussed including: family dynamics, family as a social system, behavior cycles, drugs, gender, gangs, and other elements of the social environment. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in (CJUS 106 or concurrently)
- Placement Score: Reading Level 5 and Writing Level 4

### **CJUS 130      Local Detention      Credit Hours: 3 / Billing Hours: 3**

This course explains operations of local detention facilities and their unique role in the criminal justice system. Emphasis is placed on Michigan local locked facilities operations which includes jails, 12-24-72 hour facilities and juvenile facilities. Also includes the organization, management, policy environment, and emerging issues confronting American jails. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4

### **CJUS 131      Introduction to Corrections      Credit Hours: 3 / Billing Hours: 3**

An introduction to the agencies and processes within the correctional system. An examination of correctional officer behavior, corrections legislation, the courts, correctional institutions and their operation, and administration. Includes overview of history sentencing, probation, parole, and community corrections. This course is required for the corrections officer vocational certificate. (F, Sp, Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4

### **CJUS 133      Juvenile Residential Services      Credit Hours: 3 / Billing Hours: 3**

All aspects of court-placement of juveniles in residential facilities will be examined. Staffing and operations of both public and private agencies will be discussed, focusing both on treatment and detention issues. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in CJUS 106 or concurrently
- Placement Score: Reading Level 5 and Writing Level 4

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## 2022-2023 Course Descriptions

### **CJUS 134**      **Probation and Parole**      **Credit Hours: 3 / Billing Hours: 3**

An introductory level course in probation and parole with a strong emphasis on counseling, interviewing skills, and supervision techniques. Students will also learn the mechanics of writing violation, progress, and pre-sentence reports. (F,Sp)

- Prerequisite Course: Minimum 2.0 in (CJUS 101 or CJUS 131) or concurrently
- Placement Score: Reading Level 5 and Writing Level 4

### **CJUS 135**      **Legal Issues in Corrections**      **Credit Hours: 3 / Billing Hours: 3**

Study of current constitutional, federal and state law as it pertains to penal institutions, inmates, and correctional employees. The course will provide students with insight into policy considerations behind state and federal law, legal process, court decisions, and inmate rights. This course is required for the correctional officer vocational certificate. (F)

- Prerequisite Course: Minimum 2.0 in (CJUS 130 or CJUS 131 or concurrently)
- Placement Score: Reading Level 5 and Writing Level 4

### **CJUS 201**      **Criminal Justice Org/Admin**      **Credit Hours: 3 / Billing Hours: 3**

This course examines the primary concepts of criminal justice organization and administration emphasizing processes and theories, communications, leadership, personnel, budgeting, planning, information management, and community relations. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in CJUS 101
- Placement Score: Reading Level 5 and Writing Level 4

### **CJUS 203**      **Criminal Procedure**      **Credit Hours: 3 / Billing Hours: 3**

This course is a study of criminal procedural law. It will include laws of arrest, search and seizure, and admissions and confessions; suspect identification; and rules of evidence. (F,Sp)

- Prerequisite Course: Minimum 2.0 in CJUS 103
- Placement Score: Reading Level 5 and Writing Level 4

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## 2022-2023 Course Descriptions

### **CJUS 204 Criminal Investigation**

**Credit Hours: 4 / Billing Hours: 4**

This course examines the fundamentals of criminal investigation such as crime scene procedures, collection and preservation of physical evidence, interviewing, interrogation, and latent investigation. (F,Sp)

- Prerequisite Course: Minimum 2.0 in CJUS 101
- Placement Score: Reading Level 5 and Writing Level 4
- Recommended: Minimum 2.0 in CJUS 103

### **CJUS 205 Policing into the 21st Century**

**Credit Hours: 3 / Billing Hours: 3**

This course describes who the police are, what they do, and how they do it. It will list the jobs available in policing, how to go about getting them, what skills are needed, and what you do when you get those jobs. It will prepare students for the challenges of policing into the 21st Century. (F,Sp)

- Prerequisite Course: Minimum 2.0 in CJUS 101
- Placement Score: Reading Level 5 and Writing Level 4

### **CJUS 207 Digital Evidence/1st Responder**

**Credit Hours: 3 / Billing Hours: 3**

This course is designed to acquaint students with the relationship of the ever evolving world of technology and the impact it plays within our society upon crime. This course emphasizes the various uses of technology and the activity of information that can be used to engage in criminal behavior. Students will be able to identify digital evidence that can be stored, received, and transmitted on electronic devices. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4
- Recommended: Minimum 2.0 in CJUS 101

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## 2022-2023 Course Descriptions

### **CJUS 210      Intro to Forensic Science**

**Credit Hours: 3 / Billing Hours: 3**

Forensic Science is the application of scientific methods in the analysis of physical evidence generated by criminal activity. This introductory course will cover four major aspects of physical evidence from actual criminal cases including crime scene investigation; the collection, preservation and value of physical evidence; the forensic analysis of physical evidence; and expert testimony. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4

### **CJUS 242      Unarmed Defense**

**Credit Hours: 3 / Billing Hours: 3**

Hands-on techniques to prepare students to properly and effectively handle law enforcement related physical confrontations. It will include use of force decision-making skills, pressure points, control holds, and handcuffing. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: None
- Course Note: The \$39 Course Fee is non-refundable.

### **CJUS 245      Report Writing/Crim Justice**

**Credit Hours: 3 / Billing Hours: 3**

This course is designed to meet the needs of criminal justice writing. Components include grammar, punctuation, sentences, paragraphs, styles of writing, and proper documentation of work effort. The course includes frequent writing practice. (F,Sp)

- Prerequisite Course: Minimum 2.0 in (CJUS 101 or CJUS 131)
- Placement Score: Reading Level 5 and Writing Level 4

### **CJUS 247      Juvenile Justice: Special Pops**

**Credit Hours: 3 / Billing Hours: 3**

The course provides an in-depth examination of special populations of juvenile delinquents. Attention will be focused on the issues and practices of providing treatment to female delinquents, juveniles in the mental health system, youthful offenders, and juvenile sexual offenders. (Sp)

- Prerequisite Course: Minimum 2.0 in (CJUS 101 and CJUS 106)
- Placement Score: eading Level 5 and Writing Level 4
- Recommended: Minimum 2.0 in (CJUS 126 and HUSE 110 and PSYC 200)

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## 2022-2023 Course Descriptions

### **CJUS 250      Correctional Institutions      Credit Hours: 3 / Billing Hours: 3**

This course examines the historical development of corrections institutions in the United States. The organizational structure, purpose, programs, security aspects, and prisoner due-process rights, as well as the future of institutions will be examined. This course is required for the correctional officer vocational certificate. (F)

- Prerequisite Course: Minimum 2.0 in (CJUS 131 or concurrently)
- Placement Score: Reading Level 5 and Writing Level 4

### **CJUS 251      Correctional Clients      Credit Hours: 3 / Billing Hours: 3**

Emphasis is placed on the needs, identities and development of the recipient of correctional services. Students will gain insight into the behavior and motivations of the corrections client and learn intervention strategies. This course is required for the correctional officer vocational certificate. (Sp)

- Prerequisite Course: Minimum 2.0 in (CJUS 130 or CJUS 131 or concurrently)
- Placement Score: Reading Level 5 and Writing Level 4

### **CJUS 255      Human Relations/Crim Justice      Credit Hours: 3 / Billing Hours: 3**

This course focuses on understanding those aspects of interpersonal relations most directly linked to attainment of organizational and individual goals in work settings. This course is required for the correctional officer vocational certificate. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in (CJUS 101 or CJUS 130 or CJUS 131) or concurrently
- Placement Score: Reading Level 5 and Writing Level 4

### **CJUS 270      Police Academy I      Credit Hours: 11 / Billing Hours: 14**

Police Academy I is the basic training required for all police officers in the State of Michigan. The training is certified through the Michigan Commission on Law Enforcement Standards. (F,Sp)

- Prerequisite Course: Admission to the Police Academy
- Corequisite Course: CJUS 271 and PFFT 114 and PFHW 100
- Course Note: \$400 of the Course Fee is non-refundable

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## 2022-2023 Course Descriptions

### **CJUS 271**

### **Police Academy II**

**Credit Hours: 14 / Billing Hours: 21**

Police Academy II is the basic training required for all police officers in the State of Michigan. The training is certified through the Michigan Commission on Law Enforcement Standards.  
(F, Sp)

- Prerequisite Course: Admission to the Police Academy
- Corequisite Course: CJUS 270 and PFFT 114 and PFHW 100

### **CJUS 272**

### **Local Corrections Academy I**

**Credit Hours: 5 / Billing Hours: 5**

This course is designed to provide entry level skills for the person who wishes to enter the job market as a Local Correctional Officer at a Sheriff's Department or Local Police Detention Center. Topics include prisoner admittance, diversity, ethics, security, and correction report writing. This meets the Michigan Sheriff Coordinating and Training Council requirements.  
(F, Sp)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None
- Corequisite Course: CJUS 273
- Course Note: The \$60 Course Fee is non-refundable

### **CJUS 273**

### **Local Corrections Academy II**

**Credit Hours: 3 / Billing Hours: 5**

This course is designed to provide entry level skills for the person who wishes to enter the job market as a Local Correctional Officer at a Sheriff's Department or Local Police Detention Center. Topics will include fire response, mental reactions, and prisoner resistance and restraint. This meets the Michigan Sheriff Coordinating and Training Council requirements.  
(F, Sp)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None
- Corequisite Course: CJUS 272
- Course Note: The \$240 Course Fee is non-refundable

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## 2022-2023 Course Descriptions

### **CJUS 281      Directed Independent Study      Credit Hours: 1 to 3 / Billing Hours: 1 to 3**

Sixteen hours of study and research are assigned per credit. Students are given criminal justice related research assignments that will introduce them to research procedures and resources.

(F,Sp,Su)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None

### **CJUS 285      Law Enforcement Internship      Credit Hours: 2 / Billing Hours: 2**

Students are required to complete 128 hours of work in an approved law enforcement environment. Written reports are required describing their experiences. (F,Sp,Su)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None
- Course Note: Department approval requires a completed application submitted to the Public Service Careers Office. Students must bring their driver's license and medical insurance card with application. Worksite placement must be discussed and assigned by instructor. Students will be notified by phone upon approval to register for class.

### **CJUS 286      Juvenile Internship I      Credit Hours: 3 / Billing Hours: 3**

The student will be placed in a local program dealing with young people from at risk populations. A classroom component includes preparation for job interviews and other skill-building exercises for working in the juvenile justice field. Written reports are required.

(F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in CJUS 106 or concurrently and Department Approval
- Placement Score: None
- Course Note:
  - Department approval requires a completed application submitted to the Public Service Careers Office.
  - Students must bring their driver's license and medical insurance card with application.
  - Worksite placement must be discussed and assigned by instructor. Students will be notified by phone upon approval to register for class.

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## 2022-2023 Course Descriptions

### **CJUS 287**

### **Juvenile Internship II**

**Credit Hours: 3 / Billing Hours: 3**

The student will be placed in a residential facility with juveniles who have been adjudicated by the court for treatment and rehabilitation purposes. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in CJUS 286 and (CJUS 133 or concurrently) and Department Approval
- Placement Score: None
- Recommended: For Juvenile Justice/Juvenile Specialization students
- Course Note:
  - Department approval requires a completed application submitted to the Public Service Careers Office.
  - Students must bring their driver's license and medical insurance card with application.
  - Worksite placement must be discussed and assigned by instructor. Students will be notified by phone upon approval to register for class.

### **CJUS 288**

### **Corrections Internship**

**Credit Hours: 2 to 4 / Billing Hours: 2 to 4**

The student will be placed in a local or state corrections facility that will allow him or her to experience many facets of correction operations. Weekly written reports are required and periodic meetings are mandatory. A minimum of 160 hours is required. (F,Sp)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None
- Course Note: Department approval requires a completed application submitted to the Public Service Careers Office. Students must bring their driver's license and medical insurance card with application. Worksite placement must be discussed and assigned by instructor. Students will be notified by phone upon approval to register for class.

### **CJUS 295**

### **Criminal Justice Special Topic**

**Credit Hours: .25 to 8 / Billing Hours: .25 to 11**

This course offers students the opportunity to learn new criminal justice career skills and knowledge. Specific up-to-date content will vary with each topic presented and will be related to criminal justice careers. (F,Sp,Su)

- Prerequisite Course: Determined by Section

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## 2022-2023 Course Descriptions

### COMM 110 Communication in the Workplace

Credit Hours: 3 / Billing Hours: 3

Introduction to oral communication skills in business and technology. Students will learn to interact effectively in diverse workplace situations. Activities include participating in interviews, managing group dynamics, giving planned presentations, and using current technology to enhance business communication. A grade of 2.0 or higher fulfills the Communication Core Requirement. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6
- Course Note: Internet access may be needed for quizzes or other assessments in the course.

### COMM 120 Dynamics of Communication

Credit Hours: 3 / Billing Hours: 3

This course is a survey of communication theories and concepts related to interpersonal, small group, public speaking, and mass and social media. Students will learn about media and channels used to interact, the influence of technology on those channels, and sociological, psychological, and practical applications of the communication discipline. A grade of 2.0 or higher fulfills the Communication Core Requirement. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6
- Course Note: Internet access may be needed for quizzes or other assessments in the course

### COMM 130 Fundamentals Public Speaking

Credit Hours: 3 / Billing Hours: 3

Through practical experience, students will develop essential skills to feel confident researching, organizing, drafting, and delivering oral presentations. Attention will be given to accurate outlining, source citation, and appropriate integration of presentational aids. Presentations will occur in informative, persuasive, ceremonial, and small group contexts. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6 Course
- Course Note: Internet access may be needed for quizzes or other assessments in the course.

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## 2022-2023 Course Descriptions

### **COMM 200 Small Group Communication**

**Credit Hours: 3 / Billing Hours: 3**

Small group theory and process is examined from a communication perspective. Topics include, goal setting, stages of group development, group roles, leadership, decision making, listening, conflict resolution, problem solving, critical thinking and argumentation. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in (COMM 110 or COMM 120 or COMM 130)
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: ENGL 121
- Course Note: Internet access may be needed for quizzes or other assessments in the course.

### **COMM 240 Interpersonal Communication**

**Credit Hours: 3 / Billing Hours: 3**

Introduction to fundamental principles and skills of interpersonal communication. Students investigate techniques for interacting effectively in family, intercultural, and male/female relationships. Class discussions, learning activities, and assignments assist students in examining the impact of their communication on others and in developing effective interpersonal skills. (F,Sp)

- Prerequisite Course: Minimum 2.0 in (COMM 110 or COMM 120 or COMM 130)
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: ENGL 121
- Course Note: Internet access may be needed for quizzes or other assessments in the course.

### **COMM 260 Nonverbal Communication**

**Credit Hours: 3 / Billing Hours: 3**

Introduction to the ways people communicate without words. Students investigate nonverbal communication theory and research and learn the messages that gestures, facial expressions, vocal cues, physical appearance, clothing, touch, distance, and time convey in American and foreign cultures. Students' nonverbal communication skills are enhanced through assignments and in-class learning activities. (F)

- Prerequisite Course: Minimum 2.0 in (COMM 110 or COMM 120 or COMM 130)
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: ENGL 121
- Course Note: Internet access may be needed for quizzes or other assessments in the course.

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## 2022-2023 Course Descriptions

### COMM 270 Mass Communication

**Credit Hours: 3 / Billing Hours: 3**

Introduction to broadcast, film, and print media and their impact on the individual and society. Students investigate theory and research on topics including values the media convey, media stereotypes, diversity, gender issues, violence, news, advertising, and the role of media in political campaigns. Assignments and observational projects are designed to help students become enlightened media consumers. (Sp)

- Prerequisite Course: Minimum 2.0 in (COMM 110 or COMM 120 or COMM 130)
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: ENGL 121
- Course Note: Internet access may be needed for quizzes or other assessments in the course.

### COMM 280 Intercultural Communication

**Credit Hours: 3 / Billing Hours: 3**

Introduction to the theory and practice of successful intercultural communication. Students investigate how communication is affected by dimensions of cultures, cultural values, world views, relationships, and social institutions. Students will become ethical and skillful intercultural communicators. A grade of 2.0 or higher fulfills the Global Perspectives and Diversity Core requirement for curricula effective Fall 2005 or later. (F,Sp)

- Prerequisite Course: Minimum 2.0 in (COMM 110 or COMM 120 or COMM 130)
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: ENGL 121
- Course Note: Internet access may be needed for quizzes or other assessments in the course.

### COMM 295 Independent Study in COMM

**Credit Hours: 1 to 4 / Billing Hours: 1 to 4**

An opportunity for self-directed learners to explore topics related to, but not taught in the curriculum. Students spend at least two hours per week for each credit. A detailed proposal must be submitted by the student for approval by the Department and supervising instructor prior to registration. (F,Sp)

- Prerequisite Course: Department Approval

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## 2022-2023 Course Descriptions

### **CPAR 250      Community Paramedicine I      Credit Hours: 3 / Billing Hours: 3**

This course introduces students to the scope of practice and the role of the Community Integrated Paramedic within the healthcare system. Students will obtain an understanding of various systems of Community Paramedicine, the system they function within, and the patients they serve. A valid State of Michigan Paramedic License is required through the end of program. (F)

- Prerequisite Course: None. Program approval is required
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 4
- Corequisite Course: CPAR 251 and CPAR 252

### **CPAR 251      Chronic Care in the Community      Credit Hours: 5 / Billing Hours: 6**

This course introduces students to the management of chronic disease states commonly encountered in the community setting. Students will obtain an understanding of treatment and assessment modalities which will enable them to provide safe and efficient patient care. A valid State of Michigan Paramedic license is required through the end of program. (F)

- Prerequisite Course: None. Program Approval is required
- Placement Score: Reading Level 5 and Writing Level of 6 and Math Level 4
- Corequisite Course: CPAR 250 and CPAR 252

### **CPAR 252      Community Paramedicine II      Credit Hours: 3 / Billing Hours: 3**

This course immerses students into the various roles of a Community Paramedic where they are able to evaluate, plan, and implement care strategies specific to their scope and role. Students will engage in case studies and scenarios, developing critical thinking skills required of a Community Paramedic. A valid State of Michigan Paramedic license is required through the end of program. (F)

- Prerequisite Course: None. Program approval is required
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 4
- Corequisite Course: CPAR 250 and CPAR 251

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## 2022-2023 Course Descriptions

### **CPAR 270      Community Paramedic Clinical      Credit Hours: 5 / Billing Hours: 6.5**

This course immerses students into clinical rotations allowing them to experience various patient encounters. Under the supervision of a clinical preceptor and working within a healthcare team, students will perform interventions, assess and manage patients. A valid State of Michigan Paramedic license is required through the end of program. (Sp)

- Prerequisite Course: Minimum 3.0 in CPAR 250 and CPAR 251 and CPAR 252
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 4

### **CPSC 101      Intro to Computer Science      Credit Hours: 3 / Billing Hours: 3**

Introduction to computer science and the programming profession. Topics include an overview of relational operators, logic, Boolean algebra, professionalism and ethics, machine coding, range and sorting algorithms, and foundations of computational problem solving. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in MATH 109 or Math Placement Score indicated below
- Placement Score: [Reading Level 5 and Writing Level 6 or (Reading Level 4 and Writing Level 4 and ENGL 099 concurrently)] and Math Level 5

### **CPSC 131      Numerical Methods and MATLAB      Credit Hours: 3 / Billing Hours: 4**

This course uses spreadsheets, MATLAB, and numerical methods for technical problem solving in engineering, mathematics and science. Develops and uses mathematical models combining computation, visualization, data representation, curve fitting, analysis, and programming to allow problem solving in many different areas with emphasis on engineering systems. Uses team-based projects to apply principles. (F,Sp)

- Prerequisite Course: Minimum 2.0 in (MATH 151 or MATH 161) or concurrently
- Placement Score: Reading Level 5 and Writing Level 6



## 2022-2023 Course Descriptions

### **CPSC 230      Algorithms and Computing w/C++      Credit Hours: 4 / Billing Hours: 4**

This course develops students' skills with using fundamental computational techniques required for continuing study in computer science. Students design, implement and test C++ programs to solve a wide range of problems. Topics include program development, functions, control structures, text file operations, data types/classes, recursion, STL string/vector classes, arrays, pointer variables, and algorithm analysis. Object orientation and data abstraction/information hiding is emphasized. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in CPSC 101 and Minimum 2.0 in (MATH 151 or MATH 161) or concurrently
- Placement Score: Reading Level 5 and Writing Level 6
- Course Note: A score of 3 or higher on the AP Computer Science exam can replace the CPSC 101 course prerequisite.

### **CPSC 231      Computing and Data Structures      Credit Hours: 4 / Billing Hours: 4**

Data abstraction and related theory for representation and access of information using C++. Algorithms and analyses of abstract data structures such as linked lists, stack, queue, and binary trees. Analyze properties of graphs, including connectivity, spanning trees, and traversal methods. (F,Sp)

- Prerequisite Course: Minimum 2.0 in CPSC 230
- Placement Score: Reading Level 5 and Writing Level 6

### **CPSC 260      Computer Science Structures      Credit Hours: 4 / Billing Hours: 4**

Introduction to logical and algebraic structures and techniques required for further study in computer science. Topics include statement logic and proof techniques, combinatorics, algorithms and their analysis, directed and undirected graphs and their matrix representations, Boolean algebras and logic networks, regular expressions, finite-state machines, and Turing machines. (Sp)

- Prerequisite Course: Minimum 2.0 in CPSC 230 and (MATH 151 or MATH 161) or concurrently
- Placement Score: Reading Level 5 and Writing Level 6

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## 2022-2023 Course Descriptions

### **CTGT 210      CT Patient Care and Safety      Credit Hours: 1 / Billing Hours: 0**

This course prepares the CT student to safely practice within the hospital or ambulatory care setting. Students will discuss the importance of patient assessment. Emphasis will be placed on radiation safety and contrast administration. Must be a Registered Radiologic Technologist. (Sp)

- Prerequisite Course: None. Admission to the Computed Tomography Program is required
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 5
- Corequisite Course: CTGT 215 and CTGT 230 and CTGT 240

### **CTGT 215      Principles of CT      Credit Hours: 1 / Billing Hours: 0**

This course provides a historical overview of the CT profession. Students will explore the principles of digital imaging. Emphasis will be placed on the physical principles of computed tomography, data acquisition, and data processing. (Sp)

- Prerequisite Course: None. Admission to the Computed Tomography Program is required
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 5
- Corequisite Course: CTGT 210 and CTGT 230 and CTGT 240

### **CTGT 220      CT Instrumentation      Credit Hours: 2 / Billing Hours: 0**

This course provides an introduction of the CT operating system. Students will review radiation physics and discuss factors affecting dose in CT. Emphasis will be placed on artifact recognition, artifact reduction, and image quality. (Su)

- Prerequisite Course: Minimum 2.5 in (CTGT 210 and CTGT 215 and CTGT 230 and CTGT 240)
- Placement Score: None
- Corequisite Course: CTGT 231 and CTGT 241



## 2022-2023 Course Descriptions

### **CTGT 230      CT Procedures & Pathophys I      Credit Hours: 3 / Billing Hours: 0**

The first in a series of two courses that will provide the student with considerations related to routine imaging techniques of the central nervous system (CNS) and musculoskeletal system (MSK). Students will explore common pathologies found on CT images. Emphasis will be placed on contrast usage, imaging processes, and positioning considerations. (Sp)

- Prerequisite Course: None. Admission to the Computed Tomography Program is required
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 5
- Corequisite Course: CTGT 210 and CTGT 215 and CTGT 240

### **CTGT 231      CT Procedures & Pathophys II      Credit Hours: 3 / Billing Hours: 0**

This is the final procedures and pathophysiology course in a series of two that will provide the student with considerations related to special imaging procedures. Students will explore common pathologies found on CT images. Emphasis will be placed on contrast usage, imaging processes, and positioning considerations. (Su)

- Prerequisite Course: Minimum 2.5 in (CTGT 210 and CTGT 215 and CTGT 230 and CTGT 240)
- Placement Score: None
- Corequisite Course: CTGT 220 and CTGT 241

### **CTGT 240      CT Clinical Practice I      Credit Hours: 3 / Billing Hours: 0**

The first in a series of two clinical courses that provides the necessary supervised clinical education needed for the CT student to competently apply basic protocols, recognize when to appropriately alter the standard protocol, and recognize equipment and patient considerations that affect image quality. Emphasis will be placed on patient safety and comfort while employing professional values, attitudes, and behaviors. (Sp)

- Prerequisite Course: None. Admission to Computed Tomography Program is required
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 5
- Corequisite Course: CTGT 210 and CTGT 215 and CTGT 230

## 2022-2023 Course Descriptions

### CTGT 241

### CT Clinical Practice II

**Credit Hours: 3 / Billing Hours: 0**

The final clinical course in a series of two that provides the necessary supervised clinical education needed for the CT student to competently apply basic protocols, recognize when to appropriately alter the standard protocol, and recognize equipment and patient considerations that affect image quality. Emphasis will be placed on patient safety and comfort while professional values, attitudes, and behaviors are upheld. (Su)

- Prerequisite Course: Minimum 2.5 in (CTGT 210 and CTGT 215 and CTGT 230 and CTGT 240)
- Placement Score: None
- Corequisite Course: CTGT 220 and CTGT 231

### DANC 100 Intro to Dance Techniques

**Credit Hours: 2 / Billing Hours: 3**

This course is designed for students with little or no dance experience, with an overview of dance techniques, including, but not limited to, ballet, jazz, tap and modern genres. Basic dance vocabulary, steps, and combinations specific to each genre will be included. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: None

### DANC 101 Beginning Ballet

**Credit Hours: 2 / Billing Hours: 3**

Designed for the student with no dance experience. Included are an overview of Ballet history, basic barre and center floor combinations, alignment principles, ballet vocabulary and steps, and elementary combinations of ballet technique for the beginning student. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: None

### DANC 102 Beginning Modern

**Credit Hours: 2 / Billing Hours: 3**

Designed for the students with no dance experience. Basic examination of the history of Modern dance, alignment techniques, spatial relationships, and elementary combinations will be explored. Some improvisation will be used throughout the course to assist in developing kinesthetic, spatial, cognitive, and physical awareness. (F,Sp)

- Prerequisite Course: None
- Placement Score: None

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## 2022-2023 Course Descriptions

### **DANC 103     Beginning Jazz**

**Credit Hours: 2 / Billing Hours: 3**

Designed for the student with no dance experience. Included are an overview of Jazz history as well as vocabulary. Basic alignment, isolations, steps, combinations, and rhythms are explored in addition to spatial relationships for the beginning student. (F,Sp)

- Prerequisite Course: None
- Placement Score: None

### **DANC 104     Beginning Tap**

**Credit Hours: 2 / Billing Hours: 3**

Designed for the student with no dance experience. Included are an overview of Tap history, as well as vocabulary. Basic steps, combinations, and rhythms are explored in addition to spatial relationships for the beginning student. (F,Sp)

- Prerequisite Course: None
- Placement Score: None

### **DANC 161     Dance Repertory**

**Credit Hours: .25 to 1 / Billing Hours: .5 to 2**

This course is designed for the student who has reached a level of dance technique that will adequately support his/her participation in the concert process. This process includes auditions, rehearsals, and public performances in various dance genres. Concentration is on memorization, projection, musicality, dance ability, and cooperation. (Sp)

- Prerequisite Course: None. Department Approval after successful audition
- Placement Score:
- Corequisite Course: Approved students must be registered in one LCC Dance Technique class. Auditing only permitted for intermediate classes.

### **DANC 201     Intermediate Ballet**

**Credit Hours: 3 / Billing Hours: 4**

A continuation of beginning ballet. This course includes alignment training, spatial relationships, practice of movement qualities, and longer combinations. Intermediate concepts in Ballet history are explored. Emphasis is placed on dance dynamics, vocabulary, and development of a personal movement style. Pointe shoes are optional with instructor approval. (F,Sp)

- Prerequisite Course: Minimum 3.5 in DANC 101 or Dance Audition for Intermediate Ballet
- Placement Score: None

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## 2022-2023 Course Descriptions

### **DANC 202 Intermediate Modern**

**Credit Hours: 3 / Billing Hours: 4**

A continuation of beginning Modern. This course includes alignment training, spatial relationships, improvisation, practice of movement qualities, and longer combinations. Intermediate concepts in choreography and Modern history are explored. Emphasis is placed on dance dynamics, vocabulary, and development of a personal movement style. (Sp)

- Prerequisite Course: Minimum 3.5 in DANC 102 or Dance Audition for Intermediate Modern

### **DANC 203 Intermediate Jazz**

**Credit Hours: 3 / Billing Hours: 4**

A continuation of beginning Jazz. The course includes alignment training, isolations, spatial relationships, practice of movement qualities, and longer combinations. Intermediate concepts in choreography and Jazz dance history are explored. Emphasis is placed on dance dynamics, vocabulary, and development of a personal movement style. (Sp)

- Prerequisite Course: Minimum 3.5 in DANC 103 or Dance Audition for Intermediate Jazz
- Placement Score: None

### **DANC 204 Intermediate Tap**

**Credit Hours: 3 / Billing Hours: 4**

A continuation of beginning Tap. This course includes alignment training, spatial relationships, practice of movement qualities, and longer combinations. Intermediate concepts in choreography and Tap history are explored. Emphasis is placed on dance dynamics, vocabulary, increased complexity in rhythms and development of a personal movement style. (F,Sp)

- Prerequisite Course: Minimum 3.5 in DANC 104 or Dance Audition for Intermediate Tap

## 2022-2023 Course Descriptions

### **DANC 261**      **Dance Repertory**      **Credit Hours: .25 to 1 / Billing Hours: .5 to 2**

This course is designed for the student who has reached a level of dance technique that will adequately support his/her participation in the concert process. This process includes auditions, rehearsals, and public performances in various dance genres. Concentration is on memorization, projection, musicality, dance ability, and cooperation. (Sp)

- Prerequisite Course: None
- Placement Score: None. Department Approval after successful audition
- Corequisite Course: Approved students must be registered in one LCC Dance Technique class. Auditing only permitted for intermediate classes.

### **DANC 290**      **Dance Studio Internship**      **Credit Hours: 2 / Billing Hours: 2**

Designed for dance students to work with a local professional dance company and or dance school. Opportunities may include advanced dance classes with company members, learning company choreography, experiencing teaching methodologies, and exposure to business aspects of a studio and administrative processes. (F,Sp)

- Prerequisite Course: None. Department Approval Required
- Placement Score: None
- Course Note: For information, call the Business, Communication and the Arts Office at 517-483-1546.

### **DCTM 100**      **Intro to the Built Environment**      **Credit Hours: 3 / Billing Hours: 4**

This course covers concepts in the fields of Architecture, Building Trades, Construction Management, Energy Management, and Civil Technology. Students are guided through the entire process of building construction starting with design and surveying and finishing with the completion of construction and the commissioning process. Topics include properties of air and moisture, heat flows, structural integrity, and materials. (F, Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 4 and Writing Level 4 and [Math Level 4 or Minimum 2.0 in (MATH 105 or MATH 106)]
- Course Note: This course replaces the following courses: AEET 102, ARCH 100, BLDT 100 and CIVL 100.

## 2022-2023 Course Descriptions

### **DCTM 101     Drafting/Intro to CAD**

**Credit Hours: 3 / Billing Hours: 4**

This course introduces manual and computer drafting used in the building, design and construction industry. Emphasis will be on industry standards of basic drafting procedures, knowledge, and accuracy using traditional manual techniques and multiple CAD software packages. Introduction and creation of two and three-dimensional images used in various disciplines. (F, Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 4 and Writing Level 4 and [Math Level 4 or Minimum 2.0 in (MATH 105 or MATH 106)]
- Course Note: This course replaces the following courses: ARCH 100 and GRET 203.

### **DCTM 102     Construction Safety**

**Credit Hours: 2 / Billing Hours: 3**

This course covers safety in the industrial workplace and on construction worksites. Included are local, state and federal safety regulations. The focus will be on the prevention of accidents but will teach the correct response if an accident should occur. First aid, CPR/AED certificates will be issued upon successful completion. (F, Sp, Su)

- Prerequisite Course: None
- Placement Score: Reading Level 3 and Writing Level 2
- Course Note:
  - This course requires students to be certified in CPR and First Aid as part of the course grade.
  - On-line students CANNOT qualify for the OSHA-10 Certification due to OSHA limitations. Students requiring OSHA-10 Certification should enroll in one of the lab/lecture sections.
  - \$11 of the Course Fee is non-refundable.



## 2022-2023 Course Descriptions

### **DCTM 103 Codes and Specifications**

**Credit Hours: 3 / Billing Hours: 3**

Students will be introduced to codes for the built environment. This course will introduce the process on permits, inspections, reviews process, standards and zoning. The codes referenced will be the Michigan Residential Code and the Michigan Building Code. A basic introduction to plan reading and specification reading will be emphasized. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 4 and Writing Level 4 and [Math Level 4 or Minimum 2.0 in (MATH 105 or MATH 106)]
- Course Note: This course replaces the following courses: AEET 261, BLDT 277, BLDT 281 and CIVL 142.

### **DCTM 150 Civil Construction Materials**

**Credit Hours: 3 / Billing Hours: 4**

Students will study techniques and equipment used in constructing bridges, highways, industrial facilities, and pipelines to include determination of properties of soils, aggregates, concrete and other bituminous materials. This class includes coverage of methods of sampling and testing materials. (Sp)

- Prerequisite Course: None
- Placement Score: Minimum 2.0 in (MATH 114 or Math Level 5) and Reading Level 4

### **DCTM 200 Construction Management I**

**Credit Hours: 4 / Billing Hours: 6**

This course introduces basic concepts of construction project management. Upon completion of this course, students will have basic knowledge of construction estimating and accounting, construction planning and scheduling, and construction law. Completion of this class will help the student prepare for the Part I of the Certified Professional Constructor examination. (F)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: Minimum 2.0 in (ACCG 101 and (ARCH 113 or ARCH 116) and ARCH 125

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## 2022-2023 Course Descriptions

### **DCTM 201    Construction Management II**

**Credit Hours: 4 / Billing Hours: 6**

This course introduces advanced concepts of construction project management. Upon completion of this course, students will have functional knowledge of construction estimating and accounting, construction planning and scheduling, and construction law. Completion of this class will help the student prepare for the Part II of the Certified Professional Constructor examination. (Sp)

- Prerequisite Course: Minimum 2.0 in [DCTM 200 and (MATH 115 or Math Level noted below)]
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 6
- Recommended: ARCH 125

### **DCTM 210    MEP Equipment for Buildings**

**Credit Hours: 3 / Billing Hours: 3**

Students will learn about mechanical, electrical, plumbing, and fire (MEP) systems in buildings. These systems are becoming increasingly complex and are occupying larger portions of building project work. Students will understand these systems and be able to schedule, estimate, and coordinate them within the general construction process. (F, Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 4 and Writing Level 4 and (Math Level 4 or minimum 2.0 in MATH 105 or MATH 106)
- Recommended: ARCH 113 and DCTM 100

### **DCTM 220    BIM for Construction**

**Credit Hours: 4 / Billing Hours: 6**

This course provides practical guidance on project methods and workflows and hands-on labs for implementing Building Information Modeling (BIM) and technology in all phases of the design and construction management process. (Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 4 and Writing Level 4 and [Math Level 4 or minimum 2.0 in (MATH 105 or MATH 106)]
- Recommended: DCTM 210

## 2022-2023 Course Descriptions

### **DENT 140 Oral Histology & Embryology**

**Credit Hours: 1.5 / Billing Hours: 1.5**

This course provides an introduction and description of general histology and embryology with emphasis on the microscopic structures of enamel, dentin, pulp, cementum, periodontal ligament, bone, oral mucosa, epithelial attachment and orofacial structures. (F)

- Prerequisite Course: None. Admission to Dental Hygiene Program is required.
- Placement Score: None
- Corequisite Course: DENT 142 and DENT 144 and DENT 146 and DENT 148

### **DENT 142 PreClinical Dental Hygiene**

**Credit Hours: 3 / Billing Hours: 3**

This course is offered concurrently with DENT144 to provide dental hygiene students with the introductory knowledge, skills and attitudes to function in the clinical setting and be able to continue in clinical dental hygiene courses. Emphasis is placed on scientific principles and current theory, prevention of disease transmission, ethical and professional treatment of patients, clinical learning preparation, and comprehensive care of the patient. (F)

- Prerequisite Course: None. Admission to Dental Hygiene Program is required.
- Placement Score: None
- Corequisite Course: DENT 140 and DENT 144 and DENT 146 and DENT 148

### **DENT 144 PreClinic Dental Hyg Practice**

**Credit Hours: 2 / Billing Hours: 8**

This course is offered concurrently with DENT142 to provide clinical application to basic theories and procedures used in dental hygiene practice. The primary emphasis is on the techniques of instrumentation used in performing diagnostic, preventive and therapeutic services utilized when providing comprehensive patient care. The dental hygiene student will have an opportunity to practice these techniques on manikins and student partners in the clinic. (F)

- Prerequisite Course: None. Admission to Dental Hygiene Program is required.
- Placement Score: None
- Corequisite Course: DENT 140 and DENT 142 and DENT 146 and DENT 148
- Course Note: \$1,476 of the course fee is for a dental kit and is non-refundable.

## 2022-2023 Course Descriptions

### **DENT 146     Head, Neck & Oral Anatomy**

**Credit Hours: 3.5 / Billing Hours: 5.5**

This course provides a detailed study of nomenclature, morphologic characteristics, and physiologic relationships of human primary and permanent teeth. Head and neck anatomy is also studied and is related to the clinical practice of dental hygiene. Laboratory activities develop observation and dexterity skills while studying this information. (F)

- Prerequisite Course: None. Admission to Dental Hygiene Program is required.
- Placement Score: None
- Corequisite Course: DENT 140 and DENT 142 and DENT 144 and DENT 148

### **DENT 148     Dental Radiography**

**Credit Hours: 3 / Billing Hours: 5**

This course provides a study of radiation physics, hygiene, and safety theories. Emphasis is placed on the essentials of oral radiographic techniques and interpretation of radiographs. Course content includes exposure of intra-oral radiographs, quality assurance, patient selection criteria, anatomical landmarks, radiation characteristics, and biology. (F)

- Prerequisite Course: None. Admission to Dental Hygiene Program is required.
- Placement Score: None
- Corequisite Course: DENT 140 and DENT 142 and DENT 144 and DENT 146

### **DENT 152     Dental Hygiene I**

**Credit Hours: 2 / Billing Hours: 2**

This course is a continuation of information designed to provide an opportunity to enhance performance of procedures in a clinical setting. Emphasis will be placed on emergency care, planning dental hygiene care, health promotion and disease prevention, oral rehabilitation and care of appliances, and modifications of dental hygiene care for specific patient populations. (Sp)

- Prerequisite Course: Minimum 2.5 in (DENT 140 and DENT 142 and DENT 144 and DENT 146 and DENT 148)
- Placement Score: None
- Corequisite Course: DENT 154 and DENT 156 and DENT 158 and DENT 161

## 2022-2023 Course Descriptions

### **DENT 154      Clinical Dental Hygiene I**

**Credit Hours: 2 / Billing Hours: 8**

This course provides an introduction to the clinic and patient, clinical skills, patient assessment, treatment and appointment scheduling, preventive techniques and application of dental hygiene procedures in the clinical setting. Practical experience is simultaneously related to theory. Direct supervision is provided by clinical faculty. (Sp)

- Prerequisite Course: Minimum 2.5 in (DENT 140 and DENT 142 and DENT 144 and DENT 146 and DENT 148)
- Placement Score: None
- Corequisite Course: DENT 152 and DENT 156 and DENT 158 and DENT 161

### **DENT 156      Nutrition**

**Credit Hours: 2 / Billing Hours: 2**

This course discusses the identification, function, metabolism, and sources of specific nutrients required for normal growth, development, and repair of oral tissues. Application of principles to the individual's nutritional needs, providing nutritional counseling and diet information to all patients, including special needs patients, and the relationship of nutrition to oral health are emphasized. (Sp)

- Prerequisite Course: Minimum 2.5 in (DENT 140 and DENT 142 and DENT 144 and DENT 146 and DENT 148)
- Placement Score: None
- Corequisite Course: DENT 152 and DENT 154 and DENT 158 and DENT 161

### **DENT 158      Dental Pharmacology**

**Credit Hours: 3 / Billing Hours: 3**

A study of the importance of the pharmacologic aspects of those drugs and drug groups with which the dentist and dental hygienist are directly and indirectly concerned. Emphasis is placed on nomenclature, origin, physical and chemical properties, preparation, modes of administration, and effects upon the body systems. (Sp)

- Prerequisite Course: Minimum 2.5 in (DENT 140 and DENT 142 and DENT 144 and DENT 146 and DENT 148)
- Placement Score: None
- Corequisite Course: DENT 152 and DENT 154 and DENT 156 and DENT 161



## 2022-2023 Course Descriptions

### **DENT 161 Principles of Periodontics**

**Credit Hours: 3 / Billing Hours: 3**

This course provides a study of the normal and diseased periodontium to include the structural, functional, and environmental factors. Emphasis is placed on etiology, pathology, evaluation of disease, treatment modalities, and therapeutic and preventive periodontics relative to the hygienist's role as a co-therapist in a contemporary practice setting. (Sp)

- Prerequisite Course: Minimum 2.5 in (DENT 140 and DENT 142 and DENT 144 and DENT 146 and DENT 148)
- Placement Score: None
- Corequisite Course: DENT 152 and DENT 154 and DENT 156 and DENT 158

### **DENT 174 Clinical Dental Hygiene II**

**Credit Hours: 1 / Billing Hours: 4**

This course provides a continuation of clinical skills, patient assessment, treatment and appointment scheduling, preventive techniques and application of dental hygiene procedures. Work-based instruction helps students synthesize new knowledge, apply previous knowledge, and gain experience managing workflow. Practical experience is simultaneously related to theory. Direct supervision is provided by clinical faculty in a clinical setting. (Su)

- Prerequisite Course: Minimum 2.5 in (DENT 152 and DENT 154 and DENT 156 and DENT 158 and DENT 161)
- Placement Score: None
- Corequisite Course: DENT 176

### **DENT 176 Dental Materials & Methods**

**Credit Hours: 3 / Billing Hours: 5**

This course provides a study of the composition, chemical and physical properties, manipulation, and uses of dental materials. Laboratory experiences include the application and manipulation of various materials used in dentistry. (Su)

- Prerequisite Course: Minimum 2.5 in (DENT 152 and DENT 154 and DENT 156 and DENT 158 and DENT 161)
- Placement Score: None
- Corequisite Course: DENT 174

## 2022-2023 Course Descriptions

### **DENT 240     Anxiety & Pain Control Mgmt**

**Credit Hours: 2.5 / Billing Hours: 4**

This course will provide the student with basic and current concepts of local anesthetics nitrous oxide and pain control for the safe and effective administration of local anesthetics and nitrous oxide/oxygen sedation. Instruction in local anesthetic technique, nitrous oxide technique, and an introduction to the use of nitrous oxide as an analgesia is included. (F)

- Prerequisite Course: Minimum 2.5 in (DENT 174 and DENT 176)
- Placement Score: None
- Corequisite Course: DENT 242 and DENT 244 and DENT 247 and DENT 248

### **DENT 242     Dental Hygiene III**

**Credit Hours: 2 / Billing Hours: 2**

This course is a continuing development of a theoretical framework of dental hygiene treatment with advancement of dental hygiene proficiency in all areas of dental hygiene treatment. Case histories from patients are presented and discussed along with preventive measures employed against disease concurrent with clinical practice, with emphasis on special needs patients. (F)

- Prerequisite Course: Minimum 2.5 in (DENT 174 and DENT 176)
- Placement Score: None
- Corequisite Course: DENT 240 and DENT 244 and DENT 247 and DENT 248

### **DENT 244     Clinical Dental Hygiene III**

**Credit Hours: 3 / Billing Hours: 12**

The clinical sessions combine dental hygiene skills with time management techniques essential for private practice. Comprehensive patient care includes assessment, dental hygiene diagnosis, treatment planning, implementation and evaluation of dental hygiene care, nonsurgical periodontal therapy, ultrasonic instrumentation, patient management, sealants, and comprehensive programs for control of dental diseases. The course consists of faculty supervised patient treatment in the clinic. (F)

- Prerequisite Course: Minimum 2.5 in (DENT 174 and DENT 176)
- Placement Score: None
- Corequisite Course: DENT 240 and DENT 242 and DENT 247 and DENT 248
- Course Note: \$450 of the course fee is for a dental supply kit and is non-refundable.

## 2022-2023 Course Descriptions

### **DENT 247      Oral Pathology**

**Credit Hours: 3 / Billing Hours: 3**

This course is a study of the diseases affecting oral tissues, including the principles of inflammation and repair, developmental and genetic disturbances, oral infections, injuries and neoplasms. (F)

- Prerequisite Course: Minimum 2.5 in (DENT 174 and DENT 176)
- Placement Score: None
- Corequisite Course: DENT 240 and DENT 242 and DENT 244 and DENT 248

### **DENT 248      Dental Public Health & Educ**

**Credit Hours: 3 / Billing Hours: 3**

This course provides a study of the principles and concepts of community public health and dental health education. Emphasis is placed on dental epidemiology and statistical methods, community assessment, educational planning, implementation, and evaluation, scientific review of literature, and classroom presentation. (F)

- Prerequisite Course: Minimum 2.5 in (DENT 174 and DENT 176)
- Placement Score: None
- Corequisite Course: DENT 240 and DENT 242 and DENT 244 and DENT 247

### **DENT 252      Dental Hygiene IV**

**Credit Hours: 2 / Billing Hours: 2**

This course is a continuation of information to prepare the student for advanced clinical practice. An in-depth study of dental hygiene care for patients with special needs is provided along with an examination of the dental hygienist's role in practice settings and employment considerations. Resume preparation, job interviewing, employment preparation, and an understanding of the law and professional ethics of dental hygiene are covered. (Sp)

- Prerequisite Course: Minimum 2.5 in (DENT 240 and DENT 242 and DENT 244 and DENT 247 and DENT 248)
- Placement Score: None
- Corequisite Course: DENT 254 and DENT 256

## 2022-2023 Course Descriptions

### **DENT 254      Clinical Dental Hygiene IV**

**Credit Hours: 3 / Billing Hours: 12**

The clinical session combines dental hygiene skills with time management techniques essential for private practice. Comprehensive patient care includes assessment, dental hygiene diagnosis, treatment planning, implementation and evaluation of dental hygiene care, nonsurgical periodontal therapy, ultrasonic instrumentation, patient management, sealants, and comprehensive programs for control of dental diseases. The course consists of faculty supervised patient treatment in the clinic. (Sp)

- Prerequisite Course: Minimum 2.5 in (DENT 240 and DENT 242 and DENT 244 and DENT 247 and DENT 248)
- Placement Score: None
- Corequisite Course: DENT 252 and DENT 256

### **DENT 256      Community Oral Health**

**Credit Hours: 1.5 / Billing Hours: 1.5**

Students assess, plan, implement, and evaluate a community dental health project. Dental specialties and the dental hygienist's role in recognizing specialty care needed by patients is presented. Each student participates in a variety of community health projects and observing in dental specialty practices. (Sp)

- Prerequisite Course: Minimum 2.5 in (DENT 240 and DENT 242 and DENT 244 and DENT 247 and DENT 248)
- Placement Score: None
- Corequisite Course: DENT 252 and DENT 254

### **DENT 270      Dental Hygiene Board Review**

**Credit Hours: 2 / Billing Hours: 2**

This course will provide students with a review of previous DENT course material in order to prepare the student for the National Dental Hygiene Board licensing exam. Students inventory their current knowledge of previously learned program material through a variety of class exercises including: self-assessments & personal study plans, case-based question group reviews, along with on-line available review materials. The course will also emphasize testing techniques and question construction. It will conclude with a mock board examination. (Sp)

- Prerequisite Course: None. Program approval is required.
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 5



## 2022-2023 Course Descriptions

### **DENT 280    Dental Special Topics                      Credit Hours: .25 to 8 / Billing Hours: .25 to 11**

This elective course offers students the opportunity to learn skills and knowledge related to dental hygiene. Specific up-to-date course content will vary with each offering and will be related to the dental profession. (As Needed)

- Prerequisite Course: Determined by Section
- Placement Score: Determined by Section

### **DENT 290    Directed Study                                      Credit Hours: .25 to 3 / Billing Hours: .25 to 6**

This course provides selection of content from the Dental Hygiene curriculum to update or enhance current knowledge and skill for returning students and health care professionals. Through evaluation of previous learning, examinations, self study, and scheduling into needed lectures and labs, students are advanced-placed or readmitted into the Dental Hygiene Program. (As Needed)

- Prerequisite Course: None. Program Approval is required.
- Placement Score: None

### **DMAC 120    Digital Audio Production I                                      Credit Hours: 4 / Billing Hours: 4**

In this hands-on, practical application course, students will learn the fundamental concepts of contemporary Audio Production in a computer based (DAW) audio recording editing, and mixing environment. The student will create content that meets modern broadcast and web delivery standards, and gain experience in session and data management. Working from the perspective of an independent engineer/producer, the student will experience a client-based production model, culminating in the creation of deliverable media. Digital Audio Production I is the audio foundation course required of all DMAC students. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

## 2022-2023 Course Descriptions

### **DMAC 121 Digital Audio Production II**

**Credit Hours: 4 / Billing Hours: 4**

Students will develop skills in computer-based editing, arranging, mixing and publishing of audio programming. Upon successful completion of this course, the student will be well prepared to pursue Pro Tools certification through an Avid training partner facility. (F,Sp)

- Prerequisite Course: Minimum 2.0 in (DMAC 120 or MUSC 197)
- Placement Score: Reading Level 5 and Writing Level 6

### **DMAC 122 Audio Recording I**

**Credit Hours: 4 / Billing Hours: 4**

This course introduces the concepts of multi-track audio recording for music and entertainment production. Students will gain a comprehensive understanding of 1) the audio recording chain, signal path, console design/operation, 2) microphone design and placement to optimize audio recording, 3) application of basic signal processing, and 4) basic studio acoustics. (F,Sp)

- Prerequisite Course: Minimum 2.0 in DMAC 121
- Placement Score: Reading Level 5 and Writing Level 6

### **DMAC 130 Digital Video Production**

**Credit Hours: 4 / Billing Hours: 4**

A hands-on, practical application course; students will learn the fundamental concepts of digital video production. Hands-on classroom exercises will include basic non-linear editing, lighting, videography/cinematography, and the distribution of digital media. Digital Video Production is the video foundation course required of all DMAC students. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### **DMAC 131 Digital Cinematography I**

**Credit Hours: 4 / Billing Hours: 4**

In this intermediate digital cinematography course, students will learn to use LED, tungsten, HMI, and fluorescent lighting systems, along with grip equipment, to design, shape, bounce, and diffuse light. Students will work hands-on and utilize the tools typically used on productions, including an array of light fixtures, stands, clamps, power distribution, and hardware. (F,Sp,Su)

- Prerequisite Course: Minimum 3.0 in DMAC 130
- Placement Score: Reading Level 5 and Writing Level 6

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*F=Fall; Sp=Spring; Su=Summer*

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## 2022-2023 Course Descriptions

### **DMAC 132 Video Post-Production I**

**Credit Hours: 4 / Billing Hours: 4**

A hands-on course, Video Post-Production I will present the student with an extensive experience in non-linear post-production using a computer-based editing platform. Learning activities within and outside the classroom are designed to provide a technical and creative foundation in the procedures used by video and digital cinema editors. (F,Sp)

- Prerequisite Course: Minimum 2.0 in (DMAC 120 and DMAC 130)
- Placement Score: Reading Level 5 and Writing Level 6

### **DMAC 140 Pre-Production Design**

**Credit Hours: 3 / Billing Hours: 3**

This introductory course focuses on the fundamental concepts of pre-production design. Hands-on classroom exercises will find students creating a variety of pre-production materials including storyboards, scripts, treatments, project request forms, project budget forms, site survey form, pre-production checklist, production schedules, etc. Pre-Production Design is required of all DMAC students. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### **DMAC 141 Ethics and Impact of the Media**

**Credit Hours: 3 / Billing Hours: 3**

This course explores the effects of Cinema, Television, and Mass Media on American culture. Topics such as privacy, censorship, violence, and portrayals of minorities and women are discussed and analyzed. Course discussions occur within an ethical reasoning framework. Ethics and Impact of the Media is required for all DMAC students (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### **DMAC 222 Audio Recording II**

**Credit Hours: 4 / Billing Hours: 4**

An advanced recording course that provides in-depth instruction on signal acquisition, microphone placement techniques for electronic instruments. The student will also receive instruction in complex, DAW based mixing techniques using a DAW Control Surface to create and update mix automation, signal processing and routing, and master audio file output/creation. (F)

- Prerequisite Course: Minimum 2.0 in DMAC 121 and DMAC 122
- Placement Score: Reading Level 5 and Writing Level 6

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*F=Fall; Sp=Spring; Su=Summer*

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## 2022-2023 Course Descriptions

### **DMAC 231 Digital Cinematography II**

**Credit Hours: 4 / Billing Hours: 4**

Through hands-on exercises in the studio and on location, students will combine the technical aspects of cinematography including ISO, WB, FPS, shutter angle, resolution, and recording format with the aesthetic considerations of lens choice, framing, composition, camera perspective, and movement to create compelling visual images and engaging visual stories. Students in this class will be utilizing the RED Camera. (Su)

- Prerequisite Course: Minimum 3.0 in DMAC 131
- Placement Score: Reading Level 5 and Writing Level 6

### **DMAC 232 Video Post-Production II**

**Credit Hours: 4 / Billing Hours: 4**

Video Post-Production II focuses on the advanced technical, creative, and design issues of non-linear editing. Hands-on classroom exercises will include video compositing, color correction, advanced effects, media management, and networking. Based upon these exercises, students will manage and edit several short form projects deliverable in a variety of digital formats. (F)

- Prerequisite Course: Minimum 2.0 in DMAC 132
- Placement Score: Reading Level 5 and Writing Level 6

### **DMAC 234 Studio Production Techniques**

**Credit Hours: 4 / Billing Hours: 4**

This practical application course focuses on the fundamental concepts of television studio production. Hands-on classroom exercises will find students operating in a variety of production roles including but not limited to director, technical director, camera operator, graphics operator, audio engineering, floor director, etc. (F,Sp)

- Prerequisite Course: Minimum 2.0 in (DMAC 120, DMAC 130 and DMAC 140)
- Placement Score: Reading Level 5 and Writing Level 6

### **DMAC 240 Employment Issues in Media**

**Credit Hours: 2 / Billing Hours: 2**

This course will develop an individual's understanding of media industry issues related to organizational and self-employment. Class sessions and assignments contain practical exercises aimed at developing the individual's employability. (F,Sp)

- Prerequisite Course: Minimum 2.0 in (DMAC 120, DMAC 130 and DMAC 140)
- Placement Score: Reading Level 5 and Writing Level 6

## 2022-2023 Course Descriptions

### **DMAC 244    Media/Cinema Producer**

**Credit Hours: 3 / Billing Hours: 3**

This practical application course focuses on the role and responsibilities of the media/cinema producer. Through collaborative group work, students will produce a variety of "theme based" media/cinema projects. Special emphasis is placed on project development, marketing, distribution, and legal issues. (F,Sp)

- Prerequisite Course: Minimum 2.0 in (DMAC 120 and DMAC 130 and DMAC 140)
- Placement Score: Reading Level 5 and Writing Level 6

### **DMAC 245    Workshop: Audio**

**Credit Hours: 2 / Billing Hours: 2**

A practical production course in which students will, under the supervision of an audio faculty member, create either 1) an informational series of audio programs on topics that are of interest to the regional, local or college community, or 2) a series of dramatic/entertainment vignettes using existing rights-acquired scripts. (F,Sp)

- Prerequisite Course: None. Department Approval Required
- Placement Score: None

### **DMAC 246    Workshop: Video**

**Credit Hours: 2 / Billing Hours: 2**

A practical application course in which students will, under the direct supervision of a faculty member, work as a member of a video production team to create professional video programming. Students may serve in a variety of production roles including videographer, videotape operator, technical director, floor director, etc. (F,Sp)

- Prerequisite Course: None
- Placement Score: None. Department Approval required

### **DMAC 260    World Cinema**

**Credit Hours: 4 / Billing Hours: 4**

This survey course introduces students to pre-eminent international filmmakers and film movements. World Cinema explores social, political, economic and historical contexts pertaining to film production to create an understanding of the relationship between cinema, story telling and national culture. (Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

## 2022-2023 Course Descriptions

### **DMAC 295    Media/Cinema Portfolio**

**Credit Hours: 2 / Billing Hours: 2**

The student will assemble a portfolio under faculty supervision that represents the student's attainment of DMAC program outcomes. The Portfolio created in this course can be used for securing employment or acceptance into a four-year school. This course is intended to be a capstone course in the DMAC curriculum. (F,Sp)

- Prerequisite Course: Minimum 2.0 in DMAC 240 and 48 or more credits toward the DMAC degree and Department Approval Required
- Placement Score: Reading Level 5 and Writing Level 6

### **DMAC 296    Media/Cinema Internship**

**Credit Hours: 3 / Billing Hours: 3**

This course provides an opportunity for students to work in external media or cinema settings under professional supervision. Students work closely with faculty in arranging and evaluating the workplace experience. Placement is contingent upon interview results between the student and interview site. (F,Sp,Su)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None
- Restriction: Digital Media and Cinema Majors Only

### **DTSC 200    Principles of Data Science**

**Credit Hours: 4 / Billing Hours: 4**

This course develops fundamental skills to prepare students for further learning in advanced topics of Data Science, the study of extraction of knowledge from data. Students will learn the methodology involved and the fundamentals of the tools required to perform data analytics for the role of a data scientist. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in (CPSC 101 and STAT 215)
- Placement Score: Reading Level 5 and Writing Level 6

### **DTSC 201    Data Science with Python**

**Credit Hours: 4 / Billing Hours: 4**

This course develops fundamental and advanced skills to prepare students for a career in the field of data science. Students will continue to develop their skillset with the Python coding language and learn how to prepare and communicate data analysis results to stakeholders. (F,Sp)

- Prerequisite Course: Minimum 2.0 in DTSC 200
- Placement Score: Reading Level 5 and Writing Level 6

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## 2022-2023 Course Descriptions

### **ECON 120**      **Power, Authority and Exchange**      **Credit Hours: 4 / Billing Hours: 4**

A comparative study of ancient and modern economic and political systems and theories in different parts of the world. An emphasis will be placed on the evolution of economic and political organizations and the impact these have on societies and individuals. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5

### **ECON 201**      **Principles of Economics-Micro**      **Credit Hours: 4 / Billing Hours: 4**

This course is designed to develop objective consideration of economic issues and provides information and understanding of how resources are allocated by prices. Topics for study include price theory, consumer demand, cost and market structure, the role of government in the market, resource pricing, and international trade. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Math Level 4

### **ECON 202**      **Principles of Economics-Macro**      **Credit Hours: 4 / Billing Hours: 4**

This course addresses the theory of national income, employment and the price level, and government fiscal and monetary policies designed to influence aggregate economic activity. It also addresses exchange rates, international financial relationships, and economic growth. (F,Sp,Su)

- Prerequisite Course: ECON 201 or concurrently
- Placement Score: Reading Level 5 and Math Level 4

### **ECON 213**      **U.S. Economic/Business History**      **Credit Hours: 3 / Billing Hours: 3**

This course provides a survey of American economic and business history, change, and growth since the colonial period. Topics include an overview of business organization, the role of government and technological change, American industrial development, labor unions, and capitalization patterns. (F)

- Prerequisite Course: None
- Placement Score: Reading Level 5

1086

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## 2022-2023 Course Descriptions

### **ECON 260      Comparative Economic Systems      Credit Hours: 3 / Billing Hours: 3**

A comparison of different global economic systems and their impact on economic growth, distribution of income and opportunity, and economic treatment of women and minorities. Theories, philosophies, historical development and current practices will be examined. (Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5

### **EDUC 204      Educational Psychology      Credit Hours: 3 / Billing Hours: 3**

Educational psychology examines the contribution of psychology to education, emphasizing childhood development, learning, motivation, measurement, and both individual and group dynamics that affect pupils' achievements. Research on specific programs and strategies designed to improve instruction and learning will be explored. This class is designed for potential certified teachers or paraprofessionals. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### **EDUC 220      Introduction to Education      Credit Hours: 3 / Billing Hours: 3**

An overview of the foundations, philosophy, history and organization of education as a human endeavor and an introduction to education as a teaching profession. Topics include legal concerns, issues and trends in American education, school governance and school finance. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Level 5 and Writing Level 6

### **EDUC 226      Reading in Elementary School      Credit Hours: 3 / Billing Hours: 3**

This course provides an introduction to concepts and issues in the reading development of elementary school children. Included are methods of reading instruction and assessment, and review of current school practices. Intended for teacher paraprofessionals, but may also be used for transfer to a teacher certification program. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: EDUC 220 and EDUC 204

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## 2022-2023 Course Descriptions

### **EDUC 228    Technology in Education**

**Credit Hours: 3 / Billing Hours: 3**

In this survey course, students will learn sound principles for integrating technology and media into K-12 classrooms, legal and societal issues surrounding their use, and how to assess and select appropriate technology and media. Students will explore uses of productivity/presentation software and the internet/WWW to enhance their teaching. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: EDUC 220

### **EDUC 230    Intro to Special Education**

**Credit Hours: 3 / Billing Hours: 3**

An introduction to Special Education for potential elementary or secondary teachers and teacher paraprofessionals. The physical, social, emotional and cognitive characteristics of special needs students are defined. Emphasis is placed on the disability categories addressed in state and federal special education mandates. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### **EDUC 280    Teacher Education Practicum**

**Credit Hours: 3 / Billing Hours: 3**

This course requires students to work with a teacher in an educational setting, thus receiving practical experience working with children in a classroom. Combined with textbook readings, reflections, and on-campus classroom discussion, students should gain an appreciation for the role of professional teachers. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

Course Note: This course requires 75 additional hours of practical experience in a K-12 classroom. Information on field placement and assignment will be given during the first day of class. All public schools are required to ask for a background check for anyone who regularly visits a K-12 school building. Students in EDUC 280, Teacher Education Practicum, should be prepared to present a completed ICHAT (online State background check) to their practicum site at the beginning of the assignment.



## 2022-2023 Course Descriptions

### **ELTA 105      Elect. Industry Orientation      Credit Hours: 0.5 / Billing Hours: 0.5**

An overview of laws and standards that apply to the electrical construction industry in the State of Michigan. (Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 3

### **ELTA 106      Basic Electrical Calculations      Credit Hours: 2 / Billing Hours: 2**

Reviews mathematical concepts required of the electrical technician in his/her study of electrical theory: fractions, ratios, proportions, powers and roots as used in Ohm's and Watt's Laws. Basic right triangle trigonometry, graphing and the reading of a tape measure are also discussed. A basic scientific calculator will be required and used in class. (F, Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 3 and Writing Level 2 and [Math Level 4 or Minimum 2.0 in (MATH 105 or MATH 106)]

### **ELTA 120      AC Fundamentals - Electrician      Credit Hours: 2 / Billing Hours: 3**

A practical approach to calculations of alternating current circuit quantities that an electrician may be required to use in the electrical trade. Impedance and power relationships will be explored for both single and three-phase circuits. (F, Sp)

- Prerequisite Course: Minimum 2.0 in (ELTE 110 or ELTE 108) and [Minimum 2.5 in (ELTA 106 or MATH 114) or Math Level noted below]
- Placement Score: Reading Level 4 and Writing Level 2 and Math Level 5
- Course Note: \$8 of the Course Fee is non-refundable.

### **ELTA 155      Transformer Fundamentals      Credit Hours: 2 / Billing Hours: 3**

This course covers alternating current transformers. Topics include operating principles, transformer calculations, single phase transformers, three phase transformers, autotransformers, and transformer connections. (F, Sp)

- Prerequisite Course: Minimum 2.0 in [ELTE 121 or (ELTA 120 or concurrently)]
- Placement Score: Reading Level 4 and Writing Level 2
- Course Note: \$8 of the Course Fee is non-refundable.

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## 2022-2023 Course Descriptions

### **ELTA 160**

### **PLC Overview for Electricians**

**Credit Hours: 1 / Billing Hours: 2**

This course provides a practical overview of programmable logic controllers with focus on operating principles and installation. Topics include the capabilities, installation, programming, (examine on/off, timers and counters) and connecting of external devices. (F)

- Prerequisite Course: Minimum 2.0 in (ELTE 130 or ELTE 131)
- Placement Score: Reading Level 3 and Writing Level 2 and Math Level 3
- Course Note: ELTA 160 sections require 2 additional lab hours that need to be arranged with the instructor and ELTE lab staff. It is recommended that students attend the additional instructor led lab period assigned to your specific section. Students who choose to utilize the ELTE open lab times to satisfy the arranged lab time, should be aware that the instructor may not be present during this time to answer questions. \$7 of the Course Fee is non-refundable.

### **ELTA 180**

### **Introduction to Fire Alarms**

**Credit Hours: 1 / Billing Hours: 1**

This course provides an introduction to the installation and operation of fire alarm systems. Topics covered include: wiring methods, components, circuit types, system types and code rules. (F)

- Prerequisite Course: Minimum 2.0 in (ELTE 109 or concurrently)
- Placement Score: Reading Level 3 and Writing Level 2 and Math Level 3

### **ELTE 104**

### **Employee Worksite Basics**

**Credit Hours: 1 / Billing Hours: 1**

This course is designed to prepare students for entering the technical workplace. Students will learn employability skills for entry-level employment in the manufacturing, construction, and utility industries. Upon successful completion of this class, students will be prepared to take the SkillsUSA Energy Industry Employability Skills Assessment. (F)

- Prerequisite Course: None
- Placement Score: Reading Level 3 and Writing Level 2 and [Math Level 3 or Minimum 2.0 in (MATH 105 or MATH 106)]

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## 2022-2023 Course Descriptions

### ELTE 108

### Practical Electricity I

**Credit Hours: 2 / Billing Hours: 3**

ELTE is a foundational course in Direct Current electrical theory. Series, parallel and combination circuits are studied in class. Meters are used in lab to measure and confirm the relationships between voltage, current, resistance, and power in studied circuits. (F, Sp, Su)

- Prerequisite Course: Minimum 2.0 in (ELTE 102 or DCTM 102 or HVAC 102 or METS 102 or WELD 102) or concurrently
- Placement Score: Reading Level 3 and Writing Level 2 and [Math Level 3 or Minimum 2.0 in (MATH 105 or MATH 106)]
- Course Note: ELTE 110 (Practical Electricity) has been divided into two courses to allow more flexibility in scheduling. Each course covers half of the ELTE 110 content:
  - ELTE 108 (Practical Electricity I) runs for the first half of the semester and covers the first half of the ELTE 110 content.
  - ELTE 109 (Practical Electricity II) runs for the last half of the semester and covers the remaining ELTE 110 content.
  - Students who take both ELTE 108 and ELTE 109 will fulfill curriculum guide requirements that list ELTE 110 as a requirement.

If you have questions, contact the Electrical Program at 517-483-1360. \$6 of the Course Fee is non-refundable.

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## 2022-2023 Course Descriptions

### **ELTE 109      Practical Electricity II**

**Credit Hours: 2 / Billing Hours: 3**

This course applies the concepts covered in ELTE 108 (formerly ELTE 118), to conductance in gases and liquids; batteries; magnetism and motor operation. Conductor sizing, basic household wiring, electrical service components and the State of Michigan licensing law are addressed. Combined with ELTE 108, curricular requirements for ELTE 110 are fulfilled. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in (ELTE 102 or DCTM 102 or HVAC 102 or METS 102 or WELD 102) or concurrently and Minimum 2.0 in ELTE 108 or concurrently
- Placement Score: Reading Level 3 and Writing Level 2 and [Math Level 3 or Minimum 2.0 in (MATH 105 or MATH 106)]
- Course Note: ELTE 110 (Practical Electricity) has been divided into two courses to allow more flexibility in scheduling. Each course covers half of the ELTE 110 content:
  - ELTE 108 (Practical Electricity I) runs for the first half of the semester and covers the first half of the ELTE 110 content.
  - ELTE 109 (Practical Electricity II) runs the last half of the semester and covers the remaining ELTE 110 content.
  - Students who take both ELTE 108 and ELTE 109 will fulfill curriculum guide requirements that list ELTE 110 as a requirement.

If you have questions, contact the Electrical Program at 517-483-1360. \$6 of the Course Fee is non-refundable.

### **ELTE 110      Practical Electricity**

**Credit Hours: 4 / Billing Hours: 6**

This course introduces the student to electricity on a practical level. The student will learn to use meters to measure electrical quantities, do basic circuit calculations, install basic household electrical wiring and investigate the behavior of motors. Reviews electrical codes and standards. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in (ELTA 101 or ELTE 100 or ELTE 102 or DCTM 102 or HVAC 102 or METS 102 or WELD 102 or concurrently)
- Placement Score: Reading Level 3 and Writing Level 2 and (Math Level 3 or MATH 105 or MATH 106)
- Recommended: Math Level 4
- Course Note: \$12 of the Course Fee is non-refundable.

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## 2022-2023 Course Descriptions

### **ELTE 111      Intro to Industrial Automation**

**Credit Hours: 4 / Billing Hours: 6**

Provides a hands-on introduction to computer-based manufacturing through experiments and demonstrations. Topics include computer architecture, operating systems, the internet, text and spreadsheet processing, PLC's, machine vision, programming languages, discrete electronics, computer aided design and network communications. Emphasis placed on the integration of these systems and impact on human lifestyle. (F,Sp)

- Prerequisite Course: Minimum 2.0 in (ELTE 102 or DCTM 102 or HVAC 102 or METS 102 or WELD 102) or concurrently and ELTE 108 or concurrently
- Placement Score: Reading Level 3 and Writing Level 2 and [Math Level 3 or Minimum 2.0 in (MATH 105 or MATH 106)]
- Course Note: Student will be required to provide a 2 gigabyte memory stick (jump drive) with a USB port interface. \$15 of the Course Fee is non-refundable.

### **ELTE 112      Basic Wiring Installation**

**Credit Hours: 2 / Billing Hours: 3**

This course covers installation of a variety of wiring systems in wood frame construction. Students will practice installing nonmetallic sheathed cable, electrical metallic tubing and residential services. (F,Sp)

- Prerequisite Course: Minimum 2.0 in (ELTE 109 or ELTE 110 or HVAC 110)
- Placement Score: Reading Level 3 and Writing Level 2 and Math Level 3
- Course Note: Students will be required to provide hand tools not included in the course fee. A list of these tools will be provided at the first class meeting. \$5 of the Course Fee is non-refundable.

### **ELTE 121      Electrical Mathematics**

**Credit Hours: 5 / Billing Hours: 6**

This course utilizes concepts in algebra, vector algebra and trigonometry to solve DC and AC electric circuit problems. Topics will include units, Ohm's Law, network analysis, series parallel and combination DC and AC circuits, inductance, capacitance, AC power relationships and power factor correction. (Sp)

- Prerequisite Course: Minimum 2.0 in (ELTE 102 or DCTM 102 or HVAC 102 or METS 102 or WELD 102) and (ELTE 110 or ELTE 108) and (minimum 2.0 in MATH 114 or Math Level 5)
- Placement Score: Reading Level 5

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## 2022-2023 Course Descriptions

### ELTE 122 Industrial Control Electronics

**Credit Hours: 5 / Billing Hours: 7**

This course introduces the student to solid-state circuitry used in industry. Students will study diodes, transistors, SCRs, triacs, optical isolators, transducers, power circuits, etc. Laboratory will include oscilloscope usage. The course also includes an introduction to Boolean algebra and digital circuits. (Sp)

- Prerequisite Course: Minimum 2.0 in [(ELTE 108 or ELTE 110) and ELTE 111]
- Placement Score: Reading Level 5 and Writing Level 2 and Math Level 5
- Recommended: Minimum 2.0 in (ELTE 121 or ELTA 120)
- Course Note: \$8 of the Course Fee is non-refundable.

### ELTE 123 Motors and Transformers

**Credit Hours: 5 / Billing Hours: 7**

This course begins with three-phase circuits, including three-phase power measurement. Contains practical introduction to single- and three-phase transformers, motors and alternators. Brief coverage of DC machines. (F)

- Prerequisite Course: Minimum 2.0 in ELTE 121
- Placement Score: Reading Level 5 and Writing Level 2 and Math Level 5
- Course Note: \$10 of the Course Fee is non-refundable

### ELTE 129 Machine Controls I - A

**Credit Hours: 2 / Billing Hours: 2.5**

This course covers the first half of ELTE 131 and ELTE 130 will cover the second half. Together they emphasize relay logic and controls using industrial standards. Use of correct symbols and standard construction of wiring and ladder diagrams is emphasized. Laboratory exercises include an exploration of three phase power systems; wiring three-phase motor control circuits utilizing two- and three- wire control; interfacing with fluid power control circuits; non-contact sensors; and timers. Troubleshooting skills are emphasized throughout the course. (F)

- Prerequisite Course: Minimum 2.0 in (ELTE 108 or ELTE 110 or concurrently)
- Placement Score: Reading Level 3 and Writing Level 2 and [Math Level 3 or Minimum 2.0 in (MATH 105 or MATH 106)]
- Course Note: \$8 of the Course Fee is non-refundable

## 2022-2023 Course Descriptions

### **ELTE 130      Machine Controls I - B**

**Credit Hours: 2 / Billing Hours: 2.5**

This course covers the second half of ELTE 131 and ELTE 129 covers the first half. Together they emphasize relay logic and controls using industrial standards. Use of correct symbols and standard construction of wiring and ladder diagrams is emphasized. Laboratory exercises include an exploration of three phase power systems; wiring three-phase motor control circuits utilizing two- and three- wire control; interfacing with fluid power control circuits; non-contact sensors; and timers. Troubleshooting skills are emphasized throughout the course. (Sp)

- Prerequisite Course: Minimum 2.0 in (ELTE 129 or concurrently)
- Placement Score: Reading Level 3 and Writing Level 2 and Math Level 3
- Course Note: \$8 of the Course Fee is non-refundable.

### **ELTE 131      Machine Controls I**

**Credit Hours: 4 / Billing Hours: 5**

Covers relay logic and controls using industrial standards. Use of correct symbols and standard construction of wiring and ladder diagrams is emphasized. Laboratory exercises include wiring three-phase motor control circuits utilizing two- and three-wire control and machine control circuits utilizing limit and proximity switches, timers, relays, etc. (F,Sp, Su)

- Prerequisite Course: Minimum 2.0 in (ELTE 108 or ELTE 110) or concurrently
- Placement Score: Reading Level 3 and Writing Level 2 and Math Level 3
- Course Note: \$10 of the Course Fee is non-refundable.

### **ELTE1 32      Control Panel Assembly**

**Credit Hours: 2 / Billing Hours: 3**

This course provides practical experience in the construction of an industrial control panel. The student will layout, assemble, wire, connect, troubleshoot and operate an industrial control panel for an oscillating table drive. (Sp)

- Prerequisite Course: Minimum 2.0 in (ELTE 130 or ELTE 131) or concurrently
- Placement Score: Reading Level 3 and Writing Level 2 and Math Level 3

### **ELTE 136      Digital Basics**

**Credit Hours: 2 / Billing Hours: 3**

Introduces digital electronics basics: Binary number system, basic gates, and combination and sequential logic circuits. Laboratory work includes the analysis of digital circuits built on PC boards. (F)

- Prerequisite Course: Minimum 2.0 in (ELTE 130 or ELTE 131)
- Placement Score: Reading Level 5 and Writing Level 2 and Math Level 4

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## 2022-2023 Course Descriptions

### **ELTE 141 National Electrical Code I**

**Credit Hours: 4 / Billing Hours: 4**

An introductory course designed for individuals with little or no knowledge of the Electrical Code. Students will study the structure and scope of the National Electrical Code, focusing on Chapters 1 through 4. These chapters constitute the general rules and most often used portion of the NEC. (F,Sp)

- Prerequisite Course: Minimum 2.0 in (ELTE 109 or ELTE 110 or HVAC 110)
- Placement Score: Reading Level 3 and Writing Level 2 and Math Level 3
- Course Note: Students with a minimum of one year of experience may request a waiver for the prerequisites of this class. Call 517-483-1360 to request a waiver.

### **ELTE 142 National Electrical Code II**

**Credit Hours: 4 / Billing Hours: 4**

This course builds on ELTE141 by applying the National Electrical Code to situations common to the practicing journey electrician. Extensive practice locating and interpreting sections of the NEC helps prepare students for the State Journey Examination. In addition to the NEC, State of Michigan electrical rules will be reviewed. (Sp)

- Prerequisite Course: Minimum 2.0 in ELTE 141
- Placement Score: Reading Level 3 and Writing Level 2 and Math Level 3
- Course Note: Students with a minimum of two years experience and a previous course in the National Electrical Code may request a waiver for the prerequisites of this class. Call 517-483-1360 to request a waiver.

### **ELTE 145 Electrical Prints for Building**

**Credit Hours: 4 / Billing Hours: 5**

Covers construction prints emphasizing standard and nonstandard symbols and interpretation of prints. Uses the National Electrical Code to calculate branch circuit, motor circuit, and feeder sizes. Other topics include industrial loads, uninterruptible power supplies, and signaling systems. (F)

- Prerequisite Course: Minimum 2.0 in ELTE 141
- Placement Score: Reading Level 4 and Writing Level 4 and Math Level 4
- Recommended: Minimum 2.0 in ELTE 121 or ELTA 120 or equivalent
- Course Note: This course requires 2 additional lab hours that need to be arranged with the instructor and ELTE lab staff. It is recommended that students attend the additional instructor led lab period assigned to your specific section. Students who choose to utilize the ELTE open lab times to satisfy the arranged lab time, should be aware that the instructor may not be present during this time to answer questions. \$10 of the Course Fee is non-refundable.

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## 2022-2023 Course Descriptions

### **ELTE 147 National Electric Code Update**

**Credit Hours: 1 / Billing Hours: 1**

For individuals with National Electrical Code® experience and practical electrical knowledge and hold a journeyman electrician's license, a master electrician's license or a fire alarm specialty technician's license. Students will cover changes to the National Electrical Code® and discuss interpretation of the Code changes. (As Needed)

- Prerequisite Course: None
- Recommended: Experience using the National Electrical Code

### **ELTE 150 Electric Motor Maintenance**

**Credit Hours: 2 / Billing Hours: 3**

Students learn to diagnose and test electric motors. Students will learn to identify and repair common problems in motors using meters, test equipment and appropriate tools. An introduction to rewinding and metal working procedures is also included. (F,Sp)

- Prerequisite Course: Minimum 2.0 in (ELTE 109 or ELTE 110 or HVAC 110)
- Placement Score: Reading Level 3 and Writing Level 2 and Math Level 3

### **ELTE 154 Utility Prints and Diagrams**

**Credit Hours: 3 / Billing Hours: 3**

This course will develop a student's ability to accurately read various types of blueprints used to document cabling, components and operation of electrical systems. Single-line, riser, schematic, ladder, relay, cabling, and layout diagrams will be addressed. The need for accurate recordkeeping will be reinforced throughout the class. (Sp)

- Prerequisite Course: Minimum 2.0 in (ELTA 120 or ELTE 121) or concurrently
- Placement Score: Reading Level 4 and Writing Level 4 and (Math Level 5 or Minimum 2.0 in ELTA 106)

### **ELTE 156 Lineworker/Utility Rigging**

**Credit Hours: 3 / Billing Hours: 4**

This course covers uses and strengths of ropes, chains, block and tackles, truck-mounted augers, hoists, lifts and capstans. Knots used by lineworkers will receive extensive coverage and practice. Safe working strength of slings, hooks, sheaves, ropes and chains, the use of personal safety equipment, and proper hand signals used in the industry will be covered. (F, Sp)

- Prerequisite Course: Minimum 2.0 in (ELTE 102 or DCTM 102 or HVAC 102 or METS 102 or WELD 102 or concurrently)
- Placement Score: Reading Level 3 and Writing Level 2 and (Math Level 4 or minimum 2.0 in MATH 105 or MATH 106)
- Course Note: \$10 of the Course Fee is non-refundable.

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## 2022-2023 Course Descriptions

### **ELTE 170 Special Topics/Electrical Tech Credit Hours: .25 to 8 / Billing Hours: .25 to 11**

This course offers students the opportunity to learn new or advanced skills in Electrical Technology and other related topics. Specific content may vary with each offering but will be related to the Electrical Technology program and the profession. (F,Sp,Su)

- Prerequisite Course: Determined by Section

### **ELTE 171 Special Topics/Electrical P/Z Credit Hours: .25 to 8 / Billing Hours: .25 to 11**

This course offers students the opportunity to learn new or advanced skills in Electrical Technology and other related topics. Specific content may vary with each offering but will be related to the Electrical Technology program and the profession. This course will be graded on a Pass/Fail basis. (F,Sp,Su)

- Prerequisite Course: Determined by Section

### **ELTE 173 Energy Industry Fundamentals I Credit Hours: 2 / Billing Hours: 2**

This course provides students with knowledge of basic and emerging principles and concepts that impact the energy industry including how the industry is organized and operates as a whole. Students will gain a basic understanding of electric power generation, including traditional and alternative sources. (F, Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 4 and Writing Level 4 and [Math Level 4 or Minimum 2.0 in (MATH 105 or MATH 106)]
- Recommended: Minimum 2.0 in ELTE 108
- Course Note: \$10 of the Course Fee is non-refundable.

### **ELTE 174 Energy Industry Fundamental II Credit Hours: 2 / Billing Hours: 2**

This course provides students with knowledge of electric power and natural gas transmission and distribution. Students will also learn about career opportunities in the energy industry, including job entry requirements and educational pathways. (F, Sp)

- Prerequisite Course: Minimum 2.0 in (ELTE 173 or concurrently)
- Placement Score: Reading Level 4 and Writing Level 4 and [Math Level 4 or Minimum 2.0 in (MATH 105 or MATH 106)]
- Course Note: \$10 of the Course Fee is non-refundable.

1098

*F=Fall; Sp=Spring; Su=Summer*

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## 2022-2023 Course Descriptions

### **ELTE 181 Pole Climbing I**

**Credit Hours: 0.5 / Billing Hours: 1**

An introduction to the climbing of wooden utility poles, this hands-on class gives students climbing instruction, time for developing basic skills and the ability to determine if the student is comfortable at heights. Exposure to the proper use of basic hand tools used in industry is included. (F, Su)

- Prerequisite Course: Program Approval for Acceptance into the Electrical Utility/Lineworker Curriculum
- Recommended: PFFT 180 Lineworker Fitness A within 1 semester or a passing score on the Lineworker Physical Ability Test (LPAT) within 1 semester

### **ELTE 182 Pole Climbing II**

**Credit Hours: 0.5 / Billing Hours: 1**

This hands-on class provides students with the opportunity to build climbing technique, comfort working at various heights on the pole, and competency working with tools that are needed for success in advanced climbing classes in the Lineworker program. (F)

- Prerequisite Course: Minimum 3.5 in ELTE 181

### **ELTE 185 Pole Climbing Practice I**

**Credit Hours: 0.25 / Billing Hours: 0.5**

This hands-on class assumes students have had a minimum of 12 hours of active climbing skill development and provides the opportunity to practice, build and refine climbing technique. (F, Sp)

- Prerequisite Course: Minimum 3.5 in ELTE 181
- Placement Score: None

### **ELTE 186 Pole Climbing Practice II**

**Credit Hours: 0.25 / Billing Hours: 0.5**

This hands-on class builds climbing skill and confidence based on competency developed in prerequisite courses. Students will have opportunity to evaluate and then focus on skills needing development. (Sp, Su)

- Prerequisite Course: Minimum 2.5 in ELTE 182 or passing grade in ELTE 185
- Placement Score: None

1099

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## 2022-2023 Course Descriptions

### **ELTE 187      Pole Climbing Practice III      Credit Hours: 0.25 / Billing Hours: 0.5**

This hands-on class assumes students have had a minimum of 32 hours of active climbing skill development and provides the opportunity to refine technique and develop the stamina required for advanced climbing classes in the Lineworker program. (Sp)

- Prerequisite Course: Minimum 2.5 in ELTE 182 or passing grade in ELTE 185
- Placement Score: None

### **ELTE 188      Pole Climbing Practice IV      Credit Hours: 0.25 / Billing Hours: 0.5**

This hands-on class assumes students have had a minimum of 40 hours of active climbing skill development and provides the opportunity to refine technique and build the stamina required for advanced climbing classes in the Lineworker program. (Sp)

- Prerequisite Course: Minimum 2.5 in ELTE 182 or passing grade in ELTE 185
- Placement Score: None

### **ELTE 232      Machine Controls II      Credit Hours: 4 / Billing Hours: 6**

This course is a continuation of ELTE131. Students will work with more components, larger and more complex machine control diagrams, automation interlocking, automatic continuous cycling of machinery, variable speed motor drives, design of control circuits for more complex machines, and the use of AutoCAD for drawing electrical schematics. (F, Sp)

- Prerequisite Course: Minimum 2.0 in [ELTE 131 or (ELTE 129 and (ELTE 130 or concurrently)]
- Placement Score: Reading Level 4 and Writing Level 4 and Math Level 4
- Course Note: \$10 of the Course Fee is non-refundable.

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## 2022-2023 Course Descriptions

### **ELTE 251      Energy Generation & Control I**

**Credit Hours: 4 / Billing Hours: 5**

Provides students with a foundational understanding of electrical power generated by steam turbines, gas turbines, and reciprocating SI and CI engines. Prime movers, generators, governors, regulators and fault protection equipment are covered. Addresses both theory and practice of maintenance, operation, repair and installation of electrical generating systems and related components. (F)

- Prerequisite Course: Minimum 2.0 in (ELTE 121 and (ELTE 130 or ELTE 131) and (ELTE 123 or concurrently))
- Placement Score: Reading Level 5 and Writing Level 4 and Math Level 5
- Recommended: Minimum 2.0 in ELTE 150
- Course Note: The textbook for ELTE 251 is purchased thru [Electrical Generating Association](http://egsa.org) (egsa.org). Students can pick up an order form at West Campus in M127 or U206. Please allow enough time to receive the textbook before class begins.

### **ELTE 252      Energy Generation & Control II**

**Credit Hours: 4 / Billing Hours: 5**

Second in a two-course sequence addressing electrical power generation. Covers advanced concepts of the prime mover and the generator as well as associated governors, regulators and fault protection equipment. Students will learn both theory and practice of maintenance, operation, repair and installation of electrical generating systems and related components. (Sp)

- Prerequisite Course: Minimum 2.0 in (ELTE 123 and ELTE 251) and Reading Level 5 and Writing Level 4 and Math Level 5

### **ELTE 255      Power Instrumentation**

**Credit Hours: 4 / Billing Hours: 5**

An introduction to the instrumentation and control of power generation and distribution. The application, calibration and use of smart meters, electronic power meters, potential and current transformers, switchboard instruments & controls, power equipment measurement/protection, temperature measurement, 4-20ma current loop systems and programmable energy meters are explored and applied. (Sp)

- Prerequisite Course: Minimum 2.0 in (ELTE 251 and ELTE 260) and Reading Level 5 and Writing Level 4 and Math Level 5

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## 2022-2023 Course Descriptions

### **ELTE 260 Programmable Controllers I Credit Hours: 4 / Billing Hours: 6**

This course introduces students to the concepts and principles of

programmable logic controllers (PLCs). Topics include the basics of ladder logic and function block programming, discrete input and output field device connections, as well as troubleshooting software, hardware, communications and other PLC related equipment. Allen Bradley and Siemens control technology will be utilized. (F, Sp)

- Prerequisite Course: Minimum 2.0 in [ELTE 131 or (ELTE 129 and (ELTE 130 or concurrently)]
- Placement Score: Reading Level 4 and Writing Level 4 and Math Level 4
- Course Note: \$5 of the Course Fee is non-refundable.

### **ELTE 261 Programmable Controllers II Credit Hours: 6 / Billing Hours: 8**

This course provides an in-depth understanding of Allen-Bradley ControlLogix programmable logic controllers. Students will learn about CLX flexible memory structure as it relates to data file types, data manipulation, and scheduling. Bit, word, and file operations will be extensively covered. Topics include Ethernet communications, analog field device connections, safety relays, variable frequency drives, remote I/O, and AB equipment configuration/installation. (F, Sp)

- Prerequisite Course: Minimum 2.0 in (ELTE 260 or ELTA 160)
- Placement Score: Reading Level 4 and Writing Level 4 and Math Level 4
- Course Note: Students are required to provide a 2 gigabyte memory stick (jump drive) with USB port interface. Course Note: \$5 of the Course Fee is non-refundable.

### **ELTE 262 Programmable Controllers III Credit Hours: 5 / Billing Hours: 8**

This course provides an in depth understanding of industrial automation as it relates to integrated robot systems, distributive process control and safety related systems. (Sp)

- Prerequisite Course: Minimum 2.5 in ELTE 261
- Placement Score: Reading Level 4 and Writing Level 4 and Math Level 4
- Recommended: Minimum 2.5 in METS 160
- Course Note: \$15 of the Course Fee is non-refundable.

1102

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## 2022-2023 Course Descriptions

### **ELTE 270 Lineworker Fundamentals**

**Credit Hours: 1 / Billing Hours: 1.5**

The purpose of this course is to give prospective lineman apprenticeship candidates a good demonstration of the work they will be required to do as an apprentice and journeyman lineworker. Students will be given an introduction to the physical aspects and mental discipline required to perform the duties of a lineworker with demonstrations and physical tests. (F, Sp)

- Prerequisite Course: None. Program Approval for Acceptance into the Electrical Utility/Lineworker Curriculum is required
- Placement Score: None

### **ELTE 272 Electric Basic Line Climbing**

**Credit Hours: 4 / Billing Hours: 6**

This course is designed to provide students with the basic knowledge and pole climbing skills necessary to progress through the Electric Line Apprentice Program. (F, Su)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None
- Course Note: \$60 of the Course Fee is non-refundable

### **ELTE 274 Ground/Utility Worker**

**Credit Hours: 6 / Billing Hours: 9**

This course is designed to provide students with the basic Ground Worker/Utility Worker knowledge and skills necessary to progress through the Electric Line Apprentice Program. (F, Su)

- Prerequisite Course: Minimum 3.5 in ELTE 272
- Placement Score: None

### **ELTE 276 Energized Secondary Worker**

**Credit Hours: 5 / Billing Hours: 8**

This course addresses the knowledge and skills necessary to progress through the Electric Line Apprentice Program with a focus on the installation and maintenance of secondary lines of 120/240 Volts. Safe work practices on energized conductors and aerial lifts, digger derricks and associated equipment are developed and required. (F, Su)

- Prerequisite Course: Minimum 3.5 in ELTE 274
- Placement Score: None

1103

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## 2022-2023 Course Descriptions

### **ELTE 290      Electrical Internship      Credit Hours: 2 to 4 / Billing Hours: 2 to 4**

This course provides Electrical Technology students with practical work experience in industry. Students work for an employer in a supervised environment which provides an opportunity to apply knowledge and skills learned in the classroom and lab to an actual job situation. (F, Sp, Su)

- Prerequisite Course: None. Department Approval is required.
- Placement Score: None

### **ELTE 291      Electrical Project Lab      Credit Hours: 1 to 4 / Billing Hours: 1 to 4**

A guided study of topics of interest in electrical technology. The student will prepare a summary report of activities and demonstrate results of laboratory experiences. (F,Sp,Su)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None

### **EMTA 100      Emergency Medical Responder      Credit Hours: 4 / Billing Hours: 6**

This course will provide the student with the knowledge and skills necessary to manage ill or injured victims at the scene of an emergency until the arrival of ambulance personnel. Successful completion qualifies the student to take the National Registry of Emergency Medical Technicians (NREMT) certification exam, then apply for state licensure as a Medical First Responder (MFR) upon passing exam. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 4 and Writing Level 4
- Course Note:
  - In addition to regular class time, students are required to complete Bloodborne Pathogens training online.
  - Information will be distributed via the D2L Course Management site and/or in class.
  - \$35 of the course fee is for medical supplies and is non-refundable.



## 2022-2023 Course Descriptions

### EMTA 101 Basic EMT I

Credit Hours: 4 / Billing Hours: 4

First in a sequence of five courses to prepare the student as a Basic EMT. Emphasis is placed on didactic material including airway management, patient assessment, CPR soft tissue injuries, head, chest, and abdominal injuries, and proper use of equipment in the delivery of basic emergency care. (F,Sp,Su)

- Prerequisite Course: None. Program Approval is required
- Placement Score: Reading Level 5 and Writing Level 6
- Corequisite Course: EMTA 102
- Course Note:
  - The EMT Academy is offered in two distinct sessions. Students enrolling in the Main Campus Daytime Academy must enroll for all five EMTA sections together during the day to complete the Academy in one semester. Students enrolling in the Main Campus Evening Academy will complete in two semesters by enrolling in EMTA 101 and 102 during the fall and in EMTA 103, 104, and 112 during the following spring.
  - Students are required to pass an ICHAT Criminal Background investigation completed through the State of [Michigan ICHAT](#) webpage prior to starting the program. There is a fee for this service. Students must submit ICHAT documentation to the EMS Program office to receive Program Approval to enroll in the Academy. Documentation can be submitted electronically via [email](#).
  - ALL EMT ACADEMY STUDENTS must attend a mandatory orientation session held at the LCC main campus. Contact the EMS Program at 517-483-1410 for dates and times.
  - There will be an additional cost to students for uniforms and textbooks. Medical supplies are included in the course fees. The medical supply kit fees are non-refundable.
  - In addition to regular class time, students are required to complete Bloodborne Pathogens Training online. Information will be distributed via the D2L Course Management site and/or in class.

1105

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## 2022-2023 Course Descriptions

### **EMTA 102      Basic EMT II**

**Credit Hours: 2 / Billing Hours: 4**

Second in a sequence of five courses to prepare the student as a Basic EMT. Emphasis is placed on practical skills including patient assessment, bandaging, splinting, backboarding, oxygen delivery equipment, CPR, and airway management in the delivery of basic emergency care. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6
- Corequisite Course: EMTA 101
- Course Note: \$35 of the course fee is for a medical supply kit and is non-refundable.

### **EMTA 103      Basic EMT III**

**Credit Hours: 4 / Billing Hours: 4**

The third in a sequence of five courses to prepare the student as a Basic EMT. Emphasis is placed on didactic material including the recognition and management of environmental and medical emergencies; verbal, written and radio communications; triage, emergency childbirth; and pediatric emergencies. (F,Sp,Su)

- Prerequisite Course: Minimum 3.0 in (EMTA 101 and EMTA 102)
- Placement Score: Reading Level 5 and Writing Level 6
- Corequisite Course: EMTA 104 and EMTA 112

### **EMTA 104      Basic EMT IV**

**Credit Hours: 2 / Billing Hours: 4**

The fourth course in a sequence of five to prepare the student as a Basic EMT. Emphasis is placed on the overall delivery of basic emergency care through simulated emergencies. (F,Sp,Su)

- Prerequisite Course: Minimum 3.0 in (EMTA 101 and EMTA 102)
- Placement Score: Reading Level 5 and Writing Level 6
- Corequisite Course: EMTA 103 and EMTA 112

1106

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## 2022-2023 Course Descriptions

### **EMTA 112 Basic EMT Clinical**

**Credit Hours: 4 / Billing Hours: 4**

The fifth course in a sequence of five to prepare the student as a basic EMT. Includes hospital and ambulance clinicals, and may include a community service component. Successful completion of all five basic EMT courses qualifies the student to take the National Registry of Emergency Medical Technicians (NREMT) certification exam and then apply for state licensure as an Emergency Medical Technician (EMT) upon passing exam. (F,Sp,Su)

- Prerequisite Course: Minimum 3.0 in (EMTA 101 and EMTA 102)
- Placement Score: Reading Level 5 and Writing Level 6
- Corequisite Course: EMTA 103 and EMTA 104

### **EMTA 222 EMS Instructor-Coordinator**

**Credit Hours: 9 / Billing Hours: 9**

The first of two courses for EMS personnel interested in becoming an EMS instructor coordinator. Includes teaching and testing methods, lesson plan development, writing performance objectives, course administration, State of Michigan application process for course approval, and meeting other State-mandated requirements. Student teaching is required. Must be able to provide proof of three (3) years of field experience with a responding Life Support agency within the State of Michigan to qualify for Instructor Coordinator licensure. (F)

- Prerequisite Course: None. Program Approval is required.
- Placement Score: Reading Level 5 and Writing Level 6
- Course Note: In order to qualify for State of Michigan EMS IC licensure, an individual must be able to provide proof of three (3) years of field experience with a responding Life Support agency within the State of Michigan. Please contact the EMS Program Director at 517-483-1530 for Program Approval.

### **EMTA 224 EMS Instr-Coord Student Teach**

**Credit Hours: 2 / Billing Hours: 2**

The second of two courses for EMS personnel interested in becoming an EMS Instructor Coordinator (EMS IC), this course provides the opportunity to complete the required student teaching segment of the training in both didactic and laboratory settings. Successful completion of both courses qualifies the student to take the State of Michigan EMS IC licensure exam. (Sp)

- Prerequisite Course: Minimum 3.0 in EMTA 222. Department Approval is required.
- Placement Score: None

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## 2022-2023 Course Descriptions

### **ENGL 098**      **Integrated Reading Writing I**

**Credit Hours: 4 / Billing Hours: 4**

This integrated reading and writing cornerstone course develops contextualized applications of skills and strategies necessary for academic and career success. Areas of focus include critical thinking and research processes, with emphasis on relevancy and transfer to academic courses and career goals. Concurrent enrollment in SOCL 120 or PSYC 200 or BUSN 118 is required. After registering for ENGL098, students should register for one of the following pairs of Academic Support labs and classes: NCAS 103/SOCL 120; NCAS 104/PSYC 200; or NCAS 105/BUSN 118. (Start with an NCAS lab to see information on the paired course). Co-enrollment in ACAD 100 is also recommended. Students are encouraged to meet with an Academic Advisor for further information. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 2 and Writing Level 2

### **ENGL 099**      **Integrated Reading Writing II**

**Credit Hours: 4 / Billing Hours: 4**

This integrated reading and writing cornerstone course develops contextualized applications of skills and strategies necessary for academic and career success. Areas of focus include critical thinking and research processes, with emphasis on relevancy and transfer to academic courses and career goals. Concurrent enrollment in college-level classes is recommended. Students should meet with an academic advisor to determine which concurrent enrollment options to select. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 4 and Writing Level 4
- Corequisite Course: ENGL 121 (ENGL 124 or ENGL 127 may be substituted with approval from the Integrated English Department)
- Course Note: Students enrolled in ENGL 099 may take a second college-level course in addition to ENGL 121 or 124 or 127. See an academic advisor for a complete list of college-level courses that allow concurrent enrollment with ENGL 099.



## 2022-2023 Course Descriptions

### **ENGL 118      Personal Writing**

**Credit Hours: 3 / Billing Hours: 3**

Explores the various forms of personal writing (diaries, journals, letters, personal narratives, and autobiography) through written exercises and selected readings. The student's observations and life experiences are the focus of written assignments. Emphasizes language, style, and tone appropriate to the different forms of personal writing. (F,Sp)

- Prerequisite Course: None
- Placement Score: (Reading Level 5 and Writing Level 4) or ENGL 099 concurrently

### **ENGL 121      Composition I**

**Credit Hours: 4 / Billing Hours: 4**

Composition I is the study and practice of expository discourse to help students write more effectively. It emphasizes critical thinking, academic source materials, writing processes, content development, structure, style, database research, and documentation. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6 or (Reading Level 4 and Writing Level 4 and ENGL 099 concurrently)

### **ENGL 122      Composition II**

**Credit Hours: 4 / Billing Hours: 4**

This course builds upon the writing skills developed in ENGL 121 to help students write argumentative essays which use logical support and appropriate documentation. The course develops analytical skills in reading, writing, and research techniques. Students learn about the development, structure, and style of academic research. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in (ENGL 121 or ENGL 131) or Placement Scores listed below
- Placement Score: Reading Level 5 and Writing Level 8



## 2022-2023 Course Descriptions

### **ENGL 124      Technical Writing**

**Credit Hours: 3 / Billing Hours: 3**

A college-level course in the study and practice of technical writing in a variety of formats for select audiences. Covers writing instructions, mechanism descriptions, technical definitions, as well as business letters, persuasive memos, job application materials, and basic research techniques. Students learn basic research techniques. Students will work individually and collaboratively. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6 or (Reading Level 4 and Writing Level 4 and ENGL 099 concurrently)
- Recommended: Computer and/or keyboarding experience

### **ENGL 127      Business Writing**

**Credit Hours: 3 / Billing Hours: 3**

College-level study of the theory and practice of business communication in a variety of forms, with emphasis on letters, memoranda and written reports, including research-based reports. Also covers job applications, resumes, and collaborative oral reports. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6 or (Reading Level 4 and Writing Level 4 and ENGL 099 concurrently)
- Recommended: Computer and/or keyboarding experience

### **ENGL 131      Honors Composition I**

**Credit Hours: 4 / Billing Hours: 4**

Honors Composition I is the study and practice of expository discourse to expand students' ability to write effectively. It emphasizes critical thinking, reading academic sources, writing processes, content development, structure, style, database research, and documentation. Students may expect a more rigorous approach to the course. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 7

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## 2022-2023 Course Descriptions

### **ENGL 132      Honors Composition II      Credit Hours: 4 / Billing Hours: 4**

This course builds upon the writing skills developed in ENGL 121 to help students write argumentative essays which use logical support and appropriate documentation. The course develops analytical skills in reading, writing, and research techniques. Students learn about the development, structure, and style of academic research. Students may expect a more rigorous approach to the course. (F,Sp)

- Prerequisite Course: Minimum 3.5 in (ENGL 121 or ENGL 131)
- Placement Score: Reading Level 5 and Writing Level 8

### **ENGL 200      Introduction to Literature      Credit Hours: 3 / Billing Hours: 3**

Students will analyze and interpret poetry, drama, and narrative works from a globally and culturally diverse range of historical and literary periods. Close readings of both written texts and visual texts will be encouraged. Through written assignments and discussion, students will offer analytical, argumentative, or researched responses to the readings. (F,Sp,Su)

- Prerequisite Course: (ENGL 099 and ENGL 121 concurrently) or placement scores indicated below
- Placement Score: Reading Level 5 and Writing Level 6

### **ENGL 201      Introduction to Poetry      Credit Hours: 4 / Billing Hours: 4**

An introduction to the content, form, style, and technique of poetry; its structural types: metrical, blank, and free verse; its thematic types: lyric, narrative, and dramatic; and its effects or purposes. The course emphasizes poetry written in English but includes English translations of representative poetry from other languages and cultures. (Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: (ENGL 121 or ENGL 131) and ENGL 122

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## 2022-2023 Course Descriptions

### **ENGL 202      World Drama**

**Credit Hours: 4 / Billing Hours: 4**

Introduces drama as a unique genre with its own literary techniques and conventions within a global context. Students will read and interpret representative plays from the ancients to the 21st century, including works from Western and non-Western cultures. (F)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: (ENGL 121 or ENGL 131) and ENGL 122

### **ENGL 208      Children's Literature**

**Credit Hours: 4 / Billing Hours: 4**

This course offers a survey of children's literature, from fairy tales to young adult novels. Students will be introduced to a variety of literary genres in classic and contemporary works. Students will experience the literature through writing, discussion, oral or dramatic presentations, and other means suitable to classroom practice. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: (ENGL 121 or ENGL 131) and ENGL 122

### **ENGL 211      World Literature I**

**Credit Hours: 4 / Billing Hours: 4**

A selective survey of the literatures of major world cultures reflecting the diversity of the continents of Africa, the Americas, Asia, and Europe to approximately the 17th century. Explores the historical, ethnic, aesthetic, political, economic, and thematic elements of their respective cultures through narrative prose fiction, poetry, and drama. (F)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: (ENGL 121 or ENGL 131) and ENGL 122

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## 2022-2023 Course Descriptions

### **ENGL 212      World Literature II**

**Credit Hours: 4 / Billing Hours: 4**

A survey of the literatures of major cultures reflecting the diversity of the continents of Africa, the Americas, Asia, and Europe from approximately the 17th century through the present. Explores the historical, ethnic, aesthetic, political, economic, and thematic elements of their cultures through narrative prose fiction, poetry, and drama. (Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: (ENGL 121 or ENGL 131) and ENGL 122

### **ENGL 220      Science Fiction**

**Credit Hours: 4 / Billing Hours: 4**

ENGL220 is an introductory course which explores significant issues in science fiction. Novels and/or stories will be the main focus, although works from other media also may be studied. The course's emphasis transcends entertainment to include understanding, interpretation, and analysis as well. (F)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: ENGL 121 (formerly WRIT 121) or ENGL 131 (formerly WRIT 131) and ENGL 122

### **ENGL 240      The Film as Art**

**Credit Hours: 4 / Billing Hours: 4**

This course will introduce film as an art form capable of making perceptive comments on our civilization. Thematic analysis of 12 to 15 films of recognized merit will emphasize the film maker's visual and aural techniques as well as conventions more commonly associated with literature. (Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: (ENGL 121 or ENGL 131) and ENGL 122

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## 2022-2023 Course Descriptions

### **ENGL 245**      **Popular Culture and Mass Media**      **Credit Hours: 4 / Billing Hours: 4**

A study of the popular culture distributed by mass media (newspapers, radio, film, television, magazines, and music videos) and how the media and popular culture reflect and shape our cultural beliefs. Extensive use of multimedia. (F)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: (ENGL 121 or ENGL 131) and ENGL 122

### **ENGL 255**      **American Lit to 1865**      **Credit Hours: 4 / Billing Hours: 4**

Provides a perspective on the evolution of traditional American literature beginning with the writings of the first European explorers and Native American oral tradition. Features selected essays, autobiographical writings, poems, fiction, and drama from the mid-15th century to 1865, including the work of women and ethnic minorities, which have contributed to American thought. (F)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: ENGL 121 (formerly WRIT 121) or ENGL 131 (formerly WRIT 131) and ENGL 122

### **ENGL 256**      **American Lit 1865 to Present**      **Credit Hours: 4 / Billing Hours: 4**

Provides a perspective on the further development of traditional American literature from 1865 (the Realism period) to contemporary literature. Features selected essays, autobiographical writings, poems, fiction, and drama from the end of the Civil War to the literature of the late 12th century, including the work of women and ethnic minorities, which have profoundly shaped American literature. (Sp)

- Prerequisite Course: Reading Level 5 and Writing Level 6
- Recommended: ENGL 121 or ENGL 131 and ENGL 122



## 2022-2023 Course Descriptions

### **ENGL 260 African-American Literature Credit Hours: 4 / Billing Hours: 4**

This course introduces the African-American literary tradition as seen in the literature of the Americas, including the Caribbean. Selections explore the black experience in autobiography, essay, fiction, poetry, and drama. Themes of slavery, colonialism, and the Black Diaspora are discussed. Reading selections include the Harlem Renaissance and contemporary texts. (F)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: (ENGL 121 or ENGL 131) and ENGL 122

### **ENGL 261 Creative Writing I Credit Hours: 3 / Billing Hours: 3**

This course in a hybrid format helps students develop expressive abilities in writing poetry and short stories. Emphasizes narrative modes of the short story, and free verse forms and traditional forms of poetry. Students read and analyze models from masters in fiction and poetry. (F,Sp)

- Prerequisite Course: Minimum 2.0 in (ENGL 121 or ENGL 131) or placement levels noted below
- Placement Score: Reading Level 5 and Writing Level 8

### **ENGL 266 British Lit to 1800 Credit Hours: 4 / Billing Hours: 4**

British Literature I surveys the poetry, prose, and drama of the major British writers from Chaucer (14th Century) to the Satirists (18th Century). The works are selected to reflect the attitudes and values of British culture and the perception of the world from a British point of view. (F)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: (ENGL 121 or ENGL 131) and ENGL 122

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*F=Fall; Sp=Spring; Su=Summer*

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## 2022-2023 Course Descriptions

### **ENGL 267**      **British Lit 1800 to Present**

**Credit Hours: 4 / Billing Hours: 4**

British Literature II surveys the poetry, prose, and drama of the major British writers from the Romantics (19th Century) to the early 21st century. The works are selected to reflect the attitudes and values of British culture and the perception of the world from a British point of view. (Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: (ENGL 121 or ENGL 131) and ENGL 122

### **ENGL 270**      **Gender and Literature**

**Credit Hours: 4 / Billing Hours: 4**

A study of selected works representing women and LGBTQ writers. Readings are chosen to engage students in thoughtful discussion and to increase understanding of themes, literary theory, issues, and modes of expression of women writers and the LGBTQ communities. (Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: (ENGL 121 or ENGL 131) and ENGL 122

### **ENGL 271**      **Creative Writing II**

**Credit Hours: 3 / Billing Hours: 3**

Emphasizes improving the ability to write effective poems, short stories, and novellas. Students select their own subjects and receive feedback in a workshop environment. (Sp)

- Prerequisite Course: Minimum 2.0 in ENGL 261
- Placement Score: Reading Level 5

### **ENGL 278**      **Writing the Novel**

**Credit Hours: 3 / Billing Hours: 3**

This course addresses all aspects of writing a novel. Classroom sessions will emphasize finding a narrative voice, establishing sturdy characters, and developing a workable plot. Students will receive feedback on their fiction in a workshop setting. Publishing information will be provided, but will not be a focus of the course. (F)

- Prerequisite Course: Minimum 2.0 in ENGL 261 or ENGL 264 or ENGL 260 or ENGL 264
- Placement Score: Reading Level 5

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## 2022-2023 Course Descriptions

### **ENGL 279 Prose Style**

**Credit Hours: 3 / Billing Hours: 3**

An advanced study of non-fictional prose writing. Extensive directed practice helps experienced writers make their own writing clear, precise, direct, and graceful. Workshop sessions include a study of the expectations and choices in various types of writing, and of the relationships among purpose, structure, words, sentences, grammar, punctuation, and style. (Sp)

- Prerequisite Course: Minimum 2.0 in (ENGL 121 or ENGL 131)
- Placement Score: Reading Level 5 and Writing Level 8

### **ENGL 290 Shakespeare**

**Credit Hours: 4 / Billing Hours: 4**

Students will read, discuss and write about selected comedies, histories, tragedies and romances written by Shakespeare. To better understand how Shakespeare's work continues to influence literature and the arts, the class may also screen film versions of modern re-tellings of Shakespearean plots. (F,Sp)

- Prerequisite Course: Reading Level 5 and Writing Level 6
- Recommended: ENGL 121 or ENGL 131 and ENGL 122

### **ENGL 295 Independent Study in English**

**Credit Hours: 1 to 4 / Billing Hours: 1 to 4**

An opportunity for self-directed learners to explore topics related to, but not taught in the curriculum. Students spend at least two hours per week for each credit. A detailed proposal must be submitted by the student for approval by the Department and supervising instructor prior to registration. (F,Sp,Su)

- Prerequisite Course: Department Approval

### **ENVR 121 Environmental Rules and Regs**

**Credit Hours: 3 / Billing Hours: 3**

Overview of federal and state environmental regulations and agency rules that regulate discharges to air, water, and land. Laws are examined with respect to the reason the regulation is needed, what the law does, and how it does it. The course is designed for students pursuing careers as environmental technicians. (Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 4

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## 2022-2023 Course Descriptions

### **ENVR 122      Enviro Sampl & Instrumentation      Credit Hours: 4 / Billing Hours: 6**

An introduction to sampling and monitoring procedures and instrumentation to accomplish a task. Students will learn to take samples from ground water, surface water, air, and soil. This course is designed for students pursuing careers in biological science, but emphasizes the skills used by environmental technicians. (F)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 4

### **ENVR 131      Industrial Process Safety      Credit Hours: 3 / Billing Hours: 3**

Introduction to general manufacturing processes with emphasis on waste reduction and pollution prevention strategies. Case studies of basic processes, materials flow, worker health and safety, waste reduction, and pollution prevention will be examined. Fundamentals of toxicology, epidemiology, and environmental health will be used in understanding workplace safety and health issues. (Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 4

### **ESOL 098      ESL Combined Skills Level 4      Credit Hours: 6 / Billing Hours: 6**

Prepares non-native speakers of English for success in college courses. A theme-based approach helps learners develop reading, writing, academic vocabulary, grammar, and critical thinking skills. Emphasis on technology skills for academic work including word processing, MLA/APA format, D2L dropbox and discussion boards. Students should meet with an academic advisor to determine which concurrent enrollment options to select. (F,Sp,Su)

- Prerequisite Course: Minimum 2.5 in (ESOL 090 and ESOL 095) or placement scores noted below
- Placement Score: ESOL 4 or (Reading Level 2 and Writing Level 2)
- Corequisite Course: MUSC 241 or PSYC 200 (excluding online and online hybrid sections) or THEA 110
- Course Note: An exit competency of 2.5 awards Reading Level 4 and Writing Level 4 and allows enrollment in ESOL 099, ESL Combined Skills Level 5, and the concurrent enrollment options associated with that course.



## 2022-2023 Course Descriptions

### **ESOL 099**

### **ESL Combined Skills Level 5**

**Credit Hours: 4 / Billing Hours: 4**

Advanced level non-native speakers of English will develop reading, vocabulary, and grammar skills for academic success. Students will use college-level texts to develop reading, writing, and critical skills. Emphasis on technology skills for academic work. Students should meet with an academic advisor to determine which concurrent enrollment options to select. Reading Level 5 and Writing Level 6 granted upon successful completion (exit competency 2.5). (F,Sp,Su)

- Prerequisite Course: Minimum 2.5 in ESOL 098 or Placement Scores noted below
- Placement Score: (Reading Level 4 and Writing Level 4) or (ESOL Level 5)
- Corequisite Course: ENGL 121 (ENGL 124 or ENGL 127 may be substituted with approval from the Integrated English Department)

### **FIRE 100**

### **Principles Emergency Services**

**Credit Hours: 4 / Billing Hours: 4**

This course provides an overview to fire protection; career opportunities in fire protection and related fields; philosophy and history of fire protection/service; organization and function of public and private fire protection services; fire departments as part of local government; laws and regulations affecting the fire service; and fire service nomenclature. (F)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4

### **FIRE 101**

### **MI F.F.T.C. Basic Fire Level I**

**Credit Hours: 10 / Billing Hours: 14**

Level I is basic training required for all firefighters in the State of Michigan. Training is certified by the Michigan Fire Fighters Training Council and includes the basics of fire suppression, apparatus operation, life safety, and physical fitness. (F,Sp)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None
- Corequisite Course: FIRE 102 and PFFT 119
- Course Note: \$800 of the Course Fee is non-refundable.

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## 2022-2023 Course Descriptions

### **FIRE 102**      **MI F.F.T.C. Basic Fire Lev II**      **Credit Hours: 6 / Billing Hours: 8**

Level II is basic training required for all career firefighters in the State of Michigan. Training is certified by the Michigan Fire Fighter's Training Council and includes advanced fire suppression, aerial operation, life safety, and physical fitness. (F,Sp)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None
- Corequisite Course: FIRE 101 and PFFT 119

### **FIRE 104**      **Fire Behavior & Combustion**      **Credit Hours: 3 / Billing Hours: 3**

This course explores the theories and fundamentals of how and why fires start and spread. (Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4

### **FIRE 105**      **Fire/Hydraulics/Water Supply**      **Credit Hours: 4 / Billing Hours: 4**

This course provides a foundation of theoretical knowledge in order to understand the principles of the use of water in fire protection and to apply hydraulic principles to analyze and to solve water supply problems. (Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4

### **FIRE 110**      **Fire Prevention**      **Credit Hours: 3 / Billing Hours: 3**

This course provides fundamental information regarding the history and philosophy of fire prevention, organization and operation of a fire prevention bureau, use of fire codes, identification and correction of fire hazards, and the relationships of fire prevention with built-in fire protection systems, fire investigation, and fire and life-safety education. (F)

- Prerequisite Course: Minimum 2.0 in (FIRE 100 or concurrently) or (FIRE 101 and FIRE 102)
- Placement Score: Reading Level 5 and Writing Level 4

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## 2022-2023 Course Descriptions

### **FIRE 112**      **Occup Health & Safety/Fire Svc**      **Credit Hours: 4 / Billing Hours: 4**

This course introduces the basic concepts of occupational health and safety as it relates to emergency service organizations. Topics include risk evaluation and control procedures for fire stations, training sites, emergency vehicles, and emergency situations involving fire, EMS, hazardous materials, and technical rescue. (F)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4

### **FIRE 115**      **Bldg Construction/Fire Protect**      **Credit Hours: 4 / Billing Hours: 4**

This course provides the components of building construction that relate to fire and life safety. The focus of this course is on firefighter safety. The elements of construction and design of structures are shown to be key factors when inspecting buildings, pre-planning fire operations, and operating at emergencies. (F)

- Prerequisite Course: Minimum 2.0 in [(FIRE 100 or concurrently) or (FIRE 101 and FIRE 102)]
- Placement Score: Reading Level 5 and Writing Level 4

### **FIRE 122**      **Hazardous Materials Chemistry**      **Credit Hours: 4 / Billing Hours: 4**

This course covers basic fire chemistry relating to the categories of hazardous materials including problems with recognition, reactivity, and health encountered by firefighters. (F)

- Prerequisite Course: Minimum 2.0 in ((FIRE 104 or concurrently) or (FIRE 101 and FIRE 102))
- Placement Score: Reading Level 5 and Writing Level 4

### **FIRE 125**      **Fire Protection Systems**      **Credit Hours: 4 / Billing Hours: 4**

This course provides information relating to the features of design and operation of fire detection and alarm systems, heat and smoke control systems, special protection and sprinkler systems, water supply for fire protection and portable fire extinguishers. (Sp)

- Prerequisite Course: Minimum 2.0 in (FIRE 105 or FIRE 110)
- Placement Score: Reading Level 5 and Writing Level 4

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## 2022-2023 Course Descriptions

### **FIRE 150**

### **Strategy and Tactics**

**Credit Hours: 4 / Billing Hours: 4**

This course provides an in-depth analysis of the principles of fire control through utilization of personnel, equipment, and extinguishing agents on the fire ground. This course meets the Michigan Office of Fire Fighter Training prerequisites for Fire Officer I and II. (Sp)

- Prerequisite Course: (Minimum 2.0 in FIRE 101 or FIRE 102) or (MI F.F.T.C. Fire Fighter I & II Certification) and Department Approval
- Placement Score: None
- Course Note: Department Approval required. Contact the Fire Technology Program at (517) 483-1394.

### **FIRE 210**

### **Fire Investigation I**

**Credit Hours: 4 / Billing Hours: 4**

This course is intended to provide the student with the fundamentals and technical knowledge needed for proper fire scene interpretations, including recognizing and conducting origin and cause, preservation of evidence and documentation, scene security, motives of the fire setter, and types of fire causes. (F)

- Prerequisite Course: Minimum 2.0 in (FIRE 104 or concurrently) or (FIRE 101 and FIRE 102) and Department Approval
- Placement Score: None
- Course Note: Contact the Fire Technology Program advisor at (517) 483-1394 for department approval.

### **FIRE 215**

### **Fire Investigation II**

**Credit Hours: 3 / Billing Hours: 3**

This course is intended to provide the student with advanced technical knowledge of rule of law, fire scene analysis, fire behavior, evidence collection and preservation, scene documentation, case preparation and testifying. (Sp)

- Prerequisite Course: Minimum 2.0 in FIRE 210 and Department Approval
- Placement Score: None
- Course Note: Contact the Fire Technology Program advisor at (517) 483-1394 for department approval.

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## 2022-2023 Course Descriptions

### **FIRE 220**      **Hazardous Materials/Fire Svc**      **Credit Hours: 4 / Billing Hours: 5**

This course explores the concepts and methods of detection, control, and mitigation of hazardous materials incidents. Contains specific elements of NFPA 471, 472 and OSHA CFR 1910.120. This course is designed to train Haz-mat technicians. (Sp)

- Prerequisite Course: Minimum 2.0 in FIRE 104 or (FIRE 101 and FIRE 102) and Haz-Mat Operational Level Training and Department Approval
- Placement Score: None
- Course Note: Contact the Fire Technology Program at (517) 483-9608 for department approval.

### **FIRE 245**      **Fire Officer I & II**      **Credit Hours: 4 / Billing Hours: 4**

This course introduces the firefighter to the duties assigned to company level officers. Topics addressed include budgeting, planning, public relations, personnel management, communications, legal responsibilities, and safety at the company level. This course complies with the Michigan Office of Fire Fighter Training requirements for Fire Officer I and II. (F)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None
- Course Note: Department approval required. Contact the Fire Technology Program at 517-483-1394.

### **FIRE 250**      **Fire Administration I**      **Credit Hours: 4 / Billing Hours: 4**

This course introduces the student to the organization and management of a fire department and the relationship of government agencies to the fire service. Emphasis is placed on fire service leadership from the perspective of the company officer. (F)

- Prerequisite Course: Minimum 2.0 in (FIRE 150 or Michigan Office of Firefighter Training Fire Officer III)
- Placement Score: Reading Level 5 and Writing Level 4
- Course Note: Students with Michigan Office of Firefighter Training Fire Officer III certification should contact the FIRE program office at 517-483-1394 for enrollment approval.

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## 2022-2023 Course Descriptions

### **FIRE 255**

### **Fire Officer III & IV**

**Credit Hours: 4 / Billing Hours: 4**

This course provides the basic tools for analyzing and evaluating budgets, programs, policies, personnel and management systems within the fire service organization. Data interpretation and planning are major elements addressed in this course. Enhancement of fire service leadership decision-making capabilities is the primary focus of this course. (Sp)

- Prerequisite Course: Minimum 2.0 in (FIRE 245 and FIRE 250) or concurrently and Department Approval
- Placement Score: None
- Course Note: Contact the Fire Technology Program advisor at (517) 483-1394 for department approval.

### **FIRE 260**

### **Legal Aspects/Fire Service**

**Credit Hours: 4 / Billing Hours: 4**

This course introduces the federal, state, and local laws that regulate emergency services, national standards which influence emergency services, standard of care, tort and liability. Relevant court cases are also reviewed. (Sp)

- Prerequisite Course: Minimum 2.0 in FIRE 104 or (FIRE 101 and FIRE 102) and Department Approval
- Placement Score: None
- Course Note: Contact the Fire Technology Program advisor at (517) 483-1394 for department approval.

### **FIRE 265**

### **Fire Service Blue Card**

**Credit Hours: 4 / Billing Hours: 4.5**

This Incident Command Certification Program is designed to first instruct, train, and then evaluate and certify Fire Department Officers who serve in the role of Incident Commander that supervise and manage emergency and hazard zone operations for every day, local NIMS Type 4, and Type 5 events. (F, Sp)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None
- Course Note: Department approval is required. Contact the Fire Technology Program advisor at (517) 483-1394. In order to get credit for this class, the student must show proof of Blue Card Certificate.

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## 2022-2023 Course Descriptions

### **FIRE 270**      **Fire Service Career Development**      **Credit Hours: 3 / Billing Hours: 3**

This course prepares the student for entry into the fire service workplace. Student will learn new processes of organizational operations and professional development skills. Students will complete 108 hrs of internship with a previously screened agency. The required Associate Degree assessment will be administered in this course. (F, Sp)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None
- Recommended: Completion of all other required courses in curriculum
- Course Note: Department approval required. Contact the Fire Technology Program advisor at 517-483-1394.

### **FIRE 280**      **Fire Directed Indep Study**      **Credit Hours: .5 to 3 / Billing Hours: .5 to 6**

This course includes special research, projects, or directed study in fire science technology. Firefighting students may enroll to update or enhance knowledge, skills, and competencies. Advanced students may explore topics related to, but not included in the curriculum. A learning contract specifying objectives, activities, and outcomes is required. (F,Sp)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None
- Course Note: Department approval required. Contact the Fire Technology Program advisor at (517) 483-1394.

### **FIRE 285**      **Fire Science Special Topics**      **Credit Hours: .25 to 8 / Billing Hours: .25 to 11**

This course offers students the opportunity to learn new fire science career skills and knowledge. Specific up-to-date content will vary with each topic presented and will be related to fire science careers. (As Needed)

- Prerequisite Course: Determined by Section
- Course Note: Department approval required. Contact the Fire Technology Program advisor at (517) 483-1394.

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## 2022-2023 Course Descriptions

### **FIRE 295 Fire Science Special Topics**

**Credit Hours: .25 to 8 / Billing Hours: .25 to 11**

This course offers students the opportunity to learn new fire science career skills and knowledge. Specific up-to-date content will vary with each topic presented and will be related to fire science careers. This course will be graded on a Pass/Fail basis. (As Needed)

- Prerequisite Course: Determined by Section

### **FREN 121 Elementary French I**

**Credit Hours: 4 / Billing Hours: 4**

First course of a two-semester sequence in elementary French. Students are introduced to basic structures of French, enabling them to develop listening, speaking, reading, and writing skills. Emphasis is on contemporary vocabulary, essentials of grammar, and pronunciation. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 or (Reading Level 4 and ENGL 099 concurrently)

### **FREN 122 Elementary French II**

**Credit Hours: 4 / Billing Hours: 4**

Second course of a two-semester sequence in elementary French. Introduction to more complex structures and patterns, and more active use of spoken and written French. (Sp,Su)

- Prerequisite Course: Minimum 2.0 in FREN 121 or equivalent
- Placement Score: Reading Level 5 or (Reading Level 4 and ENGL 099 concurrently)

### **FREN 201 Intermediate French I**

**Credit Hours: 4 / Billing Hours: 4**

First course of a two-semester sequence in intermediate French. Course provides grammar review, vocabulary building, listening comprehension, composition writing, group discussions, and readings of literary and cultural texts, short stories, and news articles for a better understanding of the Francophone world. (F)

- Prerequisite Course: Minimum 2.0 in FREN 122 or equivalent
- Placement Score: Reading Level 5 or (Reading Level 4 and ENGL 099 concurrently)

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## 2022-2023 Course Descriptions

### **FREN 202**      **Intermediate French II**      **Credit Hours: 4 / Billing Hours: 4**

Second course of a two-semester sequence in intermediate French. Course includes a review of more complex grammar topics, readings of cultural and literary texts, short stories, and newspaper articles for a better understanding of the Francophone world. Students will improve fluency through listening-comprehension, writing, and discussions in the target language. (Sp)

- Prerequisite Course: Minimum 2.0 in FREN 201 or equivalent
- Placement Score: Reading Level 5 or (Reading Level 4 and ENGL 099 concurrently)

### **GEOG 120**      **Introduction to Geography**      **Credit Hours: 3 / Billing Hours: 3**

An introductory course designed to provide contemporary geographic ideas and mapping techniques to study the interaction between people and their physical environment. Selected topics include soils, land forms, water, climate, natural vegetation, agriculture, urbanization, demographic patterns and resource utilization. (F)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6 or (Reading Level 4 and Writing Level 4 and ENGL 099 concurrently) and [Math Level 4 or Minimum 2.0 in (Math 105 or Math 106)]
- Recommended: ENGL 121

### **GEOG 200**      **World Regional Geography**      **Credit Hours: 4 / Billing Hours: 4**

This course describes and analyzes human relationships with the natural and cultural environment and examines the physical and cultural aspects of the major regions of the world. International interdependency is examined to promote global awareness. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6 and [Math Level 4 or Minimum 2.0 in (MATH 105 or MATH 106)]

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## 2022-2023 Course Descriptions

### **GEOG 202**     **Geography of North America**

**Credit Hours: 3 / Billing Hours: 3**

A study of the cultural and physical aspects of North America. This course will identify some of the factors that influence the quality of life and give character to each of the various subregions. (Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6 and [Math Level 4 or minimum 2.0 in (MATH 105 or MATH 106)]

### **GEOG 220**     **Weather, Forecasting & Climate**

**Credit Hours: 4 / Billing Hours: 4**

Introduces the meteorological and climatological sciences. The basics and the limitations of weather forecasting, as well as climatic data, will be examined. Concepts presented include cloud and precipitation types, cyclonic characteristics, computer guidance analysis, and the importance of physical geography in weather and climate. No science background is presumed. (F)

- Prerequisite Course: Reading Level 5 and Writing Level 6 and (Math Level 4 or minimum 2.0 in MATH 105 or MATH 106).

### **GEOG 221**     **Physical Geography**

**Credit Hours: 4 / Billing Hours: 4**

Emphasizes landforms, flora and fauna, weather and climatic elements, land forms, mass wasting, hydrology, and soils. Offers an extensive study of these forces and phenomena through lecture and laboratory exercises. This study notes the environmental and ecological interrelationships between flora and fauna, and between the physical world and human society. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6 and [Math Level 4 or Minimum 2.0 in (MATH 105 or MATH 106)]

## 2022-2023 Course Descriptions

### **GEOL 221      Physical Geology**

**Credit Hours: 4 / Billing Hours: 6**

This course investigates the dynamic physical earth using a cause-effect theme, and emphasizes relationships of geologic cycles (tectonic/hydrologic) to modifications of earth's crust (e.g., volcanism, mountain building, rivers, glaciers) with introduction to environmental topics and earth resources. Laboratory includes mineral and rock identification, topographic and geologic map interpretation, and plate tectonics exercises. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6 and [Math Level 4 or (MATH 105 concurrently or MATH 106 concurrently)]

### **GEOL 222      Historical Geology**

**Credit Hours: 4 / Billing Hours: 6**

Plate tectonics is used to integrate crustal and organic evolution in the dynamic global system. Includes methods of geologic inquiry and critical evaluation of evidence. Laboratory stresses interpretation of the rock and fossil records, reconstruction of past ecosystems, geologic maps, and plate tectonics' influence on the environment. (Sp)

- Prerequisite Course: Minimum 2.0 in [GEOL 221 or GEOL 230 or (ISCI 121 and ISCI 122)]
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 4

### **GEOL 230      Environmental Geology**

**Credit Hours: 4 / Billing Hours: 6**

Concepts of physical geology are applied to human interaction with the environment. Geologic resources (e.g., minerals, energy, and water) and hazards (e.g., earthquakes, landslides, and flooding) are explored. Laboratory includes rock and mineral identification, map reading and interpretation, evaluation of land use alternatives, and problem-solving activities related to environmental issues. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6 and [Math Level 4 or (MATH 105 concurrently or MATH 106 concurrently)]



## 2022-2023 Course Descriptions

### **GERO 100 Introduction to Human Aging**

**Credit Hours: 4 / Billing Hours: 4**

This course provides students with a basic orientation to the study of aging. Emphasis is placed on the psychosocial, cultural, and individual issues which impact aging persons, their families, community, and society. Students will learn to identify and utilize resources across the human services network. This course complies with the Gerontology Competencies, Academy for Gerontology in Higher Education (AGHE). (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### **GERO 164 Med & Alcohol Use/Older Adults**

**Credit Hours: 0.5 / Billing Hours: 0**

Medication and alcohol use among older adults is explored in this seminar, including prescription and non-prescription medicines, side effects, drug interactions, and strategies for using medicines wisely. Participants will learn to identify a substance-abuse situation and how to make appropriate referrals. (F,Sp)

- Prerequisite Course: None
- Placement Score: None

### **GERO 169 Legal Rights of Older Adults**

**Credit Hours: 0.5 / Billing Hours: 0**

This course focuses on issues such as guardianship, conservatorship, power of attorney, advance care directives, and nursing home residency, including actual and perceived choices the individual has as aging and illness occur. (F,Sp)

- Prerequisite Course: None
- Placement Score: None

### **GERO 191 Special Topics in Gerontology**

**Credit Hours: .25 to 4 / Billing Hours: 0**

This course consists of a series of seminars which address current issues in the field of gerontology. The seminars are designed to provide up-to-date information on selected, high-interest subjects concerning human aging. (As Needed)

- Prerequisite Course: Determined by Section
- Placement Score: None

1130

*F=Fall; Sp=Spring; Su=Summer*

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## 2022-2023 Course Descriptions

### **GRMN 121 Elementary German I**

**Credit Hours: 4 / Billing Hours: 4**

This is the first course of a two-semester sequence in elementary German for students who have no or little knowledge of German. Students are introduced to the basic structures of German, enabling them to develop listening, speaking, reading, and writing skills. Emphasis is on practical vocabulary, essentials of grammar, basic pronunciation, and contemporary culture. This course helps beginner German students develop effective language learning strategies. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 or (Reading Level 4 and ENGL 099 concurrently)

### **GRMN 122 Elementary German II**

**Credit Hours: 4 / Billing Hours: 4**

This is the second course of a two-semester sequence in elementary German. Students are introduced to more advanced structures of German, enabling them to further practice listening, speaking, reading, and writing skills. Emphasis is on practical vocabulary, contemporary culture, and essentials of grammar and pronunciation. This course helps novice German students develop effective language learning strategies. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in GRMN 121 or equivalent
- Placement Score: Reading Level 5 or (Reading Level 4 and ENGL 099 concurrently)

### **GRMN 201 Intermediate German I**

**Credit Hours: 4 / Billing Hours: 4**

This is the first course of a two-semester sequence in intermediate German. This course reviews and introduces more advanced grammar structures, composition, vocabulary building, group discussions, and more information on German culture and everyday life. Class is taught mainly in German. This course helps intermediate German students develop effective language learning strategies. (F)

- Prerequisite Course: Minimum 2.0 in GRMN 122 or equivalent
- Placement Score: Reading Level 5 or (Reading Level 4 and ENGL 099 concurrently)

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## 2022-2023 Course Descriptions

### **GRMN 202 Intermediate German II**

**Credit Hours: 4 / Billing Hours: 4**

This is the second course of a two-semester sequence in intermediate German. This course reviews and introduces more advanced grammar structures, composition, vocabulary building, group discussions, and more information on German culture and everyday life. Class is taught mainly in German. This course helps intermediate German students to continue to develop effective language learning strategies. (Sp)

- Prerequisite Course: Minimum 2.0 in GRMN 201 or equivalent
- Placement Score: Reading Level 5 or (Reading Level 4 and ENGL 099 concurrently)

### **GSCI 100 Intro to Geospatial Tech**

**Credit Hours: 3 / Billing Hours: 4**

This entry level course explores the fundamental concepts underlying all geographic information systems. These concepts will be demonstrated by examining how GIS is used in planning, law enforcement, medicine, asset management, transportation and other fields. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: None

### **GSCI 110 Beginning ArcGIS**

**Credit Hours: 3 / Billing Hours: 5**

This course is an introduction in the use of ArcGIS software. ArcGIS is a leading product used in the design of Geographic Information Systems (GIS). Students will learn the basic functionality of this software and its application in real-world scenarios. GIS principles will also be covered. Students will conceptualize, design and present a final project. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 3 and [Math Level 4 or minimum 2.0 in (MATH 105 or MATH 106)]

### **GSCI 120 Advanced ArcGIS**

**Credit Hours: 3 / Billing Hours: 5**

This course will build on the fundamentals learned in GSCI 110. Students will use ArcGIS tools and processing to complete a series of assigned projects. Students will learn modeling and analysis techniques using a variety of vector and raster datasets. Students will conceptualize, design, implement and present a final project. (F)

- Prerequisite Course: Minimum 2.0 in GSCI 110 (formerly GRET 110)
- Placement Score: Reading Level 3 and Math Level 4

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## 2022-2023 Course Descriptions

### **GSCI 150      UAS Flight for Industry      Credit Hours: 3 / Billing Hours: 4**

This course covers the foundations of unmanned aircraft systems, including history, UAS systems, payloads, classes of UAS systems, applications, mission planning and control and recovery systems. A wide variety of industry-specific uses will be presented. Students will demonstrate knowledge through hands-on drone use. (F)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4 and Math Level 4
- Corequisite Course: AVAU 100

### **GSCI 175      Special Topics/GIS Technology      Credit Hours: .25 to 8 / Billing Hours: .25 to 11**

This course offers students the opportunity to learn new or advanced skills in Geographic Information Systems Technology and other related topics. Specific content may vary with each offering and will be related to the Geospatial Science Program. (F,Sp,Su)

- Prerequisite Course: Determined by Section

### **GSCI 210      Global Positioning Systems      Credit Hours: 3 / Billing Hours: 4**

This course covers the basic principles necessary to set up, operate, and run a Global Positioning System (GPS) receiving station, as well as collect information with a receiver. Data collection will be incorporated into a computer database program. The information link with Geographic Information Systems (GIS) and the use of GPS in GIS will be demonstrated. (F)

- Prerequisite Course: None
- Placement Score: None

### **GSCI 240      Cartography in GIS      Credit Hours: 3 / Billing Hours: 4**

The basic principles, functions, and origins of maps will be discussed. The student will construct various types of maps. Computer-offered map planning and design along with how to read, print, and design maps will also be covered. (Sp)

- Prerequisite Course: Minimum 2.0 in (GSCI 110 or concurrently (formerly GRET 110))
- Placement Score: Reading Level 3 and [Math Level 4 or minimum 2.0 in (MATH 105 or MATH 106)]

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## 2022-2023 Course Descriptions

### **GSCI 241      Remote Sens/AirPhoto Interpret      Credit Hours: 3 / Billing Hours: 4**

This course will include the development of skills necessary for basic interpretation of aerial photography data, how it is collected, and the ability to analyze maps created from the data collected in this method. The current technology and GIS relationship will be highlighted. (Sp)

- Prerequisite Course: Minimum 2.0 in GSCI 110 (formerly GRET 110)
- Placement Score: Reading Level 3 and [Math Level 4 or minimum 2.0 in (MATH 105 or MATH 106)]

### **GSCI 250      UAS Map Analysis      Credit Hours: 3 / Billing Hours: 4**

This class introduces the fundamentals of map data collection with UAS (drones), including concepts, real-world examples, navigation, best practices, data acquisition, mission assessment, data processing, event coverage, and map delivery. Students will demonstrate knowledge through hands-on drone use. (F)

- Prerequisite Course: Minimum 2.0 in GSCI 150
- Placement Score: Reading Level 5 and Math Level 4

### **GSCI 260      Automating Workflows in GIS      Credit Hours: 3 / Billing Hours: 4**

This course will explore a variety of ways to automate workflows in ArcGIS software. In addition to using "batch" functionality in ArcGIS software, the student will be exposed to Model Builder and creating Python scripts. (F)

- Prerequisite Course: Minimum 2.0 in GSCI 110 (formerly GRET 110)
- Placement Score: Reading Level 3 and Writing Level 2 and [Math Level 4 or Minimum 2.0 in (MATH 105 or MATH 106)]

### **GSCI 264      Web GIS      Credit Hours: 3 / Billing Hours: 4**

This course will explore a variety of ways to migrate GIS maps and data to the internet for public viewing and sharing. Technologies include Web maps, HTML, CSS & JavaScript code, Mobile technology, and ArcGIS Online. (Sp)

- Prerequisite Course: Minimum 2.0 in GSCI 110 (formerly GRET 110)
- Placement Score: Reading Level 3 and Writing Level 2 and [Math Level 4 or minimum 2.0 in (MATH 105 or MATH 106)]

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## 2022-2023 Course Descriptions

### **GSCI 271 Parcel Mapping**

**Credit Hours: 3 / Billing Hours: 5**

This course will teach students how to interpret and produce ownership parcels based on legal descriptions in a GIS environment. (F)

- Prerequisite Course: Minimum 2.0 in GSCI 110 (formerly GRET 110)
- Placement Score: Reading Level 3 and Writing Level 2 and [Math Level 4 or Minimum 2.0 in (MATH 105 or MATH 106)]

### **GSCI 275 GIS Proj Mgmt & Implementation**

**Credit Hours: 3 / Billing Hours: 4**

This is a capstone course designed for students to develop the skills necessary for the design and implementation of GIS. The student will present his/her project to a client and train the client in the system that they developed. The student will also develop skills in project management and system documentation. (Sp)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None

### **GSCI 290 GIS Internship**

**Credit Hours: 2 to 4 / Billing Hours: 2 to 4**

This course provides Geospatial Science students with practical work experience in industry. Students work for an employer in a supervised environment which provides an opportunity to apply knowledge and skills learned in the classroom and lab to an actual job situation. (F, Sp, Su)

- Prerequisite Course: Department Approval

### **HERT 110 Equipment Introduction**

**Credit Hours: 5 / Billing Hours: 5**

This course is intended to give the student an overall review of legal and work responsibilities of an operator of heavy construction equipment. Safety, inspections, and familiarization of equipment and operation standards for all major pieces of equipment will be stressed. (F,Sp)

- Prerequisite Course: None
- Placement Score: None

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## 2022-2023 Course Descriptions

### **HERT 120     Heavy Engine Rebuild**

**Credit Hours: 6 / Billing Hours: 6**

Upon completion of this course, the successful student will be able to disassemble, inspect, and reassemble a heavy-duty diesel engine. (F)

- Prerequisite Course: None
- Placement Score: None

### **HERT 125     Heavy Equipment Electronics**

**Credit Hours: 5 / Billing Hours: 5**

Upon completion of this course the successful student will be able to diagnose and repair electrical problems on heavy duty equipment. (Sp)

- Prerequisite Course: None
- Placement Score: None

### **HERT 130     Equipment Hydraulics**

**Credit Hours: 6 / Billing Hours: 6**

Upon completion of this course the successful student will be able to diagnose and repair hydraulic problems found typically on heavy duty construction equipment. (F)

- Prerequisite Course: None
- Placement Score: None

### **HERT 135     Diesel Fuel Systems**

**Credit Hours: 4 / Billing Hours: 4**

Upon completion of this course, the successful student will be able to diagnose and repair common fuel system failures found on heavy-duty diesel engines. (Su)

- Prerequisite Course: None
- Placement Score: None

### **HERT 140     Equipment Powertrain**

**Credit Hours: 5 / Billing Hours: 5**

Upon completion of this course, the successful student will be able to identify and inspect and disassemble and assemble and repair powertrain components in heavy duty equipment. (Sp)

- Prerequisite Course: None
- Placement Score: None

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## 2022-2023 Course Descriptions

### **HERT 145      Equipment Service Writing**

**Credit Hours: 4 / Billing Hours: 4**

Upon completion the student will be able to make repair estimates on a disabled piece of construction equipment. (Su)

- Prerequisite Course: None
- Placement Score: None

### **HERT 160      Equipment HVAC/Cab Controls**

**Credit Hours: 4 / Billing Hours: 6**

This course prepares students for ASE, State of Michigan, and EPA Section 609 certification testing. Topics include theory and operation, maintenance, diagnosis, inspection, and repair of automobile and heavy equipment heating, ventilation, and air conditioning systems. Students will practice the use of special tools and procedures related to refrigerant handling, recovery, recycling, and diagnosis. (F)

- Prerequisite Course: Minimum 2.0 in [HERT 110, HERT 120, and HERT 125]
- Placement Score: Reading Level 3 and Writing Level 2 and Math Level 3

### **HERT 210      Heavy Equipment Internship**

**Credit Hours: 3 / Billing Hours: 3**

Students earn credits while employed performing duties associated with the heavy equipment operator or repair technician occupations. The student will work under the general supervision of an experienced equipment operator or repair technician and will learn current industry practices. The program coordinator must approve the training station and working conditions. (F,Sp,Su)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None

### **HIST 150      African-American History**

**Credit Hours: 4 / Billing Hours: 4**

This course will provide an overview of the African-American experience in the United States, from the arrival of the first Africans in the New World to the present. (Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5

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## 2022-2023 Course Descriptions

### **HIST 210**      **Historical Methods and Skills**      **Credit Hours: 4 / Billing Hours: 4**

Covers problems of research, writing, philosophy, and interpretation of history, involving a detailed examination of a particular area of American history. (Sp)

- Prerequisite Course: Minimum 2.0 in (HIST 211 or HIST 212)
- Placement Score: Reading Level 5 and Writing Level 6
- Course Note: This course is intended to be the capstone course for History majors.

### **HIST 211**      **U.S. History to 1877**      **Credit Hours: 4 / Billing Hours: 4**

A political, economic, social and cultural history of the United States from colonial beginnings to 1877. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### **HIST 212**      **U.S. History: 1877 to Present**      **Credit Hours: 4 / Billing Hours: 4**

A political, economic, social, and cultural history of the United States from the end of reconstruction to the present. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### **HIST 214**      **African History**      **Credit Hours: 4 / Billing Hours: 4**

Surveys African history with emphasis on pre-colonial and colonial Africa, nationalism and the struggle for independence, colonialism and economic development/underdevelopment, and cultures and traditions as factors in development. (F)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: ENGL 121 (formerly WRIT 121) or ENGL 131 (formerly WRIT 131)



## 2022-2023 Course Descriptions

### **HIST 215      World History to 1500**

**Credit Hours: 4 / Billing Hours: 4**

This course will trace human civilizations from their origins to 1500 by exploring their cultural, social, religious, economic, and political developments and interactions. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### **HIST 216      World History since 1500**

**Credit Hours: 4 / Billing Hours: 4**

This course will trace the development of the modern world from 1500 by exploring cultural, social, religious, economic, and political developments and interactions that shape modern societies. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### **HIST 220      Michigan History**

**Credit Hours: 4 / Billing Hours: 4**

A survey of the political, economic, and social development of Michigan from precolonial times to the present. (F,Sp, Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: ENGL 121 or ENGL 131

### **HIST 235      Modern European History**

**Credit Hours: 4 / Billing Hours: 4**

This course will survey political, social, economic, and cultural developments in Europe from approximately the 17th Century to the present. (Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6



## 2022-2023 Course Descriptions

### **HIST 240 Latin American History**

**Credit Hours: 4 / Billing Hours: 4**

A survey of the history and culture of Latin America from pre-Columbian civilizations to the present. This course will examine political, social, and cultural developments in Latin America and assess the role of colonialism, nationalism, and world economic trends in shaping Latin American countries. (Sp)

- Prerequisite Course: Reading Level 5 and Writing Level 6

### **HIST 250 History of Modern Asia**

**Credit Hours: 4 / Billing Hours: 4**

This course will survey political, social, and economic developments as well as principal cultural trends in the major civilizations of Asia from approximately the 17th Century to the present. The course will also include an examination of the interactions among Asian societies and between Asia and the West. (F)

- Prerequisite Course: Reading Level 5 and Writing Level 6

### **HIST 295 Independent Study in History**

**Credit Hours: 1 to 4 / Billing Hours: 1 to 4**

An opportunity for self-directed learners to explore topics related to, but not taught in the curriculum. Students spend at least two hours per week for each credit. A detailed proposal must be submitted by the student for approval by the Department and supervising instructor prior to registration. (F,Sp)

- Prerequisite Course: Department Approval

### **HONR 151 Honors Colloquy I**

**Credit Hours: 1 / Billing Hours: 1**

Interdisciplinary forum for Honors Program members and other interested students. Includes presentations by experts in such fields as the arts, business, communication, education, humanities, government, mathematics, science, and the social sciences, followed by discussion. Topics concerning international issues, diversity, and technology are often featured. Students write essays reacting to each presentation. (F)

- Prerequisite Course: None. Honors Program Approval Required
- Placement Score: None

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## 2022-2023 Course Descriptions

### **HONR 152 Honors Colloquy II**

**Credit Hours: 1 / Billing Hours: 1**

Interdisciplinary forum for Honors Program members and other interested students. Includes presentations by experts in such fields as the arts, business, communication, education, humanities, government, mathematics, science, and the social sciences, followed by discussion. Topics concerning international issues, diversity, and technology are often featured. Students write three substantive research papers. (F)

- Prerequisite Course: None. Honors Program Approval Required
- Placement Score: None

### **HONR 155 Community Service Practicum I**

**Credit Hours: 1 / Billing Hours: 1**

A practicum course for freshman students requiring a minimum of 32 hours of volunteer service with a community agency of the student's choice and attendance at three classroom discussion sessions. Students will develop practical skills and evaluate their service in terms of its relevance to the community and their educational, career, and life goals. (Sp)

- Prerequisite Course: None
- Placement Score: None Requires Honors Program Approval

### **HONR 156 Community Service Practicum II**

**Credit Hours: 1 / Billing Hours: 1**

A practicum course for sophomore students requiring a minimum of 32 hours of volunteer service with a community agency of the student's choice and attendance at three classroom discussion sessions. Students will develop practical skills and evaluate their service in terms of its relevance to the community and their educational, career, and life goals. (Sp)

- Prerequisite Course: None
- Placement Score: None Requires Honors Program Approval

### **HONR 295 Honors Independent Study**

**Credit Hours: 1 to 4 / Billing Hours: 1 to 4**

An opportunity for self-directed learners to explore topics related to, but not taught in the curriculum. Students spend at least two hours per week on course work. A detailed proposal must be submitted by the student for approval by the Honors Program Director and supervising instructor prior to registration. (F,Sp,Su)

- Prerequisite Course: Honors Program Approval

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## 2022-2023 Course Descriptions

### **HSAC 090      ERESA Heating & Air Cond      Credit Hours: 8 / Billing Hours: 0**

This course for ERESA students is an introduction into basic electricity, heating, air conditioning, and sheet metal as it pertains to residential HVAC equipment installation and service. Students are enrolled both fall and spring semesters. (F,Sp)

- Prerequisite Course: ERESA Student

### **HSAH 080      CCRESA PreAllied Hlth Car Prep      Credit Hours: 8 / Billing Hours: 0**

This course for CCRESA students is designed to present and explore basic concepts of biologic and physical sciences, medical terminology, introductory pathology, and fundamentals of human interactions necessary to pursue training as health care professionals. Students are enrolled in both fall and spring semesters. (F,Sp)

- Prerequisite Course: CCRESA Student

### **HSAH 090      ERESA Health Occupations I      Credit Hours: 8 / Billing Hours: 0**

This course for ERESA students provides an overview of the health care industry, including medical ethics, trends in health care, and exploration of career options. It includes instruction in medical terminology as well as an introduction to anatomy and physiology, vital signs measurement, math used for conversions, and universal precautions/blood borne pathogen training. (F,Sp)

- Prerequisite Course: ERESA Student

### **HSAH 092      ERESA Health Occupations II      Credit Hours: 8 / Billing Hours: 0**

This second year course for ERESA students will teach acute care and rehabilitation knowledge and skills needed to deliver quality basic patient care as a nurse aide/patient care technician. This builds on the long-term care knowledge and skills already learned in the first year course. Students will also be given foundational instruction in medical terminology and will be introduced to the Electronic Health Record and its impact on health-care-related job responsibilities. Hands-on EHR experience is included. (F,Sp)

- Prerequisite Course: ERESA Student

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## 2022-2023 Course Descriptions

### **HSAM 080    CCRESA Auto Service**

**Credit Hours: 8 / Billing Hours: 0**

This course for CRESSA students covers the four National Institute for Automotive Service Excellence requirements for training in brakes, suspension and steering, electrical, and tune-up/driveability. In addition, students will learn basic shop procedures as outlined in AUTO100 and basic training in engine overhaul. Students are enrolled both fall and spring semesters. (F,Sp)

- Prerequisite Course: CRESSA Student

### **HSAM 090    ERESA Auto Mechanics**

**Credit Hours: 8 / Billing Hours: 0**

This course for ERESA students covers the four National Institute for Automotive Service Excellence requirements for training in brakes, suspension and steering, electrical, and tune-up/driveability. In addition, students will learn basic shop procedures as outlined in AUTO100 and basic training in engine overhaul. Students are enrolled both fall and spring semesters. (F,Sp)

- Prerequisite Course: ERESA Student

### **HSAM 091    ERESA Automotive Technology II**

**Credit Hours: 8 / Billing Hours: 0**

This course for ERESA students covers the four National Institute for Automotive Service Excellence requirements for training in brakes, suspension and steering, electrical, and tune-up/driveability with an emphasis on steering and suspension systems. In addition, students will learn basic shop procedures as outlined in AUTO100 and basic training in engine overhaul. Students are enrolled both fall and spring semesters. (F,Sp)

- Prerequisite Course: ERESA Student

### **HSAT 090    ERESA Architectural Drafting**

**Credit Hours: 8 / Billing Hours: 0**

This ERESA course focuses on residential architecture. Students will learn board drafting techniques, wall section components and building materials, and drafting conventions. Residential design and planning as well as model building methods will be studied and computer aided drafting (CAD) software will be used throughout the year. (F,Sp)

- Prerequisite Course: ERESA Student

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## 2022-2023 Course Descriptions

### **HSBT 090      ERESA Building Trades      Credit Hours: 6 / Billing Hours: 0**

This course teaches the basic skills needed to build a house including reading and interpreting architectural drawings, preparing the building site, introduction to and use of power tools, residential framing, interior carpentry, measuring, and applied mathematics. (F,Sp)

- Prerequisite Course: ERESA Student

### **HSCJ 070      Alma HS Crim Justice/Pub Svc      Credit Hours: 8 / Billing Hours: 0**

This course is designed for Alma High School students to explore the basic concepts and potential career opportunities in Criminal Justice. The course provides instruction in the areas of law enforcement, corrections, and report writing. Students are enrolled both fall and spring semesters to meet all course objectives for a total of 11 credits for the school year. (F,Sp)

- Prerequisite Course: Alma HS Student

### **HSCJ 080      CCRESA Crim Justice/Pub Svc      Credit Hours: 8 / Billing Hours: 0**

This course is designed for CCRESA students to explore the basic concepts and potential career opportunities in Criminal Justice. The course provides instruction in the areas of law enforcement, corrections, and report writing. Students are enrolled both fall and spring semesters. (F,Sp)

- Prerequisite Course: CCRESA Student

### **HSCJ 082      CCRESA Crim Justice/Pub Svc II      Credit Hours: 8 / Billing Hours: 0**

This course is for second year CCRESA students to expand on the basic concepts and potential career opportunities in Criminal Justice learned in the first year of this program. (F, Sp)

- Prerequisite Course: CCRESA Student

### **HSCJ 090      ERESA Crim Justc/Public Svc I      Credit Hours: 8 / Billing Hours: 0**

This course is designed for ERESA students to explore the basic concepts and potential career opportunities in Criminal Justice. The course provides instruction in the area of law enforcement, the courts, and corrections. Students are enrolled both fall and spring semesters to meet all course objectives. (F,Sp)

- Prerequisite Course: ERESA Student

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## 2022-2023 Course Descriptions

### **HSCJ 091      ERESA Intro Criminal Justice      Credit Hours: 3 / Billing Hours: 0**

An ERESA orientation course designed to provide students with a current, coordinated, and comprehensive overview of criminal justice as an institution and as a system. It will emphasize historical, philosophical, constitutional, and organizational perspectives. (F)

- Prerequisite Course: ERESA Student

### **HSCJ 092      ERESA Crim Just/Law Enforce II      Credit Hours: 8 / Billing Hours: 0**

This course is for second year ERESA students to expand on the basic concepts and potential career opportunities in Criminal Justice learned in the first year of this program. (F,Sp)

- Prerequisite Course: ERESA Student

### **HSCJ 093      ERESA Human Relations/Crim Jus      Credit Hours: 3 / Billing Hours: 0**

This ERESA course focuses on understanding those aspects of interpersonal relations most directly linked to attainment of organizational and individual goals in criminal justice work settings. (F)

- Prerequisite Course: ERESA Student

### **HSCS 080      CCRESA Computer Support I      Credit Hours: 8 / Billing Hours: 0**

Security I first-year courses provide early middle college bound high school students with the foundational skills needed to enter into Security II second-year courses. These courses follow the Lansing Community College, Computer Networking & Cybersecurity Associate in Business Degree (1453). (F,Sp)

- Prerequisite Course: CCRESA Student

### **HSCS 092      ERESA Computer Support      Credit Hours: 8 / Billing Hours: 0**

This course provides ERESA students with instruction in computer information systems, Windows, advanced microcomputer applications, and dBase programming. In addition, students work extensively on Microsoft Office Suite. Students are enrolled both fall and spring semesters to meet all course objectives for a total of 12 credits for the school year. (F,Sp)

- Prerequisite Course: ERESA Student

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## 2022-2023 Course Descriptions

### **HSCT 090      ERESA Construction Technology      Credit Hours: 8 / Billing Hours: 0**

This program provides an overview of the construction industry by presenting information in several related areas. Students will learn about construction safety, framing and foundation techniques; such as framing wall and floor systems, interior and exterior walls, ceilings, roofs and stairs. This includes material takeoffs and installation practices. (F, Sp)

- Prerequisite Course: ERESA Student

### **HSDC 071      HSDC Team Time      Credit Hours: 0.25 / Billing Hours: 0**

Students will receive high school credit for developing skills in goal setting, decision making, career development and information technology. (Fa,Sp,Su)

- Prerequisite Course: H.S.D.C. Student

### **HSDM 090      ERESA Design and Machining      Credit Hours: 8 / Billing Hours: 0**

This course will provide students with hands-on laboratory projects, career based education, and industrial skill sets needed in design and manufacturing. Career opportunities include Machine Tool Operations, CNC Programming and Operations, and Skilled Maintenance. Students will also have the opportunity to earn First Aid and CPR/AED certifications. (F, Sp)

- Prerequisite Course: ERESA Student

### **HSDM 091      ERESA Drafting/Design      Credit Hours: 6 / Billing Hours: 0**

This course is the drafting/CAD portion of the ERESA Design and Machining course. Combined with the machining course, HSDM 092, students will perform hands-on laboratory projects, career based education, and industrial skill sets needed in design and manufacturing. Career opportunities include Machine Tool Operations, CNC Programming and Operations, and Skilled Maintenance. Students will also have the opportunity to earn First Aid and CPR/AED certifications. (F, Sp)

- Prerequisite Course: ERESA Student



## 2022-2023 Course Descriptions

### **HSDM 092      ERESA Machine Tool Operations      Credit Hours: 2 / Billing Hours: 0**

This course is the machine tool operations portion of the ERESA Design and Machining course. Combined with the drafting/CAD course, HSDM 091, students will perform hands-on laboratory projects, career based education, and industrial skill sets needed in design and manufacturing. Career opportunities include Machine Tool Operations, CNC Programming and Operations, and Skilled Maintenance. Students will also have the opportunity to earn First Aid and CPR/AED certifications. (F, Sp)

- Prerequisite Course: ERESA Student

### **HSDT 090      ERESA Industrial Drafting      Credit Hours: 8 / Billing Hours: 0**

This course for ERESA students is centered around basic concepts of orthographic projection, sketching, lettering techniques and dimensioning. Emphasis will shift to more detailed work with orthographic projection, sections and auxiliary views, and preparation of welding or fabrication type drawings. Students are enrolled both fall and spring semesters. (F,Sp)

- Prerequisite Course: ERESA Student

### **HSEC 090      ERESA Computer Security I      Credit Hours: 8 / Billing Hours: 0**

This is the first course for the Early Middle College track for the Networking & Cybersecurity Associate in Business Degree (Curriculum Code: 1453). Students in the program are required to complete a 13 year of high school. The student receives practical, hands-on experience in installing, maintaining, and troubleshooting computer hardware and software. Emphasis is placed on the communication skills and the professionalism needed to become a successful Computer Support Technician. Students will be prepared to earn the CompTIA A+ certification. Upon completing the coursework successfully, students will receive the IT Foundations Certificate of Completion (Curriculum Code: 0766). (F,Sp)

- Prerequisite Course: ERESA Student

### **HSFS 080      CCRESA Intro to Fire Science      Credit Hours: 8 / Billing Hours: 0**

This CCRESA course introduces the student to fire fighting with an overview of fire chemistry, fire fighting equipment, safety, organization, apparatus, fire service divisions, special rescue techniques, customer service, fire prevention, public education, and the future of the fire service. (F,Sp)

- Prerequisite Course: CCRESA Student

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## 2022-2023 Course Descriptions

### **HSFS 090      ERESA Intro to Fire Science      Credit Hours: 8 / Billing Hours: 0**

This ERESA course introduces the student to fire fighting with an overview of fire chemistry, fire fighting equipment, safety, organization, apparatus, fire service divisions, special rescue techniques, customer service, fire prevention, public education, and the future of the fire service. Students are enrolled both fall and spring. (F,Sp)

- Prerequisite Course: ERESA Student

### **HSKN 090      ERESA Sports Med Foundations      Credit Hours: 8 / Billing Hours: 0**

This course introduces ERESA students to various careers in the field of Kinesiology, with emphasis on athletic training. Students will learn techniques for assessment, treatment, and rehabilitation of athletic injuries; lifestyles skills that lead to better health and fitness; and will be certified in CPR and First Aid. (F,Sp)

- Prerequisite Course: ERESA Student

### **HSLE 090      ERESA Law Enforcement      Credit Hours: 8 / Billing Hours: 0**

This course is designed for ERESA students to explore the basic concepts and potential career opportunities in Law Enforcement. The course provides instruction in the areas of law enforcement, such as theory of patrol, community policing, and CPR for health care professionals. Students are enrolled both fall and spring semesters to meet all course objectives for a total of 9.5 credits for the school year. (F, Sp)

- Prerequisite Course: ERESA Student

### **HSMA 090      ERESA Mechatronics/Automation      Credit Hours: 8 / Billing Hours: 0**

After an introduction to industrial workplace safety, including the ability to earn First Aid and CPR/AED certifications, students will focus on the installation and repair of electrical, hydraulic, pneumatic and digital controls that operate automated mechanical and robotic systems.

- Prerequisite Course: ERESA Student



## 2022-2023 Course Descriptions

### **HSMT 090    ERESA Manufacturing Tech    Credit Hours: 1.5 / Billing Hours: 0**

This course for ERESA students is centered around basic concepts of manufacturing technology which are learned through a series of lectures, demonstrations, and manufacturing projects. Students are enrolled during both fall and spring semesters to meet all course objectives for a total of 12 credits for the school year. (F,Sp)

- Prerequisite Course: ERESA Student

### **HSWD 090    ERESA Comp Graphic/Web Dsgn    Credit Hours: 8 / Billing Hours: 0**

An introduction to manipulation of photographic images and generation of images on the computer using design principles for the creation of effective presentations for the web with rich media content. Students will learn the entire process from concept to design and storyboarding, to structure, preparation, production, and programming. (F,Sp)

- Prerequisite Course: ERESA Student

### **HSWT 090    ERESA Welding/Cutting    Credit Hours: 8 / Billing Hours: 0**

This course is for ERESA students interested in the industrial trades. Students will learn the basics of oxy-fuel welding and cutting, advanced arc welding, and gas metal arc welding through lectures and hands-on experience. Students are enrolled both fall and spring semesters to meet all course objectives for a total of 12 credits for the school year. (F,Sp)

- Prerequisite Course: ERESA Student

### **HSWT 092    ERESA Welding/Cutting II    Credit Hours: 8 / Billing Hours: 0**

This course is for ERESA students interested in the industrial trades. Students will learn the basics of shielded metal arc welding and gas tungsten arc welding through lectures and hands-on experience. Students are enrolled both fall and spring semesters to meet all course objectives for a total of 12 credits for the school year. (F, Sp)

- Prerequisite Course: ERESA Student

### **HTEC 051    TEC Seminar    Credit Hours: .5 to 1 / Billing Hours: 0**

The seminar sessions will focus on mentoring, advising, academic support and intervention for each student.

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## 2022-2023 Course Descriptions

### **HTEC 053      TEC College Prep Math A**

**Credit Hours: 1 / Billing Hours: 0**

College Prep Math I B

In this course we will explore mathematical concepts that are foundational for success in algebra based math courses.

Students will learn to use and understand the following five fundamental concepts:

1. Simplify expressions
2. Solve equations/inequalities
3. Use numerical representations
4. Use graphical representations
5. Use algebraic notation

### **HTEC 061      TEC College Prep English A**

**Credit Hours: 1 / Billing Hours: 0**

College Prep English 3a: Students will read complex texts, using comprehension strategies to determine meaning. Students will respond to the reading in a variety of ways including three types of writing: arguments, informative explanatory texts, and narratives. The focus will be on informational texts, in both reading and writing, and closely aligned with current topics in TEC science and social studies. Students will acquire new vocabulary and increase their understanding of standard written and spoken English. Students will practice a variety of communication skills: speaking, listening, using media and technology. The Early College Success Skills curriculum is interwoven with this course.

### **HTEC 062      TEC Civics**

**Credit Hours: 1 / Billing Hours: 0**

Integrated social studies - Global Issues and Conflicts 3a: Students develop their abilities for deep thinking, critical analysis, thoughtful discussion and scholarship based on the Michigan Citizenship Collaborative Curriculum for 11th grade. This course will integrate key social studies concepts, skills, and expectations from civics identified in the Michigan Merit Curriculum. Students will deepen their abilities to communicate social studies concepts through writing, discussion, analysis of sources, and decision-making. The Early College Success Skills curriculum is interwoven with this course.

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## 2022-2023 Course Descriptions

### **HTEC 063      TEC - Integrated Science A**

**Credit Hours: 1 / Billing Hours: 0**

Scientific Thought and Inquiry 1: Cross-cutting concepts of science, including force, energy transfer, the molecular composition of matter and chemical change are explored through laboratory investigations, computer simulations, and research, with a focus on application of scientific concepts to earth science and environmental issues and the collection and analysis of data to further develop conceptual understanding. Students will deepen their abilities to think analytically and to communicate scientific concepts through writing and discussion. The Early College Success Skills curriculum is interwoven with this course.

### **HTEC 068      TEC Economics**

**Credit Hours: 1 / Billing Hours: 0**

TEC Economics is a one semester course that covers a broad array of economic topics. The course will encourage economic and critical thinking strategies as well as the analysis of information and the use of economic graphs in order to encourage rational decision making. Microeconomic, macroeconomic and personal finance will all be covered in this course. This course will meet the State of Michigan requirements for high school economics, which focuses on the market economy, the national economy, the international economy, and an introduction to personal finance.

### **HTEC 078      TEC - Physics A**

**Credit Hours: 1 / Billing Hours: 0**

The focus of this course is to introduce students to concepts in physics and the application of mathematics to validate data obtained from laboratory exercises. The content of this course will include the application of scientific methods and classical Newtonian physics that includes linear motion, two-dimensional motion, Newton's laws of motion, applied forces, impulse and momentum and rotational motion. Experimentation will be a component of the course, both as an avenue to gain conceptual understanding and to learn how to function in a college physics laboratory. Using this approach to learn science, students should develop scientific reasoning skills necessary to problem-solve, apply scientific processes to real world situations and develop a scientific perspective.

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## 2022-2023 Course Descriptions

### **HUMS 120 Masterpieces of Art & Music**

**Credit Hours: 4 / Billing Hours: 4**

This course is an introduction to the masterpieces of art and music from ancient to modern times. Artistic and musical innovations and contributions from Europe and America will be explored. The continuing influence and validity of art and music from the past on contemporary developments will be studied. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6 or (Reading Level 4 and Writing Level 4 and ENGL 099 concurrently)
- Course Note: No art or music background required.

### **HUMS 140 Art of Being Human**

**Credit Hours: 4 / Billing Hours: 4**

This course analyzes the human experience through the stages of life within historical and global frameworks. With consideration given to creative traditions, topics are chosen to encourage a student's appreciation of common human themes and values across diverse cultures in order to understand what it means to be human, as well as promote self-discovery and personal creativity. (F)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### **HUMS 160 Mythology**

**Credit Hours: 4 / Billing Hours: 4**

Students will analyze a variety of mythological works, in text and other forms, from multiple regions of the world such as Africa, the Americas, Asia, and Europe. The student will apply knowledge of The Hero's Journey and the basic functions of myth to enhance their appreciation of primary sources, individually and culturally. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: ENGL 121 or ENGL 131

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## 2022-2023 Course Descriptions

### **HUMS 211 Art History to the Renaissance**

**Credit Hours: 4 / Billing Hours: 4**

This course surveys the history of painting, sculpture, and architecture of world civilizations from preliterate times to the 15th century. It emphasizes analysis and comparison of artistic concepts, styles and techniques, and investigates how the arts reflect ideas, issues, and values of society and the individual. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### **HUMS 212 Art Hist from the Renaissance**

**Credit Hours: 4 / Billing Hours: 4**

This course surveys the history of painting, sculpture, and architecture of world civilizations from the 15th to the 20th century. It emphasizes analysis and comparison of artistic concepts, styles and techniques, and investigates how the arts reflect ideas, issues, and values of society and the individual. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### **HUMS 213 World Civilizations to 1600**

**Credit Hours: 4 / Billing Hours: 4**

Surveys the literature and art, science and technology, and the social and political systems of major civilizations in Africa, Asia, Europe, and the Americas to approximately the 17th century. Emphasizes the contributions of early civilizations to the creativity, richness, and diversity of the human condition. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### **HUMS 214 World Civilizations from 1600**

**Credit Hours: 4 / Billing Hours: 4**

Surveys the literature and art, science and technology, and the social and political systems of major civilizations in Africa, Asia, Europe, and the Americas from approximately the 17th century to the present. Emphasizes the contributions of modern civilizations to the creativity, richness, and diversity of the human condition. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

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## 2022-2023 Course Descriptions

### **HUMS 215 American Cultural Experience**

**Credit Hours: 4 / Billing Hours: 4**

This course will explore the cultural foundations of the United States from the period of exploration to the present. This is an interdisciplinary course which examines central themes of American culture and their representation in history, literature, art, philosophy, and religion. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### **HUMS 216 Contemporary Art**

**Credit Hours: 4 / Billing Hours: 4**

This course provides an overview of contemporary art in various media and examines theoretical and cultural influences on art from the late 20th century to the present. Through analysis and comparison, students will be able to recognize and interpret most important aspects of contemporary art and contemporary visual culture. (F, Sp, Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### **HUMS 260 Ancient Egypt**

**Credit Hours: 4 / Billing Hours: 4**

This course explores developments in Egyptian art and architecture, religion and kingship. Pyramids, tombs, hieroglyphs and the land of Egypt are emphasized. Great discoveries and discoverers in archaeology past and present are also featured. (F, Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: ENGL 121 or ENGL 131

### **HUMS 295 Ind Study in Humanities**

**Credit Hours: 1 to 4 / Billing Hours: 1 to 4**

An opportunity for self-directed learners to explore topics related to, but not taught in the curriculum. Students spend at least two hours per week for each credit. A detailed proposal must be submitted by the student for approval by the Department and supervising instructor prior to registration. (F,Sp,Su)

- Prerequisite Course: Department Approval

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## 2022-2023 Course Descriptions

### **HUSE 100      Introduction to Human Services      Credit Hours: 3 / Billing Hours: 3**

This course presents an overview of human services evolution that impact social welfare policies on services provided and the populations served. Emphasis is on community, clients, trends, ethics, and skills used in diverse settings. The approach is generalist in nature. This course complies with the Ethical Standards, National Organization of Human Services. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 4 and Writing Level 4

### **HUSE 105      Personal Dynamics/Interviewing      Credit Hours: 4 / Billing Hours: 4**

The nature of personal development, knowledge and values are taught. The course integrates diversity issues with the demonstration of the knowledge, skills, and values of the "helping interview" through structured exercises and role playing. This course complies with the Ethical Standards of the National Organization of Human Services. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 4 and Writing Level 4
- Recommended: Minimum 2.5 in (HUSE 100 or SOWK 101)

### **HUSE 110      Child Abuse and Neglect      Credit Hours: 3 / Billing Hours: 3**

This course reviews the history and scope of child abuse and neglect, including socioeconomic and psychological factors. It explores the world of abnormal rearing, roles of community agencies and disciplines, approaches to treatment and prevention, coordination of cases and services, and legal aspects and the law. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 4 and Writing Level 4
- Recommended: Minimum 2.5 in HUSE 105

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## 2022-2023 Course Descriptions

### **HUSE 242      The Family: Addiction/Violence      Credit Hours: 3 / Billing Hours: 3**

This course provides a holistic conceptual framework to understanding the interplay of substance misuse with violence across the family life cycle. Attention is brought to the many factors of substance misuse and violence. Assessment, intervention, the role of treatment, and broad-spectrum human services are discussed. This course complies with the Ethical Standards, National Organization of Human Services. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 4 and Writing Level 4
- Recommended: Minimum 2.5 in [(HUSE 100 or SOWK 101) and HUSE 112]

### **HUSE 282      Human Services Practicum I      Credit Hours: 4 / Billing Hours: 4**

This course combines classroom training with beginning field experience in a community agency, with exposure to community structure and the internal working of human services organizations. Emphasis is on the development of professional skills while adhering to professional ethics and standards. This course complies with the Ethical Standards, National Organization of Human Services. (F)

- Prerequisite Course: Minimum 2.5 in (GERO 100 and HUSE 100 and HUSE 105 and HUSE 242 and Specialization Courses) and Minimum 2.0 in ENGL 121. Program Approval is required.
- Placement Score: Reading Level 5 and Writing Level 6

### **HUSE 284      Human Services Practicum II      Credit Hours: 4 / Billing Hours: 4**

This course combines classroom training with advanced field experience in a community agency, emphasizing communications in diverse settings with diverse populations. Analysis of services identifies systems, people, and resources to provide quality services. Potential careers are discussed. This course complies with the Ethical Standards, National Organization of Human Services. (Sp)

- Prerequisite Course: Minimum 2.5 in HUSE 282. Program Approval is required.
- Placement Score: Reading Level 5 and Writing Level 6

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## 2022-2023 Course Descriptions

### **HUSE 293 Human Services Special Topics Credit Hours: .25 to 4 / Billing Hours: .25 to 7**

A number of brief topics related to the human service field will be taught in this course. Topics will be of interest to current students, members of the community, paraprofessionals and professionals working in the field. Specific, up-to-date content will vary with each offering. (As Needed)

- Prerequisite Course: Determined by Section
- Placement Score: Determined by Section

### **HUSE 294 Human Services Special Topics Credit Hours: .25 to 2 / Billing Hours: .25 to 5**

A number of brief topics related to the human service field will be taught in this course. Topics will be of interest to current students, members of the community, paraprofessionals, and professionals working in the field. Specific, up-to-date content will vary with each offering. (As Needed)

- Prerequisite Course: Determined by Section
- Placement Score: Determined by Section

### **HUSE 297 Human Services Indep Study Credit Hours: 1 to 3 / Billing Hours: 1 to 6**

This course includes special research, directed study, or service-learning projects in human services areas, such as gerontology, social work, substance abuse, or related areas. It requires at least 16 hours of independent work for each credit. A learning contract specifying objectives, activities and outcomes is required. (F,Sp)

- Prerequisite Course: None. Program Approval is required
- Placement Score: None

### **HVAC 100 Fundamentals of HVAC Credit Hours: 3 / Billing Hours: 3**

This course is an introduction to the mechanical refrigeration cycle and its individual components. Compressors, evaporators, condensers and metering devices as well as their functions are covered in detail. Exercises in psychrometrics and an introduction to system design are also covered. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 3 and Writing Level 2
- Course Note: \$4 of the Course Fee is non-refundable

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## 2022-2023 Course Descriptions

### **HVAC 110    Applied Electricity I**

**Credit Hours: 3 / Billing Hours: 4**

An introduction to basic electricity (AC and DC) using both theory and applied study methods. Topics will include electrical components, symbols, basic schematic diagrams, Ohm's Law applied to series and parallel circuits and motor types and usages. In conjunction with lab exercises, meters and their proper usage will be covered. (F,Sp)

- Prerequisite Course: Minimum 2.0 in (HVAC 102 or DCTM 102 or ELTE 102 or METS 102 or WELD 102) or concurrently
- Placement Score: Reading Level 3 and Writing Level 2 and [Math Level 3 or Minimum 2.0 in (MATH 105 or MATH 106)]
- Course Note: \$4 of the Course Fee is non-refundable.

### **HVAC 111    Applied Electricity II**

**Credit Hours: 3 / Billing Hours: 4**

The study of motors with an emphasis on theory, troubleshooting and servicing. Motor controls, control circuits, protection devices and discussion of energy conservation as related to motors will be covered in detail. (F,Sp)

- Prerequisite Course: Minimum 2.0 in (HVAC 100 and HVAC 110)
- Placement Score: Reading Level 3 and Writing Level 2 and Math Level 3
- Course Note: \$4 of the Course Fee is non-refundable.

### **HVAC 113    HVAC/R Piping**

**Credit Hours: 3 / Billing Hours: 4**

This course is designed to teach students about the common types of pipes used in the HVAC/R industry. Topics will include safety, tools and fasteners, common types of pipe, pipe joints, pipe-fittings, and general guidelines for working with pipe and tubing. Hands-on experience with piping is included. (F, Sp)

- Prerequisite Course: Minimum 2.0 in (HVAC 102 or DCTM 102 or ELTE 102 or METS 102 or WELD 102 or concurrently)
- Placement Score: Reading Level 3 and Writing Level 2
- Course Note: \$5 of the Course Fee is non-refundable



## 2022-2023 Course Descriptions

### **HVAC 115 Sheet Metal Fab & Installation**

**Credit Hours: 2 / Billing Hours: 3**

Designed to aid the installer in the skills and techniques for the proper duct sizing, layout, and installation of a residential air distribution system. Topics include sheet metal layout, identification of sheet metal fittings, and their use. Safe and proper use of tools and equipment used in the trade. (F, Sp)

- Prerequisite Course: Minimum 2.0 in (HVAC 102 or DCTM 102 or ELTE 102 or METS 102 or WELD 102) or concurrently
- Placement Score: Reading Level 3 and Writing Level 2 and [Math Level 4 or Minimum 2.0 in (MATH 105 or MATH 106)]
- Course Note: \$4 of the Course Fee is non-refundable.

### **HVAC 120 Heating I**

**Credit Hours: 3 / Billing Hours: 4**

This course covers basic construction and function of components in residential gas and oil fired furnaces with detail on theory, application, troubleshooting, and servicing standard heating systems. Installation procedures and codes are also covered. Additional equipment studied will include humidifiers, air cleaners and vent dampers. (F,Sp)

- Prerequisite Course: Minimum 2.0 in (HVAC 100 and HVAC 110)
- Placement Score: Reading Level 3 and Writing Level 2 and Math Level 3
- Course Note: \$4 of the Course Fee is non-refundable.

### **HVAC 130 Air Conditioning I**

**Credit Hours: 3 / Billing Hours: 4**

This course covers the fundamentals and principles of residential air conditioning systems. Students will learn soldering and brazing of tubing, wiring, component testing, evacuation procedures, charging and maintenance of both split systems, as well as small packaged units. (F,Sp)

- Prerequisite Course: Minimum 2.0 in (HVAC 100 and HVAC 110)
- Placement Score: Reading Level 3 and Writing Level 2 and Math Level 3
- Course Note: \$34 of the Course Fee is non-refundable.

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## 2022-2023 Course Descriptions

### **HVAC 140 Residential Energy Credit Hours: 3 / Billing Hours: 4**

The focus of this course will be on the history of traditional energy sources and reasons why government, business, and industry are turning to alternative and renewable energy sources. Topics include how to reduce fossil fuel usage and how to convert from traditional energy sources to alternative and renewable energy sources. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 3 and Writing Level 4 and [Math Level 4 or minimum 2.0 in (MATH 105 or MATH 106)]

### **HVAC 170 Special Topics in HVAC/R Credit Hours: .25 to 8 / Billing Hours: .25 to 11**

This course offers students the opportunity to learn new or advanced skills in Heating, Ventilation, Air Conditioning and/or Refrigeration, and other related topics. Specific content may vary with each offering but will be related to HVAC/R Technology and the profession. (F,Sp,Su)

- Prerequisite Course: Determined by Section

### **HVAC 201 Mechanical Code Credit Hours: 4 / Billing Hours: 4**

A fundamental course designed to acquaint the student with the methods and techniques used in field inspection of mechanical systems. The Michigan Mechanical Code and excerpts from the International Fuel Gas Code and Michigan Residential Code will be discussed. (Sp)

- Prerequisite Course: Minimum 2.0 in (HVAC 120 and HVAC 130)
- Placement Score: Reading Level 3 and Writing Level 2 and Math Level 3
- Course Note: \$6 of the Course Fee is non-refundable.

### **HVAC 210 Solar Energy Technologies Credit Hours: 3 / Billing Hours: 4**

This course will cover the basics of solar energy generation including energy collection and storage. Solar power ranging from the heat of the day to solar electric conversion technologies will be covered including Solar Electric (Photovoltaic); Thermal; and Heating, Cooling and Lighting (Active and Passive). A brief history of solar powered energies will be included. (F)

- Prerequisite Course: None
- Placement Score: Reading Level 3 and Writing Level 4 and [Math Level 4 or Minimum 2.0 in (MATH 105 or MATH 106)]

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## 2022-2023 Course Descriptions

### **HVAC 220 Heating II**

**Credit Hours: 3 / Billing Hours: 4**

This course covers the fundamentals and principles of electronic ignition systems including troubleshooting and servicing. The major emphasis is placed on high efficiency and condensing furnaces to include sequence of operation, troubleshooting, servicing, and proper installation. (F,Sp)

- Prerequisite Course: Minimum 2.0 in (HVAC 111 and HVAC 120)
- Placement Score: Reading Level 3 and Writing Level 2 and Math Level 3
- Course Note: \$4 of the Course Fee is non-refundable.

### **HVAC 221 Introduction to Hydronics**

**Credit Hours: 3 / Billing Hours: 4**

Covers hot water and steam residential heating systems, piping and all accessories, safety controls, expansion tanks, zone valves, installation procedures and codes. Students perform testing, troubleshooting, adjusting and servicing of components to insure maximum efficiency. (F)

- Prerequisite Course: Minimum 2.0 in HVAC 120
- Placement Score: Reading Level 3 and Writing Level 2 and Math Level 3
- Course Note: \$4 of the Course Fee is non-refundable

### **HVAC 230 Air Conditioning II**

**Credit Hours: 3 / Billing Hours: 4**

This course covers advanced air conditioning, light commercial equipment, water cooled units, cooling towers, and the wiring of both control and line voltage circuitry. The latest in test equipment and meters will aid the student in becoming proficient in servicing and maintaining commercial equipment. (F,Sp)

- Prerequisite Course: Minimum 2.0 in (HVAC 111 and HVAC 130)
- Placement Score: Reading Level 3 and Writing Level 2 and Math Level 3
- Course Note: \$4 of the Course Fee is non-refundable.

### **HVAC 231 Heat Pump**

**Credit Hours: 3 / Billing Hours: 4**

This course deals entirely with heat pumps (air-to-air, water-to-air) and their installation, servicing, proper application or heat pump components, and extensive wiring schematics. (Sp)

- Prerequisite Course: Minimum 2.0 in HVAC 130
- Placement Score: Reading Level 3 and Writing Level 2 and Math Level 3
- Course Note: \$4 of the Course Fee is non-refundable.

1161

*F=Fall; Sp=Spring; Su=Summer*

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## 2022-2023 Course Descriptions

### **HVAC 240 Refrigeration I**

**Credit Hours: 3 / Billing Hours: 4**

This course includes domestic refrigeration as applied to refrigerators, freezers and de-humidifiers. Course content includes applications, operation and servicing of sealed systems, electrical and cabinet styles. (F)

- Prerequisite Course: Minimum 2.0 in (HVAC 230 or concurrently)
- Placement Score: Reading Level 3 and Writing Level 2 and Math Level 3
- Course Note: \$4 of the Course Fee is non-refundable.

### **HVAC 241 Refrigeration II**

**Credit Hours: 3 / Billing Hours: 4**

This course provides instruction in light commercial refrigeration to include low and medium temperature applications as applied to ice machines, walk-ins, reach-ins, and display cases. (Sp)

- Prerequisite Course: Minimum 2.0 in HVAC 240
- Placement Score: Reading Level 3 and Writing Level 2 and Math Level 3
- Course Note: \$4 of the Course Fee is non-refundable

### **HVAC 251 Fund of Direct Digital Control**

**Credit Hours: 3 / Billing Hours: 4**

Basic fundamentals and principles of direct digital controls will be covered through demonstrations of computer basics, control strategies for computer based energy management systems, and installation components according to industry standards. (Sp)

- Prerequisite Course: Minimum 2.0 in HVAC 230 or concurrently
- Placement Score: Reading Level 3 and Writing Level 2 and Math Level 3
- Course Note: \$5 of the Course Fee is non-refundable.

### **HVAC 260 Building Commissioning**

**Credit Hours: 3 / Billing Hours: 4**

Students learn the step-by-step processes used to perform building commissioning, retro-commissioning, and continuous commissioning. Students will implement software programs, data analysis, and recording techniques to track system energy use. Students compare design documents from building construction or energy system installation with actual performance data. (Sp)

- Prerequisite Course: Minimum 2.0 in (DCTM 103 or AEET 251) and Reading Level 5 and Writing Level 6 and Math Level 5

1162

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## 2022-2023 Course Descriptions

### **HVAC 280      EPA 608 Certification Review      Credit Hours: 1 / Billing Hours: 1**

This course prepares students for the EPA Section 608 Certification test which is required to work on appliances containing CFC, HCFC or HFC refrigerants. This course will not certify technicians in EPA Section 609 - Automotive Air Conditioning. Students who successfully complete the course will take the proctored EPA Section 608 Certification Test. (F,Sp)

- Prerequisite Course: None
- Placement Score: None
- Recommended: HVAC 130 or HVAC field experience
- Course Note: \$30 of the Course Fee is non-refundable.

### **HVAC 290      HVAC Internship      Credit Hours: 2 to 4 / Billing Hours: 2 to 4**

This course provides Heating, Ventilating, Air Conditioning and Refrigeration students with practical work experience in industry. Students work for an employer in a supervised environment which provides an opportunity to apply knowledge and skills learned in the classroom and lab to an actual job situation. (F, Sp, Su)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None

### **IDMS 150      Sonographic Directed Study      Credit Hours: 1 to 5 / Billing Hours: 1 to 8**

Provides selection of content from the Diagnostic Medical Sonography curriculum to update or enhance current knowledge and skill for returning students and health care professionals. Through evaluation of previous learning, examinations, self study, and scheduling into needed lectures, labs and clinical experience, students are advanced placed or readmitted into the Diagnostic Medical Sonography program. (As Needed)

- Prerequisite Course: None. Program Approval is required.
- Placement Score: None



## 2022-2023 Course Descriptions

### **IDMS 169      Intro to Sonographic Scanning      Credit Hours: 2 / Billing Hours: 3**

Sonography students are introduced to scanning and sonographic positioning as well as imaging techniques. Normal anatomy of the abdomen including liver, biliary tree, kidneys, spleen, and pancreas will be explored. (Su)

- Prerequisite Course: None. Admission to Diagnostic Medical Sonography Program is required.
- Placement Score: Reading Level 5 and Writing Level 6
- Corequisite Course: IDMS 200 and IDMS 270
- Course Note: \$109 of the course fee is for medical supplies and is non-refundable.

### **IDMS 200      Sonographic Introduction      Credit Hours: 2 / Billing Hours: 2**

This course is an introduction to sonography including equipment history, criteria, limitations of ultrasound, and sonographer ethics. General information is provided regarding patient preparation, history/clinical correlation, and basic nursing care specific to ultrasound. Strong emphasis is placed on terminology and abbreviations most commonly used with ultrasound. (Su)

- Prerequisite Course: None. Admission to Diagnostic Medical Sonography Program is required.
- Placement Score: Reading Level 5 and Writing Level 6
- Corequisite Course: IDMS 169 and IDMS 270

### **IDMS 201      General Sonography I: Abdomen      Credit Hours: 4 / Billing Hours: 4**

This course provides the student with cross-sectional anatomy and pathology as it relates to sonographic scanning of the abdomen, abdominal vessels, thyroid, prostate, scrotum, breast, and neurosonology of the neonate. (F)

- Prerequisite Course: Minimum 2.5 in (IDMS 169 and IDMS 200 and IDMS 270)
- Placement Score: None
- Corequisite Course: IDMS 202 and IDMS 234 and IDMS 271 and IDMS 280
- Course Note: \$109 of the course fee is for medical supplies and is non-refundable.



## 2022-2023 Course Descriptions

### **IDMS 202      OB/GYN Sonography I      Credit Hours: 4 / Billing Hours: 4**

This course provides the student with cross-sectional anatomy and pathology as it relates to gynecological and obstetrical sonography. Fetal anatomy and appearance will be presented. (F)

- Prerequisite Course: Minimum 2.5 in (IDMS 169 and IDMS 200 and IDMS 270)
- Placement Score: None
- Corequisite Course: IDMS 201 and IDMS 234 and IDMS 271 and IDMS 280
- Course Note: \$109 of the course fee is for medical supplies and is non-refundable.

### **IDMS 234      Sonographic Physics      Credit Hours: 2 / Billing Hours: 2**

The student will study the fundamental principles of acoustical physics, how sound is produced and manipulated, and how it reacts in various mediums. (F)

- Prerequisite Course: Minimum 2.5 in (IDMS 169 and IDMS 200 and IDMS 270)
- Placement Score: None
- Corequisite Course: IDMS 201 and IDMS 202 and IDMS 271 and IDMS 280

### **IDMS 245      Sonographic Instrumentation      Credit Hours: 2 / Billing Hours: 2**

The student will be introduced to the mechanics of A-Mode, M-Mode, Doppler, and Real-time ultrasound equipment. Accessory equipment such as the camera, transducer, and cathode ray tube will be presented. Methods of quality assurance will also be presented. (Sp)

- Prerequisite Course: Minimum 2.5 in IDMS 234
- Placement Score: None
- Corequisite Course: IDMS 265 and IDMS 266 and IDMS 281

### **IDMS 250      Vascular Technology I      Credit Hours: 6 / Billing Hours: 6**

The student will study the physical principles of venous fluid dynamics and Doppler measurement analysis with its relationship to physiology and pathology, including risk factors, disease processes, correlative tests, and treatments. The student will review of the circulatory system and vascular anatomy including, carotid arteries, intracranial blood vessels, upper and lower extremity veins and penis. RDMS or RT(S) credential or graduated from an accredited ultrasound program and current sonography employment is required. (F)

- Prerequisite Course: None. Program Approval is required
- Placement Score: None
- Corequisite Course: IDMS 255
- Course Note: \$275 of the course fee is for medical supplies and is non-refundable.

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## 2022-2023 Course Descriptions

### **IDMS 251      Vascular Technology II**

**Credit Hours: 6 / Billing Hours: 6**

The student will study arterial fluid dynamics and Doppler measurement analysis with its relationship to physiology and pathology, including risk factors, disease processes, correlative tests, and treatments. The student will review vascular anatomy including, upper and lower extremity arteries and abdominal vasculature. Bypass grafts, stents and hemodialysis access will be studied. Quality measurements and safety are reviewed. (Sp)

- Prerequisite Course: Minimum 2.5 in IDMS 250. Program Approval is required
- Placement Score: None
- Corequisite Course: IDMS 256

### **IDMS 255      Vascular Scan Lab I**

**Credit Hours: 2.5 / Billing Hours: 4**

Students will learn scanning and sonographic positioning as well as imaging techniques in color and spectral Doppler as related to the vascular system. Students will identify normal vascular anatomy including carotid, circle of Willis, upper and lower extremity veins and impotence testing. ARDMS or RT(S) credential or graduated from an accredited ultrasound program and current sonography employment is required. (F)

- Prerequisite Course: None. Program Approval is required.
- Placement Score: None
- Corequisite Course: IDMS 250
- Course Note: \$275 of the course fee is for medical supplies and is non-refundable.

### **IDMS 256      Vascular Scan Lab II**

**Credit Hours: 2.5 / Billing Hours: 4**

Students will learn scanning and sonographic positioning as well as imaging techniques in color and spectral Doppler, plethysmography and segmental pressures as related to the vascular system. Students will identify normal vascular anatomy including, aorta, IVC, renal vasculature, portal system, upper and lower extremity arteries, and Hemodialysis grafts. (Sp)

- Prerequisite Course: Minimum 2.5 in IDMS 255. Program Approval is required.
- Placement Score: None
- Corequisite Course: IDMS 251



## 2022-2023 Course Descriptions

### **IDMS 265      General Sonography II      Credit Hours: 4 / Billing Hours: 4**

The student will be presented with the identification of and interpretation of anatomy and pathology on sonographic exams as it relates to the abdomen, venous system, and small parts. (Sp)

- Prerequisite Course: Minimum 2.5 in IDMS 201
- Placement Score: None
- Corequisite Course: IDMS 245 and IDMS 266 and IDMS 281

### **IDMS 266      OB/GYN Sonography II      Credit Hours: 4 / Billing Hours: 4**

The student will be presented with the identification of and interpretation of anatomy and pathology on sonographic exams as it relates to the obstetric and gynecologic patient. (Sp)

- Prerequisite Course: Minimum 2.5 in IDMS 202
- Placement Score: None
- Corequisite Course: IDMS 245 and IDMS 265 and IDMS 281

### **IDMS 270      Sonographic Positioning I      Credit Hours: 2.5 / Billing Hours: 4**

Sonography students continue to learn scanning and sonographic positioning as well as imaging techniques. Normal anatomy of the abdomen including liver, biliary tree, kidneys, spleen, and pancreas will be explored. The great vessels will be introduced including the aorta, celiac axis, superior mesenteric artery, inferior vena cava and related arteries. (Su)

- Prerequisite Course: None. Admission to Diagnostic Medical Sonography Program is required.
- Placement Score: Reading Level 5 and Writing Level 6
- Corequisite Course: IDMS 169 and IDMS 200
- Course Note: \$109 of the course fee is for medical supplies and is non-refundable.





## 2022-2023 Course Descriptions

### **IDMS 271      Sonographic Positioning II**

**Credit Hours: 1.5 / Billing Hours: 2**

Sonography students continue to practice sonographic positioning and scanning techniques. Normal and abnormal anatomy of the abdomen including liver, biliary tree, aorta, kidney, spleen, transabdominal pelvis, thyroid, musculoskeletal and gravid uterus will be explored. (F)

- Prerequisite Course: Minimum 2.5 in IDMS 270
- Placement Score: None
- Corequisite Course: IDMS 201 and IDMS 202 and IDMS 234 and IDMS 280
- Course Note: \$109 of the course fee is for medical supplies and is non-refundable.

### **IDMS 280      Clinical Experience I**

**Credit Hours: 6 / Billing Hours: 6**

First course in a three-semester sequence of clinical application in diagnostic medical sonography. Clinical experience is provided under the direct supervision of an ARDMS Registered Sonographer. Clinical competencies will be given corresponding to completed didactic work. Performance standards are used to evaluate the student's progress. (F)

- Prerequisite Course: Minimum 2.5 in (IDMS 169 and IDMS 200 and IDMS 270)
- Placement Score: None
- Corequisite Course: IDMS 201 and IDMS 202 and IDMS 234 and IDMS 271
- Course Note: \$100 of the course fee is for supplies and is non-refundable.

### **IDMS 281      Clinical Experience II**

**Credit Hours: 7 / Billing Hours: 7**

Building on material presented in IDMS280, this is the second course in a three-semester sequence in diagnostic medical sonography. Clinical experience is provided under the direct supervision of an ARDMS Registered Sonographer. Clinical competencies will be given corresponding to completed didactic work. Performance standards are used to evaluate the student's progress. (Sp)

- Prerequisite Course: Minimum 2.5 in IDMS 280
- Placement Score: None
- Corequisite Course: IDMS 245 and IDMS 265 and IDMS 266



## 2022-2023 Course Descriptions

### **IDMS 282**

### **Clinical Experience III**

**Credit Hours: 8 / Billing Hours: 8**

Based on material presented in IDMS281, this is the last course in a three-semester sequence of clinical application in diagnostic medical sonography. Clinical experience is provided under the direct supervision of an ARDMS Registered Sonographer. Clinical competencies will be given corresponding to completed didactic work. Performance standards are used to evaluate the student's progress. (Su)

- Prerequisite Course: Minimum 2.5 in (IDMS 234 and IDMS 245 and IDMS 265 and IDMS 266)
- Placement Score: None

### **IDMS 295**

### **DMS Special Topics**

**Credit Hours: .25 to 8 / Billing Hours: .25 to 11**

This course offers students the opportunity to learn new diagnostic medical sonography career skills and knowledge. Specific up-to-date content will vary with each topic presented and will be related to diagnostic medical sonography careers. (As Needed)

- Prerequisite Course: Determined by Section
- Placement Score: Determined by Section

### **INSU 105**

### **Prin of Prop & Liability Ins**

**Credit Hours: 3 / Billing Hours: 3**

This course will help students strengthen critical written and oral communication and analytical skills, and identify sources for gaining general insurance information, including risk management and regulation of insurance companies. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6 or (Reading Level 4 and Writing Level 4 and ENGL 099 concurrently)
- Course Note: Prepares students for the AINS 21 national exam.



## 2022-2023 Course Descriptions

### **INSU 110      Personal Insurance**

**Credit Hours: 3 / Billing Hours: 3**

This course will help students strengthen critical written and oral communication and analytical skills, and identify sources for gaining personal insurance information, including home, auto, life, health and retirement options. (Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6
- Course Note:
  - Students who achieve a grade of 3.0 or above may waive the CPCU 553 national exam.
  - Prepares students for the AINS 22 national exam.

### **INSU 125      Commercial Insurance**

**Credit Hours: 3 / Billing Hours: 3**

This course will help the student strengthen critical communication and analytical skills, and identify sources for gaining commercial insurance information, including coverage for buildings, property, workers compensation, auto, etc. (Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6
- Course Note:
  - Students who achieve a grade of 3.0 or above may wave the CPCU 557 national exam.
  - Prepares students for the AINS 23 national exam.

### **INSU 175      Intro to Financial Advising**

**Credit Hours: 3 / Billing Hours: 3**

This course will help students develop analytical skills in financial advising for a career the insurance industry. This course will cover all areas including estate planning, life insurance, annuities, retirement planning, and health insurance options. (F)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 4
- Course Note: Students who achieve a grade of 3.0 or above may wave the CPCU 556 national exam.

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## 2022-2023 Course Descriptions

### **INSU 250      Claims and Underwriting**

**Credit Hours: 3 / Billing Hours: 3**

This course is an overview of the principles and practices of claims and commercial underwriting. (F,Sp,Su)

- Prerequisite Course: Minimum 3.0 in INSU 125
- Placement Score: Reading Level 5 and Writing Level 6
- Course Note:
  - Students who achieve a grade of 3.0 or above may wave the AU 60 national exam.
  - Prepares students for the AIC 30 CPCU exam.

### **INSU 260      Life/Health Insur Licensing**

**Credit Hours: 2 / Billing Hours: 2**

This course will prepare individuals for the State of Michigan life/health licensing exam and provide them with the paperwork required to take the State licensing test. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### **INSU 270      Property/Casualty Insur Licens**

**Credit Hours: 2 / Billing Hours: 2**

This course will prepare individuals for the State of Michigan property/casualty licensing exam and provide them with the paperwork required to take the State licensing exam. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### **INSU 285      Insurance Agency Operations**

**Credit Hours: 3 / Billing Hours: 3**

This course is an overview of agency operations including financial, marketing, management, IT, regulations, leadership, time management, and strategic operations. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in (INSU 105 and 110) and minimum 3.0 in INSU 125
- Placement Score: Reading Level 5 and Writing Level 6

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## 2022-2023 Course Descriptions

### **INSU 295**

### **Insurance Internship**

**Credit Hours: 3 / Billing Hours: 3**

This course is an opportunity for students to work with Lansing area insurance companies as a team member to explore various careers within the industry. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in (INSU 105 or INSU 110 or INSU 125)
- Placement Score: Reading Level 5 and Writing Level 6

### **IRXT 105**

### **Introduction to Imaging**

**Credit Hours: 2 / Billing Hours: 2**

History of the radiologic technologist profession. Fundamentals of the role of the radiographer in the health care industry including professional conduct and responsibilities of the radiographer. Ethical and legal issues in specific to radiography. Exploration of principles, practices and policies of radiology departments, modalities, and health care organizations. Basic medical terminology specific to the field of radiography. Introduction to technical factors that affect radiographic exposure. This course includes an on-site orientation to the assigned clinical setting. (F)

- Prerequisite Course: None. Admission to the Radiologic Technology Program is required
- Placement Score: Reading Level 5 and Writing Level 6 and [Math Level 5 or minimum 2.5 in (MATH 119 or STAT 170 or STAT 215)].
- Course Note: \$85 of the course fee is for medical supplies and is non-refundable.

### **IRXT 111**

### **Radiographic Positioning I**

**Credit Hours: 6 / Billing Hours: 6**

Student radiographers are introduced to radiographic positioning of the upper and lower extremity, chest, abdomen, bony thorax, pelvis, and spine. Associated topographic, skeletal, chest, and abdominal anatomy is studied. A laboratory experience is provided to evaluate the student skills in performing each position/projection. (F)

- Prerequisite Course: None. Admission to Radiologic Technology Program is required.
- Placement Score: None
- Course Note: \$5 of the course fee is for medical supplies and is non-refundable.

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## 2022-2023 Course Descriptions

### **IRXT 112      Radiographic Positioning II      Credit Hours: 6 / Billing Hours: 6**

A continued study of routine radiographic positioning with the addition of fluoroscopic procedures. Included are studies of the skull, G.I. tract, G.U. tract, myelography, and bronchography. In addition, various contrast media are studied. Laboratory experiences are provided to evaluate student skills in performing selected position/projections. (Sp)

- Prerequisite Course: Minimum 2.5 in all previous required IRXT courses.
- Placement Score: None
- Course Note: \$5 of the course fee is for medical supplies and is non-refundable.

### **IRXT 116      Patient Care in Radiography      Credit Hours: 2 / Billing Hours: 3**

Concepts of optimal care for the physical and psychological needs of the patient and family. Fundamental procedures for routine patient identification, patient education, communication, standard precautions, aseptic techniques, infection control, venipuncture, and vital signs. Emergency patient care procedures are studied. Examination of the impact of a patient's beliefs and culture on health care. CPR/BLS certification included. (F)

- Prerequisite Course: None. Admission to the Radiologic Technology Program is required.
- Placement Score: None
- Course Note: \$40 of the course fee is for medical supplies and is non-refundable.

### **IRXT 123      Radiographic Independent Study      Credit Hours: 1 to 4 / Billing Hours: 1 to 7**

Provides selection of content from the Radiologic Technology curriculum to update or enhance current knowledge and skill for returning students and health care professionals. Through evaluation of previous learning, examinations, self study, and scheduling into needed lectures and labs students are advanced placed or readmitted into the Radiologic Technology Program. (F,Sp,Su)

- Prerequisite Course: None. Program Approval is required.
- Placement Score: None

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## 2022-2023 Course Descriptions

### **IRXT 140      Image Analysis**

**Credit Hours: 2 / Billing Hours: 2**

Analysis of radiographic images. Included are the importance of optimal imaging standards, discussions of problem-solving techniques for image evaluation and the factors that can affect image quality. Discussion of implications of patient care and patient dose. Knowledge of procedures and characteristics of image characteristics. Emphasis on appropriate corrective action. Actual images will be included for analysis. (Sp)

- Prerequisite Course: Minimum 2.5 in all previous required IRXT courses.
- Placement Score: None

### **IRXT 144      Digital Imaging and Exposure**

**Credit Hours: 2 / Billing Hours: 2**

Understanding of the components, principles and operation of digital imaging systems found in diagnostic radiology. Factors that impact image acquisition, display, archiving and retrieval are discussed. Principles of digital system quality assurance and maintenance are presented. Examination of technical factors that govern radiographic exposure and affect the image production process. (Sp)

- Prerequisite Course: Minimum 2.5 in all previous required IRXT courses.
- Placement Score: None

### **IRXT 170      Clinical Practice I**

**Credit Hours: 4 / Billing Hours: 4**

This course is the first in a two-semester sequence of clinical application in radiography designed with required and specific patient care and clinical radiographic examination competencies under direct supervision of an ARRT Registered Technologist. Students must obtain a minimum number of competencies to progress to the next semester. Performance standards are used to evaluate student achievement. (Sp)

- Prerequisite Course: Minimum 2.5 in all previous required IRXT courses.
- Placement Score: None



## 2022-2023 Course Descriptions

### **IRXT 172**

### **Clinical Practice II**

**Credit Hours: 6 / Billing Hours: 6**

Second in a two-semester sequence of clinical application in radiography. Clinical experience is provided under the direct supervision of an ARRT Registered Technologist. A minimum number of clinical competencies must be obtained corresponding to completed didactic work to be eligible to continue in the program. Performance standards are used to evaluate the student's achievement. (Su)

- Prerequisite Course: Minimum 2.5 in all previous required IRXT courses.
- Placement Score: None

### **IRXT 200**

### **Intro to Radiologic Pathology**

**Credit Hours: 2 / Billing Hours: 2**

Emphasizes how disease processes are diagnosed radiographically and the relationship of the radiographic appearance of the disease to its anatomic, physiologic, and pathologic characteristics. The etiology, treatment, and resolution of each disease is discussed with an attempt to relate more recent advances in these areas. (Sp)

- Prerequisite Course: Minimum 2.5 in all previous required IRXT courses.
- Placement Score: None

### **IRXT 214**

### **Comprehensive Experience I**

**Credit Hours: 6 / Billing Hours: 6**

First in a two-semester sequence of advanced clinical application in radiography. Clinical experience is provided under the direct/indirect supervision of an ARRT Registered Technologist. A minimum number of clinical competencies must be obtained corresponding to appropriate levels of supervision to be eligible to progress to the next semester. Students must demonstrate maintenance of previously obtained competencies. Performance standards are used to evaluate the student's achievement. (F)

- Prerequisite Course: Minimum 2.5 in all previous required IRXT courses.
- Placement Score: None



## 2022-2023 Course Descriptions

### **IRXT 215**

### **Comprehensive Experience II**

**Credit Hours: 6 / Billing Hours: 6**

Final semester in advanced clinical application in radiography. Clinical experience is provided under the direct/indirect supervision of an ARRT Registered Technologist. Students are expected to demonstrate maintenance of previously obtained competencies. Students meeting established criteria may be eligible to participate in observing additional modalities. All mandatory/elective competencies must be completed this semester to be ARRT Registry eligible. Performance standards are used to evaluate the student's achievement. (Sp)

- Prerequisite Course: Minimum 2.5 in all previous required IRXT courses.
- Placement Score: None

### **IRXT 222**

### **Radiobiology and Protection**

**Credit Hours: 2 / Billing Hours: 2**

This course focuses on the rationale for good radiation hygiene and methods used to protect the patient and technologist from radiation exposure. Current theories and events regarding the physiological effects of ionizing radiation are also explored. (F)

- Prerequisite Course: Minimum 2.5 in all previous required IRXT courses.
- Placement Score: None

### **IRXT 224**

### **Radiologic Physics**

**Credit Hours: 4 / Billing Hours: 4**

Basic physical principles, measurement, structure of matter, electrostatics and magnetism, are related to the radiologic process. A study of elementary electricity and the operation of the x-ray circuit are presented. Examination of design and function of radiographic, fluoroscopic and mobile equipment. Finally, advanced topics regarding the formation of radiation and care of the X-ray tube are studied. Discussion of quality assurance and quality control. (F)

- Prerequisite Course: Minimum 2.5 in all previous required IRXT courses.
- Placement Score: None



## 2022-2023 Course Descriptions

### **IRXT 240 Sectional Anatomy**

**Credit Hours: 2 / Billing Hours: 2**

This course provides an overview of transverse, coronal, and sagittal sectional anatomy of the human body. Special emphasis is placed on a study of the head and brain, thorax, abdomen, and pelvis. The shoulder, elbow, hip, and knee are also examined. (Su)

- Prerequisite Course: Minimum 2.5 in BIOL 145 or (BIOL 201 and BIOL 202)
- Placement Score: Reading Level 5 and Writing Level 6 and [Math Level 5 or (minimum 2.5 in MATH 119 or STAT 170 or STAT 215)]

### **IRXT 280 Radiologic Tech Board Review**

**Credit Hours: 2 / Billing Hours: 2**

This course is designed to help prepare students for the American Registry of Radiologic Technologist (ARRT) national board exam. The course is divided into weekly assignments covering material that was presented throughout the previous year's radiography courses. Students are required to successfully pass a mock registry exam to complete this course. (Sp)

- Prerequisite Course: Minimum 2.5 in all previous required IRXT courses.
- Placement Score: None
- Course Note: \$180 of the course fee is non-refundable.

### **IRXT 295 Radiologic Tech Special Topics**

**Credit Hours: .25 to 8 / Billing Hours: .25 to 11**

This course offers students the opportunity to learn new radiologic technology career skills and knowledge. Specific up-to-date content will vary with each topic presented and will be related to radiologic technology careers. (As Needed)

- Prerequisite Course: Determined by Section
- Placement Score: Determined by Section

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## 2022-2023 Course Descriptions

### ISCI 121

### Integrated Sci for Education I

**Credit Hours: 4 / Billing Hours: 6**

The first of two general science courses focusing on the fundamental behavior of matter and energy, incorporating topics from physics, chemistry, biology, and geology. Science processes, methods, and reasoning skills are emphasized throughout. Experiments and hands-on activities are integrated with lecture topics. Recommended for education majors. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6 and [Math Level 4 or Minimum 2.0 in (MATH 105 or MATH 106)]
- Course Note: One option for the required class project involves a 12-hour (1-hour per week) experience in an elementary school classroom.

### ISCI 122

### Integrate Sci for Education II

**Credit Hours: 4 / Billing Hours: 6**

The second of two general science courses focusing on the biological and ecological nature of our universe, using a historical and integrative approach. Science processes, methods, and reasoning skills are emphasized throughout. Recommended for education majors. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 4
- Recommended: ISCI 121
- Course Note: One option for the required class project involves a 12-hour (1-hour per week) experience in an elementary school classroom.

### ISCI 131

### Integrated Physical Science

**Credit Hours: 4 / Billing Hours: 6**

A general education course designed to provide students with a basic understanding of the methods and applications of science. Topics include basic chemistry, thermodynamics, the hydrologic cycle, earth science, climate, and weather. Critical thinking and problem-solving skills are applied to environmental issues. Laboratory activities illustrate and amplify lecture topics. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6 and [Math Level 4 or Minimum 2.0 in (MATH 105 or MATH 106)]

## 2022-2023 Course Descriptions

### ISCI 245

### S.T.E.M. Workplace Practices

**Credit Hours: 4 / Billing Hours: 6**

This course will introduce students to vital concepts encountered by employees working in advanced technology regulated environments within the emerging global economy. This covers four main areas of working in an advanced technology environment: process control, safety and security, legal and ethical issues, and essential math and science skills. The lab work emphasizes systems thinking and continuous improvement concepts discussed during lecture. (Sp)

- Prerequisite Course: Minimum 2.0 in (MATH 119 or STAT 170) or MATH 109 concurrently or Math Level indicated below
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 5
- Recommended: A science laboratory course

### JAPN 121

### Elementary Japanese I

**Credit Hours: 4 / Billing Hours: 4**

This is the first course of a two-semester sequence in elementary Japanese. Students gain basic knowledge of communication skills through speaking, reading, writing, and listening comprehension. Practical communication is emphasized. Aspects of Japanese culture are introduced through multi-media presentations. Hiragana and Katakana syllabaries and basic Kanji are introduced. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 or (Reading Level 4 and ENGL 099 concurrently)

### JAPN 122

### Elementary Japanese II

**Credit Hours: 4 / Billing Hours: 4**

Second course of a two-semester sequence in elementary Japanese. Students receive more practice in Japanese for practical communication. Develops speaking, reading, writing, and listening skills. Previously acquired knowledge and skills are refined and ability to communicate in Japanese is increased. Emphasis is on practical communication. Additional Kanji are introduced. Aspects of Japanese culture are introduced through multi-media presentations. (Sp,Su)

- Prerequisite Course: Minimum 2.0 in JAPN 121 or equivalent
- Placement Score: Reading Level 5 or (Reading Level 4 and ENGL 099 concurrently)



## 2022-2023 Course Descriptions

### **JAPN 201**      **Intermediate Japanese I**      **Credit Hours: 4 / Billing Hours: 4**

First course of a two-semester sequence in intermediate Japanese. Includes introduction of more advanced grammar, vocabulary building, composition, group discussions, and more information on Japanese culture and everyday life. Emphasis is on practical communication in Japanese in Japanese. Additional Kanji are introduced. Various aspects of Japanese culture are introduced through multi-media presentations. (F)

- Prerequisite Course: Minimum 2.0 in JAPN 122 or equivalent
- Placement Score: Reading Level 5 or (Reading Level 4 and ENGL 099 concurrently)

### **JAPN 202**      **Intermediate Japanese II**      **Credit Hours: 4 / Billing Hours: 4**

Continuation of JAPN 201. Includes more advanced grammar, intensive vocabulary building, writing composition, reading contemporary materials, discussions, and student presentations on Japanese language or culture. Additional Kanji are introduced. Natural and practical communication is emphasized. Various aspects of Japanese culture are introduced through multi-media presentations. (Sp)

- Prerequisite Course: Minimum 2.0 in JAPN 201 or equivalent
- Placement Score: Reading Level 5 or (Reading Level 4 and ENGL 099 concurrently)

### **JRNL 151**      **Newswriting and Reporting**      **Credit Hours: 3 / Billing Hours: 3**

Introduction to and practice in writing news stories. Students learn news terminology, style, objectivity, attribution, accuracy, and copy-editing skills. Basic news gathering and reporting tactics are presented and practiced. (F)

- Prerequisite Course: Minimum 2.0 in ENGL 121 or ENGL 131
- Placement Score: Reading Level 5 and Writing Level 8
- Recommended: Computer and/or keyboarding experience

### **JRNL 254**      **Opinion Writing**      **Credit Hours: 3 / Billing Hours: 3**

A course in how to write effective editorials. Students analyze content, structure and style of editorial models, learn methods of finding subjects, learn methods of research, and write editorials and articles on important issues. (Sp)

- Prerequisite Course: Minimum 2.0 in (JRNL 151 or ENGL 121 or ENGL 131)
- Placement Score: Reading Level 5 and Writing Level 8
- Recommended: Computer and/or keyboarding experience.

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## 2022-2023 Course Descriptions

### **LABR 200      Intro to Labor Relations      Credit Hours: 3 / Billing Hours: 3**

This course surveys both historical and legal frameworks of the labor movement. Major labor laws, causes and goals of the labor movement, and union structure and behavior will be discussed. Students will explore both labor and management approaches to solving employment disputes. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### **LABR 204      Employment Law for Managers      Credit Hours: 3 / Billing Hours: 3**

This course provides an introduction and overview to the principles and application of laws affecting the workplace, not including traditional labor relations law. Areas of law covered include discrimination, wage-hour, unemployment benefits, personnel records, and common law issues relating to discharge and other matters. (Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### **LEAD 110      Leadership Development I      Credit Hours: 2 / Billing Hours: 2**

LEAD 110 will help students develop leadership skills through study, observation, and application. Assists students in increasing their understanding of themselves, and the theories and techniques of leadership. Course topics include developing a personal leadership philosophy, leading by serving, understanding ethical leadership, articulating a vision, team building and leading with goals. (F)

- Prerequisite Course: None. Department Approval Required
- Placement Score: None

### **LEAD 111      Leadership Development II      Credit Hours: 2 / Billing Hours: 2**

LEAD 111 will help students develop leadership skills through study, observation, and application. Assists students in increasing their understanding of themselves, and the theories and techniques of leadership. Course topics include making decisions as a leader, guiding others through conflict, realizing change, and empowering others as a servant leader. (Sp)

- Prerequisite Course: Minimum 2.0 in LEAD 110

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## 2022-2023 Course Descriptions

### **LEGL 110      Editing Legal Documents**

**Credit Hours: 2 / Billing Hours: 2**

This course is an in-depth exposure to common legal documents and vocabulary students will encounter in any law office. Students will learn to read, analyze, proofread and edit legal documents applying sound legal and English fundamentals. Standard reference materials and their importance with respect to legal documents will be emphasized. (F, Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### **LEGL 115      Introduction to Legal Studies**

**Credit Hours: 3 / Billing Hours: 3**

Introduction to the paralegal's role in the legal system, including essential skills used in the litigation process and law practice. Introduces student to legal terminology, legal analysis, procedural, and substantive law. Students will produce a resume and cover letter and prepare for and practice mock employment interviewing skills and practice mock client interviews modeling legal professional ethical standards. Surveys paralegal employment and regulation. 2.0 minimum required to continue program. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### **LEGL 125      Legal Research and Writing I**

**Credit Hours: 4 / Billing Hours: 4**

Students learn research procedures and resources to find federal and Michigan law. Assignments utilize appropriate legal citation form, off-campus law libraries and online legal research tools. Students analyze court opinions and apply them to fact situations to write summaries of court opinions and draft legal documents. Learning methods include reading, discussion, lecture, and writing. (F)

- Prerequisite Course: Minimum 2.0 in ENGL 121
- Placement Score: (Reading Level 5 and Writing Level 6) or Post-Bachelor student enrolled in (0744) program

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## 2022-2023 Course Descriptions

### **LEGL 160      Critical Thinking in Law**

**Credit Hours: 3 / Billing Hours: 3**

This course strongly emphasizes the "learn by doing" approach, specifically by utilizing group dynamics. The panorama of thinking skills, particularly those relevant in law and criminal justice, will be examined and practiced. Innovative evaluation skills, both personal and group, are a regular part of each session. (F,Sp)

- Prerequisite Course: None
- Placement Score: None

### **LEGL 211      Tort Law**

**Credit Hours: 2 / Billing Hours: 2**

Covers principles of negligence, intentional torts, and strict liability. Emphasizes the role of the paralegal in dealing with these areas of law in actual practice situations. (F,Sp)

- Prerequisite Course: Minimum 2.0 in LEGL 115 or concurrently
- Placement Score: Reading Level 5 and Writing Level 6

### **LEGL 212      Litigation Procedures**

**Credit Hours: 4 / Billing Hours: 4**

Provides in-depth study of pre-trial, trial, and post-trial practice and procedure. Emphasizes Michigan and federal rules of court. Detailed study of drafting pleadings, discovery procedures, and case preparation for trial and appeal. Also covers evidentiary rules as they relate to trial practice and preparation. (F, Sp)

- Prerequisite Course: Minimum 2.0 in (LEGL 115 and LEGL 211)
- Placement Score: Reading Level 5 and Writing Level 6

### **LEGL 215      Business Law-Basic Principles**

**Credit Hours: 3 / Billing Hours: 3**

Introduction to the legal system, its purpose, and the fundamental principles of various areas of the law. Course content includes sources of law, court procedures, contracts, torts, crimes, and constitutional rights. Taught in traditional classroom style or online. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: None

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## 2022-2023 Course Descriptions

### **LEGL 216      Commercial Transactions      Credit Hours: 3 / Billing Hours: 3**

An in-depth analysis of the Uniform Commercial Code allows students to explore the law of sales, commercial paper, secured transactions, banking, insurance, and debtor-creditor rights. Taught in traditional classroom style or online. (F,Sp)

- Prerequisite Course: Minimum 2.0 in LEGL 215
- Placement Score: None

### **LEGL 217      Business Organizations      Credit Hours: 3 / Billing Hours: 3**

Introduces basic business organizations, including agency law, partnerships, sole proprietorships, and corporations. Additionally, the course will delve into government regulation of business, real estate, wills, trusts, and estates. Taught in traditional classroom style or online. (F,Sp)

- Prerequisite Course: Minimum 2.0 in LEGL 215
- Placement Score: None

### **LEGL 218      Litigation Specialties      Credit Hours: 3 / Billing Hours: 3**

Covers several specialty areas of law, for example personal injury, professional malpractice, products liability, workers' compensation, and no-fault auto insurance. Emphasizes role of paralegal in these practice areas, including drafting of legal instruments. (F)

- Prerequisite Course: Minimum 2.0 in LEGL 115 or concurrently
- Placement Score: Reading Level 5 and Writing Level 6

### **LEGL 219      Adv Busn Law for Acct Majors      Credit Hours: 4 / Billing Hours: 4**

This course is intended for students majoring in accounting who have a goal of becoming a Certified Public Accountant (CPA). This course covers the law of sales; commercial paper; security devices; debtor-creditor relations; bankruptcy; insurance; agency; partnership; corporations; wills, trusts and estates; employment regulation; real property; and accountant's liability. (F,Sp)

- Prerequisite Course: Minimum 2.0 in LEGL 215
- Placement Score: None
- Recommended: Accounting background

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## 2022-2023 Course Descriptions

### **LEGL 221      Real Estate Transactions      Credit Hours: 3 / Billing Hours: 3**

Covers fundamental principles of real estate property law and introduces the student to common types of real estate transactions encountered by a paralegal in a typical real estate practice. Subject matter includes deeds, land contracts, mortgages, title insurance, environmental issues, forfeitures and foreclosures, and landlord-tenant relationships. (As Needed)

- Prerequisite Course: Minimum 2.0 in (LEGL 115 or concurrently)
- Placement Score: Reading Level 5 and Writing Level 6

### **LEGL 222      Probate Law and Procedure      Credit Hours: 3 / Billing Hours: 3**

Probate process will be addressed in detail, from commencement of proceedings through closing the estate of a decedent. Other topics will include wills, trusts, and related topics. Emphasis is on the part played by the paralegal in preparation of documents and other probate practice tasks. (As Needed)

- Prerequisite Course: Minimum 2.0 in (LEGL 115 or concurrently)
- Placement Score: Reading Level 5 and Writing Level 6

### **LEGL 223      Domestic Relations      Credit Hours: 3 / Billing Hours: 3**

Covers marriage, divorce, separation, annulment, paternity proceedings, custody, support, property division, and other areas of domestic relations law. Emphasis will be on the paralegal's role in dealing with clients and applying appropriate statutes, case law, and court rules as part of a domestic law practice. (As Needed)

- Prerequisite Course: Minimum 2.0 in (LEGL 115 or concurrently)
- Placement Score: Reading Level 5 and Writing Level 6

### **LEGL 224      Administrative Law      Credit Hours: 3 / Billing Hours: 3**

The relationship of governmental administrative agencies to private citizens is explored by studying how law is created and enforced by such agencies at the state and federal levels. Paralegal students will focus on topics including rule making procedures, regulations, adjudication, licensing, and informal action. (As Needed)

- Prerequisite Course: Minimum 2.0 in (LEGL 115 or concurrently)
- Placement Score: Reading Level 5 and Writing Level 6

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## 2022-2023 Course Descriptions

### **LEGL 225      Legal Research and Writing II      Credit Hours: 3 / Billing Hours: 3**

Reviews principles of legal research, analysis, and writing. Introduces student to computer-assisted legal research (e.g. Lexis or Westlaw). Student will draft legal memoranda and a trial court brief based on extensive research assignments in Michigan publications. (Sp)

- Prerequisite Course: Minimum 2.0 in LEGL 125
- Placement Score: Reading Level 5 and Writing Level 6

### **LEGL 227      Bankruptcy and Collections      Credit Hours: 3 / Billing Hours: 3**

Explores federal bankruptcy law and procedure with emphasis on the paralegal's role in collecting information, interviewing clients, and preparing documents. Topics include a comparison of selected chapters within the bankruptcy code, exemptions, preferences, petitions, schedules, and the part played by the bankruptcy trustee. (As Needed)

Prerequisite Course: Minimum 2.0 in (LEGL 115 or concurrently) Placement Scores: Reading Level 5 and Writing Level 6

- Prerequisite Course: Minimum 2.0 in (LEGL 115 or concurrently)
- Placement Score: Reading Level 5 and Writing Level 6

### **LEGL 228      Computer Appl for the Law Ofc      Credit Hours: 3 / Billing Hours: 3**

This course focuses on computer technology as it is applied within the law office, including the use of computers to perform paralegal functions in litigation support, legal research using tools including Lexis or Westlaw, communication and case management applications, such as calendar and docket control. (Sp)

- Prerequisite Course: Minimum 2.0 in (CITF 110 or CITA 119) or Post Bachelor Student enrolled in 0744 program
- Placement Score: Reading Level 5 and Writing Level 6

### **LEGL 229      Immigration Law      Credit Hours: 3 / Billing Hours: 3**

This course covers fundamental principles and practical application of Immigration Law with emphasis on the paralegal's role. Topics will include sources, history, and future of immigration law, visas, citizenship, refugee/asylum, removal and defenses, impact on other areas of law, and working with clients from cultures around the world. (Sp)

- Prerequisite Course: Minimum 2.0 in LEGL 115 or concurrently
- Placement Score: Reading Level 5 and Writing Level 6

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## 2022-2023 Course Descriptions

### **LEGL 251      Paralegal Independent Study      Credit Hours: 1 to 3 / Billing Hours: 1 to 3**

This course provides a study of specific current or classic legal topics and issues that affect legal assistants/paralegals. Students, with the assistance of the instructor, select a topic, then develop and execute a plan to independently examine the topic by reviewing written materials and/or interviewing people in the field. (F,Sp,Su)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None
- Course Note: Department approval to enroll in these CRNs can be requested by calling the Paralegal/Legal Assistant Program office at (517) 483-5228.

### **LEGL 270      Paralegal Certification Prep      Credit Hours: 3 / Billing Hours: 3**

This course provides a review and preparation for testing for the Certified Paralegal exam administered by the National Association of Legal Assistants. Students will be evaluated on interviewing skills, modeling ethical behavior, legal terminology, substantive and procedural law, research, judgement, and analysis. (Sp)

- Prerequisite Course: Minimum 2.0 in (LEGL 210) and [(LEGL 216 and LEGL 217 and LEGL 225 and LEGL 228) or concurrently]
- Placement Score: Reading Level 5 and Writing Level 6 and Department Approval
- Course Note: Department approval to enroll in this class can be requested by calling the Paralegal/Legal Assistant Program office at 517-483-5228.

### **LEGL 280      Paralegal Internship      Credit Hours: 3 / Billing Hours: 3**

Students will experience the paralegal career by working in a supervised capacity. Placements include private law firms, governmental law offices, courts, corporations, and other law-related settings. Requirements include at least 160 hours in the workplace, weekly reports, periodic meetings, and performance evaluations by on-site supervisor. (F,Sp,Su)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None
- Course Note: Department Approval requires a completed application submitted to the Public Service Careers Office. Students must bring their driver's license with the application. Worksite placements must be discussed and assigned by instructor. Students will be notified by phone upon acceptance into the course of the class meeting time arranged by the instructor.

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## 2022-2023 Course Descriptions

### **LEGL 295      Special Topics in Paralegal      Credit Hours: .25 to 8 / Billing Hours: .25 to 11**

This course offers students the opportunity to learn advanced skills in paralegal practice by focusing on specific areas of legal practice. Specific content may vary with each offering. (As Needed)

- Prerequisite Course: Determined by Section

### **LING 230      Introduction to Linguistics      Credit Hours: 3 / Billing Hours: 3**

Examines human language from the perspective of contemporary American linguistics: generative syntax, phonology, and morphology. Special attention to the structure of English. Considers regional and social variation, and implications for teachers of language skills. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5

### **MASG 132B      Anatomy/Physiology Massage II      Credit Hours: 1.5 / Billing Hours: 2**

An introductory course in human anatomy and physiology that combines lecture and laboratory experiences to provide a basic understanding of the structure and function of the cardiovascular, respiratory, endocrine, digestive, special sensory, lymphatic, immune, urinary, and reproductive systems of the human body. It is designed for students enrolled in the Massage Program to prepare for licensing exams and professional practice. (F,Sp)

- Prerequisite Course: Minimum 2.5 in all previous required MASG courses. Program approval is required.
- Placement Score: Reading Level 5 and Writing Level 6
- Course Note: Effective through Summer 2023. This course will be replaced by MSGE 132B.

## 2022-2023 Course Descriptions

### **MASG 139B Pathology for Massage II**

**Credit Hours: 1 / Billing Hours: 1**

This course will introduce students to the pathology of the integumentary, cardiovascular, lymphatic, immune, endocrine, respiratory, digestive, urinary, and reproductive body systems and will address the positive or negative impact that massage may have on those conditions. Students will learn to apply this knowledge to decision-making skills for client care.(F,Sp)

- Prerequisite Course: Minimum 2.5 in all previous required MASG courses. Program approval is required.
- Placement Score: Reading Level 5 and Writing Level 6
- Course Note: Effective through Summer 2023. This course will be replaced by MSGE 139B.

### **MASG 141 Massage Clinic I**

**Credit Hours: 1.5 / Billing Hours: 2.5**

Students will progressively utilize the knowledge, skills, and practical experience attained throughout the Massage Program in a clinical setting and in event massage. The student will be engaged in weekly scheduled massage sessions with clients in this first of three clinical courses. (F,Sp)

- Prerequisite Course: Minimum 2.5 in all previous required MASG courses. Program Approval is required.
- Placement Score: Reading Level 5 and Writing Level 6
- Course Note: Effective through Summer 2023. This course will be replaced by MSGE 141.

### **MASG 151A Research Literacy**

**Credit Hours: 1.5 / Billing Hours: 1.5**

Students will discover the value of clinical research to the massage therapy profession by learning to identify sources of research literature in the massage therapy field, interpreting those findings, and applying the evidence to treatment planning. They will also learn how to become involved in current research. (F)

- Prerequisite Course: Minimum 2.5 in all previous required MASG courses. Program Approval is required.
- Placement Score: Reading Level 5 and Writing Level 6
- Course Note: Effective through Summer 2023. This course will be replaced by MSGE 151A.



## 2022-2023 Course Descriptions

### **MASG 151B Event Massage**

**Credit Hours: 1.5 / Billing Hours: 1.5**

This course prepares the student to perform corporate-venue office massage and massage prior to and following an athletic event or training session. Techniques cover table, on-site chair, and tabletop chair equipment options. Thermal injuries, the use of ice and heat to supplement the healing effects of massage, cross-fiber friction techniques, and indications, contraindications and procedures of event massage are also covered. (F)

- Prerequisite Course: Minimum 2.5 in all previous required MASG courses. Program Approval is required.
- Placement Score: Reading Level 5 and Writing Level 6
- Course Note: Effective through Summer 2023. This course will be replaced by MSGE 151B.

### **MASG 231 Massage II**

**Credit Hours: 4 / Billing Hours: 4**

This course will introduce the student to clinical massage techniques. Students will learn anatomy, physiology, and kinesiology of specific muscles of the superficial front line, superficial back line, and lateral line followed by clinical massage techniques and stretches to treat these areas. (F,Sp)

- Prerequisite Course: Minimum 2.5 in all previous required MASG courses. Program approval required.
- Placement Score: Reading Level 5 and Writing Level 6
- Course Note: Effective through Summer 2023. This course will be replaced by MSGE 231.

### **MASG 232 Massage III**

**Credit Hours: 4 / Billing Hours: 4**

This course will continue to introduce the student to clinical massage techniques. Students will learn anatomy, physiology and kinesiology of specific muscles of the spiral line, arm line, and deep front line followed by clinical massage techniques and stretches to treat these areas. (Sp)

- Prerequisite Course: Minimum 2.5 in all previous required MASG courses. Program Approval is required.
- Placement Score: Reading Level 5 and Writing Level 6
- Course Note: Effective through Summer 2023. This course will be replaced by MSGE 232.

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## 2022-2023 Course Descriptions

### **MASG 235      Licensing Exam Prep**

**Credit Hours: 1 / Billing Hours: 1**

This course is designed to prepare massage students or practicing massage therapists to study for national massage exams. It will review all areas of the licensing exams content and cover test taking strategies. (Sp,Su)

- Prerequisite Course: Minimum 2.5 in all previous required MASG courses. Program Approval is required. Basic Life Support (BLS) certification from American Heart Association or American Red Cross valid through the end of the class or Passing grade in NCHE 102 or NCHE 103 within 2 years.
- Placement Score: Reading Level 5 and Writing Level 6
- Course Note: Effective through Summer 2023. This course will be replaced by MSGE 235.

### **MASG 241      Massage Clinic II**

**Credit Hours: 1.5 / Billing Hours: 2.5**

Students will progressively utilize the knowledge, skills, and practical experience attained throughout the Massage Program in a clinical setting and in an event massage. The student will be engaged in weekly scheduled massage sessions with clients in this second of three clinical courses. (Sp)

- Prerequisite Course: Minimum 2.5 in all previous required MASG courses. Program Approval is required.
- Placement Score: Reading Level 5 and Writing Level 6
- Course Note: Effective through Summer 2023. This course will be replaced by MSGE 241.

### **MASG 242      Massage Clinic III**

**Credit Hours: 1.75 / Billing Hours: 3**

Students will progressively utilize the knowledge, skills, and practical experience attained throughout the Massage Program in a clinical setting and in event massage. The student will be engaged in weekly scheduled massage sessions with clients in this last of three clinical courses. (Sp,Su)

- Prerequisite Course: Minimum 2.5 in all previous required MASG courses. Program Approval is required.
- Placement Score: Reading Level 5 and Writing Level 6
- Course Note: Effective through Summer 2023. This course will be replaced by MSGE 242.



## 2022-2023 Course Descriptions

### MASG 251A Polarity Therapy

**Credit Hours: 1 / Billing Hours: 1**

Polarity therapy balances the human energy field. Students will learn polarity energetic theory and a basic flow of hands-on polarity energy balancing techniques. Topics will also include how to locate specialized training programs and how to blend polarity techniques into a massage session. (Sp,Su)

- Prerequisite Course: Minimum 2.5 in all previous required MASG courses. Program Approval is required.
- Placement Score: Reading Level 5 and Writing Level 6
- Course Note: Effective through Summer 2023.

### MASG 251D Positional Release

**Credit Hours: 1 / Billing Hours: 1**

Positional Release is a massage technique for decreasing or eliminating muscle hypertonicity and its resultant neuromuscular discomfort. This technique is painless for the client and allows the massage therapist to use deeper pressure techniques in the previously hypersensitive muscle. (F,Sp)

- Prerequisite Course: Minimum 2.5 in all previous required MASG courses. Program Approval is required.
- Placement Score: Reading Level 5 and Writing Level 6
- Course Note: Effective through Summer 2023.

### MASG 254 Busn App for Massage

**Credit Hours: 2 / Billing Hours: 2**

This course introduces students to aspects of business and marketing in the field of massage and body work. Emphasis is placed on development of a professional and personal business sense using planning and persistence, client-practitioner relationships, research, marketing strategy, goal-setting, motivation, and professional legalities. (Sp,Su)

- Prerequisite Course: Minimum 2.5 in all previous required MASG courses. Program Approval is required.
- Placement Score: Reading Level 5 and Writing Level 6
- Course Note: Effective through Summer 2023. This course will be replaced by MSGE 254.



## 2022-2023 Course Descriptions

### **MASG 256 Clinical Assess for Massage**

**Credit Hours: 2 / Billing Hours: 2**

This course introduces the student to a systematic method of deciding which specific massage techniques to apply and when to apply them. Students use newly acquired assessment skills to gather data to deal effectively with common musculoskeletal complaints, and then apply critical thinking skills to formulate a treatment plan that best addresses the issues identified. (F,Sp)

- Prerequisite Course: Minimum 2.5 in all previous required MASG courses. Program Approval is required.
- Placement Score: Reading Level 5 and Writing Level 6
- Course Note: Effective through Summer 2023. This course will be replaced by MSGE 256.

### **MATH 097 Support for MATH119 or STAT170**

**Credit Hours: 2 / Billing Hours: 2**

This course provides support for students enrolled in Math 119 or Stat 170. Topics include numeracy, mathematical thinking & investigations, proportional reasoning, algebraic modeling, basic geometry and statistical concepts. Graphing calculator and real-life applications are integrated through the course. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: [Reading Level 5 and Writing Level 4 or (Reading Level 4 and Writing Level 4 and ENGL 099 concurrently)] and (SAT Math 400-510 or ACT Math 15-19 or CPT Algebra 50-76 or QRAS 225-259)
- Corequisite Course: Math 119 or Stat 170
- Course Note:
  - This co-support course, MATH 097, must be taken during the same semester as the college level course (MATH 119 or STAT 170). Contact your instructor to discuss options if either course is dropped during the semester or if a passing grade is not achieved at the end of the semester.
  - Graphing calculator required. TI-83/84 series calculators recommended; TI-84 Plus CE highly recommended.



## 2022-2023 Course Descriptions

### **MATH 098 Support for MATH120**

**Credit Hours: 2 / Billing Hours: 2**

This course provides embedded academic support for students enrolled in MATH 120. Topics include a study of relations and functions, inequalities, algebraic expressions and equations, with a special emphasis on linear and quadratic expressions and equations, and any additional topics, as needed, to support the content of MATH120. (F,Sp)

- Prerequisite Course: None
- Placement Score: (Reading Level 5 and Writing Level 4) or (Reading Level 4 and Writing Level 4 and ENGL 099 concurrently) and (SAT Math 540 or ACT Math 20-21 or CPT CLM 45-54 or Accuplacer QRAS 272-300 or Accuplacer AAF 235-244)
- Corequisite Course: MATH 120
- Course Note:
  - This co-support course, MATH 098, must be taken during the same semester as MATH 120. Contact your instructor to discuss options if either course is dropped during the semester or if a passing grade is not achieved at the end of the semester.
  - Graphing calculator required. TI-83/84 series calculators recommended; TI-84 Plus CE highly recommended.
  - Class attendance is strongly recommended; participation is a significant and important part of the course to enable success in Math 120.



## 2022-2023 Course Descriptions

### **MATH 105**

### **Mathematical Literacy**

**Credit Hours: 4 / Billing Hours: 4**

Provides the skills needed for selected Core Math courses. Topics include numeracy, mathematical thinking and investigations, proportional reasoning, basic algebraic concepts, functions (linear and exponential), and basic statistical concepts. Graphing calculator required. Graphing calculator, spreadsheets and internet resources, as well as real-life applications are integrated throughout the course. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 or (Reading Level 4 and ENGL 099 concurrently) and Writing Level 2 and (Math Level 4 or Minimum 2.0 in MATH 050 or CPT Arithmetic score minimum 58 or ACT Math 15-17 or SAT Math 400-470 or Accuplacer NG Arithmetic score minimum 245)
- Course Note:
  - This course is the pre-req for MATH 109, which leads to MATH 120.
  - Information about course materials will be available to students the first day of class or earlier from your instructor. All enrolled students are required to purchase the workbook bundle through LCC's bookstore to ensure a valid access code is obtained.
  - A graphing calculator from the TI-83/84 family is required for course work. TI-84 Plus CE is recommended.

1195

*F=Fall; Sp=Spring; Su=Summer*

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## 2022-2023 Course Descriptions

### **MATH 106**

### **Math Literacy with Review**

**Credit Hours: 6 / Billing Hours: 6**

Provides the skills needed for selected Core Math courses. Topics include numeracy, mathematical thinking and investigations, proportional reasoning, basic algebraic concepts, functions (linear and exponential), and basic statistical concepts. Graphing calculator, spreadsheets and internet resources, as well as real-life applications are integrated throughout the course. Includes review of basic math skills as needed. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 or (Reading Level 4 and ENGL 099 concurrently) and Writing Level 2 and (Math Level 3 or CPT Arithmetic score minimum 20 or Accuplacer NG Arithmetic score 200-244)
- Course Note:
  - MATH 106 prepares students for MATH 109, MATH 117, MATH 118, MATH 119, and STAT 170.
  - Information about course materials will be available to students the first day of class or earlier from your instructor. All enrolled students are required to purchase the workbook bundle through LCC's bookstore to ensure a valid access code is obtained.
  - A graphing calculator from the TI-83/84 family is required for course work. TI-84 Plus CE is recommended.



## 2022-2023 Course Descriptions

### **MATH 109 Foundations of Algebra**

**Credit Hours: 4 / Billing Hours: 6**

Topics include using properties of real numbers and exponents to simplify polynomials, radicals, rational and quadratic expressions; solving linear, rational, absolute value, radical, and quadratic equations; graphing linear and quadratic functions; solving linear and absolute value inequalities; evaluating functions and rational exponents; solving systems of linear equations; and performing operations with complex numbers. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in MATH 105 or MATH 106 or a Math Placement Score indicated below or Department Approval
- Placement Score: (Reading Level 5 and Writing Level 4) or (Reading Level 4 and Writing Level 4 and ENGL 099 concurrently) and (CPT Algebra 50 or ACT Math 15-19 or SAT Math 400-530 or Accuplacer QRAS score 225-271 or Accuplacer AAF score 220-234)
- Course Note:
  - MATH 109 combines a review of basic algebra along with the content of Intermediate Algebra designed for students who need MATH 120.
  - The course fee provides all enrolled students online access to a full electronic textbook (e-text), online course homework system, and additional online resources. These course materials will be available to students the first day of class. Students are encouraged to speak with their instructor BEFORE purchasing any optional course materials.
  - A graphing calculator from the TI-83/84 family is required for course work.

### **MATH 114 Technical Math I**

**Credit Hours: 4 / Billing Hours: 4**

Introductory applied algebra for students in technical programs, with brief introduction to trigonometry. Algebraic expressions, powers, roots, ratio and proportion, variation, linear and quadratic equations, evaluating and solving formulas, systems of equations, graphing, area, volume, Pythagorean Theorem, brief introduction to right triangle trigonometry. Emphasizes problem-solving for technical applications. Graphing calculator required; home internet access is highly recommended.(F,Sp)

- Prerequisite Course: Minimum 2.0 in (MATH 050 or MATH 105 or MATH 106) or Math Level indicated below
- Placement Score: Reading Level 4 and Math Level 4
- Course Note:
  - Technical career programs allow students with Math Level 5 and Reading Level 5 to enroll directly in MATH 115, even if MATH 114 is listed in the Requirements.
  - A graphing calculator from the TI 83/84 family is required for course work.

1197

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## 2022-2023 Course Descriptions

### **MATH 115    Technical Math II**

**Credit Hours: 4 / Billing Hours: 4**

Applied geometry and trigonometry for students in technical programs. Congruence, similarity, polygons, circle geometry, trigonometry with right and oblique triangles (including laws of sines, cosines and cotangents), surface area, volume, coordinate systems, and introduction to vectors. Emphasizes problem-solving for technical applications. (F,Sp)

- Prerequisite Course: Minimum 2.0 in MATH 114 or Math Placement Score indicated below
- Placement Score: Reading Level 5 and Math Level 5
- Course Note: Graphing calculator required; TI 83-84 series calculator highly recommended.

### **MATH 117    Math for Business**

**Credit Hours: 4 / Billing Hours: 4**

This course surveys math applications in business. Applications representing management, marketing, finance, accounting, and statistics are used. Analysis of situations in business and correct use of business theory is emphasized in addition to accuracy in math. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in (MATH 105 or MATH 106 or MATH 107) or Math Placement Score indicated below
- Placement Score: Reading Level 5 and Writing Level 4 and Math Level 5
- Course Note: Graphing calculator required; TI 83-84 series calculator highly recommended.

### **MATH 118    The Art of Geometry**

**Credit Hours: 3 / Billing Hours: 4**

This course emphasizes visualization and appreciation of the beauty of mathematics through geometry; translates between visual and symbolic representations of objects used in visual arts; applies mappings, symmetry, similarity, tilings, vectors, and geometric constructions of shapes to working with 2D and 3D figures; uses geometry software, hands-on techniques and models. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4 and [Math Level 5 or Minimum 2.0 in (MATH 105 or MATH 106 or MATH 107 or MATH 109)]
- Course Note: Graphing calculator required; TI 83-84 series calculator highly recommended



## 2022-2023 Course Descriptions

### **MATH 119**    **Math - Applications for Living**

**Credit Hours: 4 / Billing Hours: 4**

Cover topics in measurement, geometry, statistics, and algebra with a focus on applications and preparation for basic science courses. Includes: Dimensional analysis, growth & decay, finance formulas, statistical reasoning, basic probability, linear and exponential models, and coordinate system graphing of models. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in (MATH 105 or MATH 106 or MATH 107) or (MATH 097 concurrently) or Math Level indicated below
- Placement Score: (Reading Level 5 and Writing Level 4) or (Reading Level 4 and Writing Level 4 and ENGL 099 concurrently) and Math Level 5
- Course Note: Graphing calculator required; TI 83-84 series calculator highly recommended

### **MATH 120**    **College Algebra**

**Credit Hours: 4 / Billing Hours: 4**

A course in algebra that studies families of functions and their graphs, with an emphasis on applications in finance, business, and life, social, and physical sciences. Topics include relations and functions; properties and graphs of linear, quadratic, polynomial, rational, exponential, and logarithmic functions; algebra of functions; solving equations and inequalities; systems of linear equations; and sequences and series. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in (MATH 109 or MATH 112) within 2 years or MATH 098 concurrently or Math Level 6 as noted below
- Placement Score: Reading Level 5 and Writing Level 4 or (Reading Level 4 and Writing Level 4 and ENGL 099 concurrently) and (Math Level 6 within 2 years)
- Course Note: A graphing calculator from the TI 83-84 family is required for course work. TI-84 Plus CE is recommended

1199

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## 2022-2023 Course Descriptions

### **MATH 122**    **Trigonometry**

**Credit Hours: 4 / Billing Hours: 4**

Topics include right triangle trigonometry, trigonometric functions, graphs, identities and equations, inverse trig functions, laws of sines/cosines, polar coordinates, vectors, systems of linear equations, matrices, sequences, series, conic sections, parametric equations, permutations, combinations, and binomial theorem. MATH 122 was the second in a two-course sequence, following MATH 121; MATH 121 is no longer offered after summer 2021. Degree credit may not be earned in both MATH 121/122 and MATH 126. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in MATH 121 within 2 years or Math Level 7 noted below
- Placement Score: Reading Level 5 and Writing Level 4 and (Math Level 7 within 2 years)

### **MATH 126**    **Precalculus**

**Credit Hours: 5 / Billing Hours: 5**

This is a five-credit course on college algebra and trigonometry. Topics include the definition and concept of functions; equations and inequalities; properties and graphs of polynomial, rational, absolute value, exponential, logarithmic, trigonometric, and inverse trigonometric functions; conic sections; and systems of non-linear equations. (F,Sp)

- Prerequisite Course: Minimum 2.0 in MATH 120 within 2 years or Math Level indicated below
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 7 with 2 years or (AAF 260-269 or SAT Math 620-800, within 2 years) or Department Approval

### **MATH 141**    **Calculus with Applications**

**Credit Hours: 4 / Billing Hours: 4**

This course provides an introduction to calculus with an emphasis on applications in business, economic, social/life sciences and other fields not requiring an extensive study of calculus. Topics include functions, derivatives, related rates, growth and decay, differential equations, elasticity of demand, the definite integral and applications. (Mathematics, Physical Science, Computer Science, and Engineering majors should take MATH151.) (F,Sp,Su)

- Prerequisite Course: Minimum 2.5 in (MATH 120 or MATH 130) or Minimum 2.0 in MATH 121 within 2 years or Math Level 7 noted below
- Placement Score: Reading Level 5 and Writing Level 6 and (Math Level 7 within 2 years)

1200

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## 2022-2023 Course Descriptions

### **MATH 151    Calculus I**

**Credit Hours: 4 / Billing Hours: 4**

This is the first course in a three-semester calculus sequence. Topics include limits, continuity, parametric curves, derivatives of algebraic, trigonometric, exponential, and logarithmic functions, implicit differentiation, linear approximation and differentials, L'Hospital's rule, Riemann sums, integration using the Fundamental Theorem of Calculus and the substitution rule. Applications of differential and integral calculus to problems in math, natural, and social sciences are presented. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in (MATH 122 or MATH 126) within 2 years or Math Level 9 noted below
- Placement Score: Reading Level 5 and Writing Level 6 and (Math Level 9 within 2 years)

### **MATH 152    Calculus II**

**Credit Hours: 4 / Billing Hours: 4**

This is the second course in a three-semester calculus sequence. Topics include integral calculus and its applications to real world problems, infinite sequences and series, tests for convergence of series, Taylor and Maclaurin series, power series, representations of functions, 3D-rectangular coordinate system, polar coordinates, vectors and vector operations, and equations of lines and planes in 3D space. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in (MATH 151 or MATH 161) within 2 years
- Placement Score: Reading Level 5 and Writing Level 6

### **MATH 201    Math for Elementary Teachers I**

**Credit Hours: 4 / Billing Hours: 4**

The first course in a two-course sequence for prospective elementary teachers. Topics include real number systems and their properties, sets, logic, and number theory. Emphasis is on active engagement in mathematical investigation to develop problem-solving skills and conceptual knowledge essential for teaching elementary school mathematics. (F)

- Prerequisite Course: Minimum 2.0 in (MATH 109 within 2 years or MATH 112 within 2 years) or Math Level indicated below
- Placement Score: Reading Level 5 and Writing Level 6 and (Math Level 6 within 2 years)
- Course Note: Graphing calculator required; TI 83-84 series calculators highly recommended

1201

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## 2022-2023 Course Descriptions

### **MATH 260    Linear Algebra**

**Credit Hours: 4 / Billing Hours: 4**

This introduction to linear algebra includes the study of systems of linear equations, vector equations, linear independence, determinants, matrix algebra, vector spaces and subspaces, dimension of a vector space, rank, linear transformations, eigenvalues and eigenvectors, diagonalization, inner products, orthogonal sets, and the Gram-Schmidt process, with applications. (Sp)

- Prerequisite Course: Minimum 2.0 in MATH 152 within 2 years
- Placement Score: Reading Level 5 and Writing Level 6

### **MATH 295    Ind Study in Mathematics**

**Credit Hours: 1 to 4 / Billing Hours: 1 to 4**

An opportunity for self-directed learners to explore topics related to, but not taught in the curriculum. Students spend at least two hours per week for each credit. A detailed proposal must be submitted by the student for approval by the Department and supervising instructor prior to registration. (F,Sp,Su)

- Prerequisite Course: Department Approval

### **MEDA 110    Intro MA Med Terms & Pathology**

**Credit Hours: 5 / Billing Hours: 5**

Students will be introduced to medical terminology, basic human anatomy, and disease conditions which are essential for a career in medical assisting. (F)

- Prerequisite Course: None. Program approval is required.
- Placement Score: Reading Level 5 and Writing Level 4
- Corequisite Course: MEDA 135 and MEDA 156
- Course Note: The Medical Assistant program is a yearlong, cohort program that begins every Fall semester; students will complete the program in three consecutive semesters, Fall through Summer. Seats in this program are limited. To enroll, students must be 18 years of age or older by the start of classes and must submit a Medical Assistant application along with required supporting documentation. Online applications are accepted March 1 – June 25th and are available in the Medical Assistant section on the [HHS Advising Guide site](#). Applicants are encouraged to apply early as enrollment is on a first come, first served basis. Once admitted to the program, students will be required to complete an ICHAT background check (there is a fee for this service, instructions provided upon acceptance to program) and attend a mandatory program orientation, which typically occurs mid-July. Contact Keiston or Mary Pacitto at 517-483-1410 for more information.

1203

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## 2022-2023 Course Descriptions

### **MEDA 126 MA Administrative Skills**

**Credit Hours: 5 / Billing Hours: 6**

In this course the student will learn about: the EHR (electronic health record), how to apply effective and professional communication and interpersonal skills, demonstrate cultural awareness, maintain inventory, perform billing and collections, process insurance, schedule patients, adapt care to different life stages, and help the patient navigate the healthcare system. (Sp)

- Prerequisite Course: Minimum 2.5 in (MEDA 110 and MEDA 135 and MEDA 156)
- Placement Score: Reading Level 5 and Writing Level 4 and Math Level 4
- Corequisite Course: MEDA 145 and MEDA 166 and NCHE 102
- Course Note: Minimum age of 18 required

### **MEDA 135 MA Pharmacology & Med Math**

**Credit Hours: 2 / Billing Hours: 2**

In this class the student medical assistant will learn about the different classifications of drugs and the most commonly used medications, how to calculate dosages for proper administration, the parts of a prescription, common abbreviations, and how to use proper drug references. (F)

- Prerequisite Course: None. Program Approval is required
- Placement Score: Reading Level 5 and Writing Level 4 and Math Level 4
- Corequisite Course: MEDA 110 and MEDA 156
- Course Note: Minimum age of 18 required

### **MEDA 145 Legal & Ethical Concepts**

**Credit Hours: 2 / Billing Hours: 2**

The student medical assistant will learn about documentation guidelines, federal and state guidelines when releasing medical records and information, following established policies when initiating or terminating treatment, scope of practice, Code of Ethics compliance, HIPAA, ADA Amendments Act, and local health laws. (Sp)

- Prerequisite Course: Minimum 2.5 in (MEDA 110 and MEDA 135 and MEDA 156)
- Placement Score: None
- Corequisite Course: MEDA 126 and MEDA 166 and NCHE 102



## 2022-2023 Course Descriptions

### **MEDA 156    MA Clinical Procedures I**

**Credit Hours: 7 / Billing Hours: 11**

Within a clinical classroom, the student medical assistant will obtain vital signs, patient history, assist with general and specialty exams, learn how to administer medications, and learn how to educate patients. Students will also learn to apply medical terminology to the different specialties for each body system. (F)

- Prerequisite Course: None. Program approval is required
- Placement Score: Reading Level 5 and Writing Level 4
- Corequisite Course: MEDA 110 and MEDA 135

### **MEDA 166    MA Clinical Procedures II**

**Credit Hours: 5 / Billing Hours: 7**

The student medical assistant will learn how to obtain laboratory specimens, perform point-of-care testing, apply outpatient treatments, and assist with clinical procedures typically performed in a clinical office setting. Obtaining and processing blood and body fluid specimens are a large portion of this course. (Sp)

- Prerequisite Course: Minimum 2.5 in (MEDA 110 and MEDA 135 and MEDA 156)
- Placement Score: None
- Corequisite Course: MEDA 126 and MEDA 145 and NCHE 102

### **MEDA 175    MA Certification Review**

**Credit Hours: 3 / Billing Hours: 3**

In this capstone course, the student will review both clinical and administrative skills to prepare to take the Registered Medical Assistant (RMA) examination through the American Medical Technologist (AMT) certification agency. The student will also learn professional employability skills, including resume writing and effective interviewing techniques. (Su)

- Prerequisite Course: Minimum 2.5 in (MEDA 126 and MEDA 145 and MEDA 166)
- Placement Score: None
- Corequisite Course: MEDA 177

1205

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## 2022-2023 Course Descriptions

### **MEDA 177 MA Practicum Immersion**

**Credit Hours: 3 / Billing Hours: 3**

The practicum requires placement at an ambulatory care facility. Students will be exposed to administrative and clinical skills required of the profession and will perform activities under the direct supervision of a preceptor. A minimum of 160 clock hours is required. (Su)

- Prerequisite Course: Minimum 2.5 in (MEDA 126 and MEDA 145 and MEDA 166). Program approval is required.
- Placement Score: None
- Corequisite Course: MEDA 175
- Course Note: Students will be charged a \$50 fee for ACEMAPP required documentation

### **METD 100 Basic Mechanical Drafting**

**Credit Hours: 3 / Billing Hours: 4**

This course teaches the fundamental concepts of drafting and design using sketches and manual drafting skills. The student will learn the basics of orthographic projection, lettering, sketching, dimensioning techniques, and much more. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 3 and Writing Level 2 and [Math Level 3 or Minimum 2.0 in (MATH 105 or MATH 106)]

### **METD 105 PC Applications for Technology**

**Credit Hours: 3 / Billing Hours: 4**

This course provides an introduction to PCs as used in a technical-industrial setting. Basic computer hardware knowledge and simple file management practices are taught. Students will use Windows, the Internet, word processing, spreadsheet, presentation, and database software. Students will also be introduced to CAD software. (F, Sp)

- Prerequisite Course: None
- Placement Score: None

1206

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## 2022-2023 Course Descriptions

### **METD 110 Mechanical CAD Drafting I**

**Credit Hours: 4 / Billing Hours: 6**

This is an introductory course in mechanical drafting and computer aided drafting using CAD software. Instruction includes orthographic projection, auxiliary views, secondary auxiliary view projections, sections, dimensioning techniques, and printing. Students will complete a series of drawings on the computer to demonstrate understanding of the concepts presented. (F,Sp)

- Prerequisite Course: Minimum 2.0 in METD 100 or Mechanical Drafting Placement Test 80%
- Placement Score: Reading Level 4 and Writing Level 4 and [Math Level 4 or Minimum 2.0 in (MATH 105 or MATH 106)]

### **METD 111 Mechanical CAD Drafting II**

**Credit Hours: 4 / Billing Hours: 6**

This course covers advanced drafting and design techniques needed to project successive auxiliary views from various orthographic views. Layout and design concepts will also be stressed. Students will use computers with CAD software to complete practical design projects in problem solving and creativity applicable to the automotive, industrial, and/or aerospace industries. (Sp)

- Prerequisite Course: Minimum 2.0 in METD 110
- Placement Score: Reading Level 4 and Writing Level 4 and Math Level 4

### **METD 130 Geometric Dimension/Tolerance**

**Credit Hours: 4 / Billing Hours: 6**

This course covers the principles and methods of dimensioning and tolerancing for specific design requirements on engineering drawings. Uniform practices for stating and interpreting these requirements will be stressed. Content includes use and understanding of the symbolic method of specification relating to tolerances being applied using ASME/ANSI M14.5Y 1994 standards. (Sp)

- Prerequisite Course: Minimum 2.0 in METD 100 or Mechanical Drafting Placement Test 80%
- Placement Score: Reading Level 4 and Writing Level 4 and [Math Level 4 or Minimum 2.0 in (MATH 105 or MATH 106)]

1207

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## 2022-2023 Course Descriptions

### **METD 150 Industrial Blueprint Reading**

**Credit Hours: 3 / Billing Hours: 3**

This course covers basic concepts in orthographic projection, with emphasis on interpretation of engineering drawings. Areas also covered include measurement systems, technical sketching, dimensioning, sectional and auxiliary views, and tolerancing. (F,Sp)

- Prerequisite Course: None
- Placement Score: None
- Recommended: METD 100

### **METD 170 Special Topics/Eng & Design Credit Hours: .25 to 8 / Billing Hours: .25 to 11**

This course offers students the opportunity to learn new or advanced skills in Computer Aided Drafting and Design and other related topics. Specific content may vary with each offering and will be related to the Computer Aided Drafting and Design Program and profession. (F,Sp,Su)

- Prerequisite Course: Determined by Section

### **METD 220 Basic Unigraphics/NX**

**Credit Hours: 4 / Billing Hours: 6**

This is the first of a two-semester course sequence that covers the fundamentals of the Unigraphics System of interactive design. This course covers comprehensive CAD concepts of 2-D and 3-D construction and basic solid modeling, as well as some of the concepts of drafting. Prior CAD system experience is required. (Sp)

- Prerequisite Course: Minimum 2.0 in METD 110
- Placement Score: Reading Level 4 and Writing Level 4 and Math Level 4

### **METD 221 Advanced Unigraphics/NX**

**Credit Hours: 4 / Billing Hours: 6**

This is the second of a two-semester course sequence that covers the design and construction of sophisticated solid models of complex assemblies and components, and the production of dimensioned and toleranced engineering drawings of those components. Advanced concepts of Unigraphics modeling will be discussed and utilized in class projects. (F)

- Prerequisite Course: Minimum 2.0 in METD 220
- Placement Score: Reading Level 4 and Writing Level 4 and Math Level 5

1208

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## 2022-2023 Course Descriptions

### **METD 240      Basic NX Machining      Credit Hours: 4 / Billing Hours: 5**

Basic NX Machining will use or modify existing models or boundaries to stage parts or wave-linked geometry for fixed axis or multi axis mill turning operations. Specific NX machining strategies will be purposed and output for target machine tool types for application of post processing. (Sp)

- Prerequisite Course: Minimum 2.0 in (METD 220 and METM 108)
- Placement Score: Reading Level 4 and Writing Level 4 and Math Level 4
- Course Note: This course was formerly METM 240

### **METD 250      Detailing Assembly Drawings      Credit Hours: 4 / Billing Hours: 6**

This course builds on previous courses giving students an advanced understanding of assemblies and the details pulled from CAD assemblies. Students will also be able to identify how machine processes and various types of dies and components are used to create parts and assemblies. (F)

- Prerequisite Course: Minimum 2.0 in METD 130
- Placement Score: Reading Level 4 and Writing Level 4 and Math Level 4

### **METD 265      Basic CAD FEA Simulation      Credit Hours: 4 / Billing Hours: 6**

NX finite element analysis method is used in conjunction with the application of mesh to analyze part design performance due to the impact. Performance behavior is executed on the product based overall strength, resistance to buckling, and thermal response to external force. (Sp)

- Prerequisite Course: Minimum 2.0 in (METD 221 or METD 250)
- Placement Score: Reading Level 4 and Writing Level 4 and Math Level 4

### **METD 295      Engineering/Design Project Lab      Credit Hours: 1 to 4 / Billing Hours: 1 to 4**

This course is intended to give advanced drafting and design students an opportunity, through mutual agreement between student and instructor, to complete project(s) on one of several available CAD systems. (F,Sp)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None

1209

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## 2022-2023 Course Descriptions

### **METM 100    Manufacturing Processes**

**Credit Hours: 3 / Billing Hours: 4.5**

This course provides students with a comprehensive study of the materials, concepts, and processes used in modern manufacturing which is augmented by field trips to local manufacturing plants. This course is designed for those who are pursuing careers in manufacturing design, engineering, and supervision. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 3 and Writing Level 4
- Recommended: MATH 105 or MATH 106 or Math Level 4

### **METM 108    Machine Tool Operations**

**Credit Hours: 4 / Billing Hours: 6**

This course will inform students of the machine tool principles used in industry. Safety, measurement, and procedures will be used to complete projects. A working knowledge of hand and machine tools is achieved through a series of lectures, demonstrations, and hands-on projects. (F, Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 3 and Writing Level 4 and [Math Level 4 or Minimum 2.0 in (MATH 105 or MATH 106)]

### **METM 112    Introduction to CNC Machining**

**Credit Hours: 4 / Billing Hours: 6**

Introduces computerized numerical control equipment with hands-on programming, set up, and operation of the CNC Lathe and Mill. (F, Sp)

- Prerequisite Course: Minimum 2.0 in METM 108
- Placement Score: Reading Level 3 and Writing Level 4 and Math Level 4

### **METM 150    Advanced CNC Machining**

**Credit Hours: 4 / Billing Hours: 6**

In this course, students will set up and operate CNC lathes, CNC mills, and grinding equipment, write CNC programs, identify and select tooling, and perform precision measurements. Topics covered include safety and preventive maintenance, the eight basic functions of a CNC machine control, and high speed machining processes. (F)

- Prerequisite Course: Minimum 2.0 in (METM 110 or METM 112)
- Placement Score: Reading Level 4 and Writing Level 4 and Math Level 4

1210

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## 2022-2023 Course Descriptions

### **METM 170 Special Topics/Precision Mach Credit Hours: .25 to 8 / Billing Hours: .25 to 11**

This course offers students the opportunity to learn new or advanced skills in Precision Machining and Maintenance and other related topics. Specific content may vary with each offering but will be related to the Precision Manufacturing Technology Program and profession. (F,Sp,Su)

- Prerequisite Course: Determined by Section

### **METM 171 Special Topics/Machining Credit Hours: .25 to 8 / Billing Hours: .25 to 11**

This course offers students the opportunity to learn new or advanced skills in Precision Machining and Maintenance and other related topics. Specific content may vary with each offering but will be related to the Precision Manufacturing Technology Program and profession. This course will be offered on a Pass/Fail basis. (F,Sp,Su)

- Prerequisite Course: Determined by Section

### **METM 190 Metallurgy and Heat Treatment Credit Hours: 4 / Billing Hours: 6**

This course introduces the science of metallurgy, a domain of materials science that studies the physical and chemical behavior of metallic elements. Students acquire a working knowledge of the properties, uses and heat treat processes of commonly used metals and alloys. Topics are explored through lecture and laboratory analysis. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6 and [Math Level 4 or Minimum 2.0 in (MATH 105 or MATH 106)]
- Recommended: High School Chemistry or CHEM 125

### **METM 195 Quality/Metrology/Inspection Credit Hours: 2 / Billing Hours: 3**

This pre-engineering course introduces the science of precision measurement, focusing on accuracy and application as well as problem solving as it relates to dimensional metrology. Topics include measurement processes and feasibility, industry standards, and operation of the Coordinate Measuring Machine. Quality systems, calibration systems, and Statistical Process Control are also explored. (F,Sp)

- Prerequisite Course: Minimum 2.0 in [METD 130 and (METM 108 or METM 110)]
- Placement Score: Reading Level 4 and Writing Level 4 and Math Level 4

1211

*F=Fall; Sp=Spring; Su=Summer*

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## 2022-2023 Course Descriptions

### **METM 220 Basic Mastercam**

**Credit Hours: 4 / Billing Hours: 6**

Mastercam is a powerful graphics based programming software for CNC machine tools. Mastercam software is designed to generate CNC programs from mechanical CAD drawings. Students will use Mastercam to solve CNC programming problems in both 2-D and 3-D environments and run selected programs on CNC equipment. (F,Sp)

- Prerequisite Course: Minimum 2.0 in (METM 108 or METM 110)
- Placement Score: Reading Level 4 and Writing Level 4 and Math Level 4

### **METM 221 Advanced Mastercam**

**Credit Hours: 4 / Billing Hours: 6**

The student will learn the advanced CNC programming functions of the MasterCAM software. The successful student will be able to design, program, and run 3-dimensional CNC programs and check the toolpath using the MasterCAM verify toolpath function. (F)

- Prerequisite Course: Minimum 2.0 in METM 220
- Placement Score: Reading Level 3 and Writing Level 4 and Math Level 4

### **METM 295 Precision Machine Project Lab**

**Credit Hours: 1 to 4 / Billing Hours: 1 to 8**

An advanced course for students wishing to do in-depth work in the machine shop area or to develop trade-entry skills. Students select projects compatible with their individual fields of work. (Approval may be given to take this course twice for a maximum of eight credits.) (F,Sp,Su)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None

### **METS 110 Mechanical Power Transmissions**

**Credit Hours: 4 / Billing Hours: 6**

This course will teach theory and industrial application of power transmission gear drive systems, chain drive systems, belt drive systems, couplings, clutch and brake and more. (Sp)

- Prerequisite Course: Minimum 2.0 in (METS 102 or DCTM 102 or ELTE 102 or HVAC 102 or WELD 102 or concurrently)
- Placement Score: Reading Level 3 and Writing Level 2 and [Math Level 4 or minimum 2.0 in (MATH 105 or MATH 106)]

1212

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## 2022-2023 Course Descriptions

### **METS 115      Intro to Mechanical Systems      Credit Hours: 4 / Billing Hours: 6**

This course introduces the student to the theory and selection criteria for mechanical power systems. Topics discussed include pneumatics, hydraulics, and mechanical drives. Lectures include fundamentals and real life applications in designing basic systems. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 4 and Writing Level 4 and [Math Level 4 or Minimum 2.0 in (MATH 105 or MATH 106)]

### **METS 120      Industrial Pneumatics      Credit Hours: 4 / Billing Hours: 6**

An introduction to the concepts, principles, and components of industrial pneumatic systems, this course covers gas laws, theory of air compression, regulators, filters, valves, actuators, electro-pneumatic and pneumatic circuits with emphasis on pneumatic diagrams and circuit design. Lectures, labs and troubleshooting give students a hands-on approach in the field of pneumatics. (F)

- Prerequisite Course: Minimum 2.0 in (METS 102 or DCTM 102 or ELTE 102 or HVAC 102 or WELD 102) or concurrently
- Placement Score: Reading Level 3 and Writing Level 2 and [Math Level 4 or Minimum 2.0 in (MATH 105 or MATH 106)]

### **METS 125      Intro to Hydraulics/Pneumatics      Credit Hours: 4 / Billing Hours: 6**

This course introduces the student to the theory of basic hydraulic and pneumatic principles as they relate to automated systems. Topics include application of components, causes of malfunctions in the system, and system troubleshooting strategies. (Sp)

- Prerequisite Course: Minimum 2.0 in (METS 102 or DCTM 102 or ELTE 102 or HVAC 102 or WELD 102) or concurrently
- Placement Score: Reading Level 3 and Writing Level 2 and [Math Level 3 or minimum 2.0 in (MATH 105 or MATH 106)]

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## 2022-2023 Course Descriptions

### **METS 130**

### **Industrial Hydraulics**

**Credit Hours: 4 / Billing Hours: 6**

Industrial hydraulics introduces the theory of fluid power and circuits covering pumps, pressure valves, flow valves, cylinders, filters and motors, etc., as they are used in industry today. This will be done with lectures and labs related to each of the respective components. (Sp)

- Prerequisite Course: Minimum 2.0 in (METS 102 or DCTM 102 or ELTE 102 or HVAC 102 or WELD 102 or concurrently)
- Placement Score: Reading Level 4 and Writing Level 4 and [Math Level 4 or minimum 2.0 in (MATH 105 or MATH 106)]

### **METS 140**

### **Rigging**

**Credit Hours: 3 / Billing Hours: 4.5**

This course covers uses and strengths of ropes, chains, block and tackles, and the construction and erection of gin poles, with a study of rope knots used in rigging and cranes. Safe working strength of slings, hooks, sheaves, ropes and chains, and the use of personal safety equipment will be covered. (F,Sp)

- Prerequisite Course: Minimum 2.0 in (METS 102 or DCTM 102 or ELTE 102 or HVAC 102 or WELD 102) or concurrently
- Placement Score: Reading Level 3 and Writing Level 2 and [Math Level 4 or Minimum 2.0 in (MATH 105 or MATH 106)]
- Course Note: \$20 of the Course Fee is non-refundable

### **METS 145**

### **Automated Systems**

**Credit Hours: 3 / Billing Hours: 4.5**

This course introduces students to automated system basics, including electrical components, mechanical components, electrical drives, pneumatic and hydraulic control circuits, and programmable logic controllers (PLCs). The student will be able to troubleshoot a complex mechatronics system and correct malfunctions. (Sp)

- Prerequisite Course: Minimum 2.0 in [ELTE 109 and (ELTE 130 or ELTE 131 or concurrently) and (METS 125 or concurrently)]
- Placement Score: Reading Level 3 and Writing Level 2 and Math Level 3

1214

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## 2022-2023 Course Descriptions

### **METS 160 Introduction to Robotics**

**Credit Hours: 3 / Billing Hours: 4.5**

The purpose of this course is to introduce students to industrial robot fundamentals with regards to safety, types, applications, programming, operation, and troubleshooting. (F, Sp)

- Prerequisite Course: Minimum 2.0 in (METS 102 or ELTE 102 or DCTM 102 or HVAC 102 or WELD 102) or concurrently
- Placement Score: Reading Level 3 and Writing Level 2 and [Math Level 3 or Minimum 2.0 in (MATH 105 or MATH 106)]

### **METS 170 Special Topics/Mechanical Sys**

**Credit Hours: .25 to 8 / Billing Hours: .25 to 11**

This course offers students the opportunity to learn new or advanced skills in Manufacturing and other related topics. Specific content may vary with each offering but will be related to the Manufacturing Program and profession. (F,Sp,Su)

- Prerequisite Course: Determined by Section

### **METS 210 Lubrication and Bearings**

**Credit Hours: 4 / Billing Hours: 6**

This course covers lubricant applications as applied to industrial equipment including the type, frequency, and amount needed. Participants will troubleshoot centralized lubrication systems, learn to set up an oil management program, remove and install bearings, and identify bearing failures. (F)

- Prerequisite Course: Minimum 2.0 in (METS 102 or DCTM 102 or ELTE 102 or HVAC 102 or WELD 102) or concurrently
- Placement Score: Reading Level 3 and Writing Level 2 and [Math Level 4 or Minimum 2.0 in (MATH 105 or MATH 106)]

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## 2022-2023 Course Descriptions

### **METS 250**

### **Gen. Prevent/Predictive Maint**

**Credit Hours: 3 / Billing Hours: 4.5**

This course will introduce the learner to the various types and styles of predictive and preventive maintenance components used in industrial applications. It focuses on aspects of machine maintenance. Activities include regular and routine cleaning, lubricating, testing, checking for wear and tear, and eventually replacing components to avoid breakdown. (Sp)

- Prerequisite Course: Minimum 2.0 in (METS 102 or ELTE 102 or DCTM 102 or HVAC 102 or WELD 102) or concurrently
- Placement Score: Minimum 2.0 in (METS 102 or ELTE 102 or DCTM 102 or HVAC 102 or WELD 102) or concurrently
- Course Note: \$100 of the Course Fee is non-refundable

### **METS 260**

### **Advanced Robotics Capstone**

**Credit Hours: 3 / Billing Hours: 4.5**

The purpose of this class is to build on the students' basic robotic knowledge, to include robot vision systems, robot safety zones and interlocks, and advanced programming. This will all culminate with a capstone project that will incorporate electrical, mechanical, fluid power, robotic, and PLC systems. (Su)

- Prerequisite Course: Minimum 2.0 in (ELTE 260 and METM 108 and METS 125 and METS 160)
- Placement Score: Reading Level 3 and Writing Level 4 and Math Level 4
- Course Note: \$20 of the Course Fee is non-refundable

### **METS 290**

### **Manufacturing Internship**

**Credit Hours: 2 to 4 / Billing Hours: 2 to 4**

This course provides Manufacturing students with practical work experience in industry. Students work for an employer in a supervised environment which provides an opportunity to apply knowledge and skills learned in the classroom and lab to an actual job situation. (F,Sp,Su)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None
- Recommended: 2.5 GPA or greater

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## 2022-2023 Course Descriptions

### **METS 295    Mechanical Systems Project Lab    Credit Hours: 1 to 4 / Billing Hours: 1 to 4**

An advanced course for students wishing to do in-depth work in the mechanical systems/machine maintenance area or to develop trade-entry skills. Students select projects compatible with their individual fields of work. (Approval may be given to take this course twice for a maximum of eight credits.) (F,Sp,Su)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None

### **MGMT 150    Managing Customer Relations    Credit Hours: 3 / Billing Hours: 3**

This course is designed to help customer service workers and managers explore the dynamics of customer service and customer relations. The course includes strategies for providing for customer's needs, behavioral skills and knowledge for effective customer service, verbal and non-verbal skills for effective customer communication, and techniques for measuring success. Focus is on the dynamics of building successful relationships. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### **MGMT 200    Creative Thinking for Business    Credit Hours: 3 / Billing Hours: 3**

This course takes an experiential approach to helping students understand and explore elements of the creative process. It is designed to develop skills, eliminate barriers, and allow students to apply thinking skills to business situations. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: Have taken two or more BUSN or MGMT courses, or have business experience

### **MGMT 201    Time Management for Business    Credit Hours: 1 / Billing Hours: 1**

Learners will discover basic principles and techniques of time management that can be applied to both personal and professional situations. Students will learn how to manage time using tools and techniques to maximize productivity. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 4 and Writing Level 4

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## 2022-2023 Course Descriptions

### **MGMT 202    Managing Difficult People**

**Credit Hours: 1 / Billing Hours: 1**

This course provides practical strategies to overcome negativity and difficult behaviors of people in the workplace. This includes defining types of difficult employees, understanding an intervention model, and addressing difficult behaviors. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6 or (Reading Level 4 and Writing Level 4 and ENGL 099 concurrently)

### **MGMT 203    Managing Meetings**

**Credit Hours: 1 / Billing Hours: 1**

Students will learn how to implement quality measures in order to increase productivity of meetings. Skills learned will include the strategies to improve meeting effectiveness, either as a leader or participant. These are fundamentals of conducting and managing meetings, causes of conflict in meetings, and techniques to build a positive climate. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6 or (Reading Level 4 and Writing Level 4 and ENGL 099 concurrently)

### **MGMT 223    Supervisory Skills**

**Credit Hours: 3 / Billing Hours: 3**

This course presents supervisory principles and practices for first-line supervisors. Emphasis is on developing interpersonal and first line supervisory skills. Managerial functions are introduced, along with policies, decision-making, and the responsibilities of supervisors for overall work performance and employee development and evaluation. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 or (Reading Level 4 and ENGL 099 concurrently) and Writing Level 6



## 2022-2023 Course Descriptions

### **MGMT 224 Human Resource Management Credit Hours: 3 / Billing Hours: 3**

This course examines the role of human resources management and its contribution to the total organizational effort. Emphasis will be placed on the evolution of human resource management, recruitment and selection, improving performance, compensation and incentives, safety and health, employee-management relations, and current legislation. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 or (Reading Level 4 and ENGL 099 concurrently) and Writing Level 6

### **MGMT 225 Principles of Mgmt/Leadership Credit Hours: 3 / Billing Hours: 3**

Designed to reflect the dynamics of our changing world, this course covers such topics as management/leadership functions/processes, quality, ethics, global issues and the challenges and opportunities of diversity. Emphasis is on theories and skills of management and leadership at the mid-organizational level. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 (or Reading Level 4 and ENGL 099 concurrently) and Writing Level 6

### **MGMT 227 Training/Development for Busn Credit Hours: 3 / Billing Hours: 3**

This course is designed to cover all aspects of training in the business environment. Participants focus on assessing training needs, identifying training barriers, curriculum design, instructional techniques, evaluation, and adult learning theory. (Sp)

- Prerequisite Course: Minimum 2.0 in MGMT 224 or concurrently
- Placement Score: Reading Level 5 and Writing Level 6

1219

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## 2022-2023 Course Descriptions

### **MGMT 228 Organization Behavior**

**Credit Hours: 3 / Billing Hours: 3**

Examines the dynamics of relationships at work. Integrates and applies behavioral and social science knowledge using a systems approach, and focuses on the nature of both people and organizations. Students will study individual and group behavior and will have opportunities to work on skills necessary for successful interaction in organizations. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 or (Reading Level 4 and ENGL 099 concurrently) and Writing Level 6
- Recommended: MGMT 223 or MGMT 224 or MGMT 225

### **MGMT 229 Compensation Management**

**Credit Hours: 3 / Billing Hours: 3**

Students will gain a practical understanding of the principles and applications of compensation management. Students will study the theories, behaviors, and legal constraints affecting compensation practices, including job analysis, job evaluation methodologies, labor market surveys, variable pay approaches, and the administration of legally mandated and voluntary employee benefit programs. (F)

- Prerequisite Course: Minimum 2.0 in MGMT 224
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: LABR 204

### **MGMT 231 Developing and Leading Teams**

**Credit Hours: 3 / Billing Hours: 3**

This course defines and examines team building, team leadership, and self-managed teams in the context of today's workplace. Students develop skills in writing team mission and vision statements, team goals, and action assignments. Chartering, problem solving, decision-making, conducting effective meetings, work sessions, negotiating, and presenting are also explored. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

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## 2022-2023 Course Descriptions

### **MGMT 234 Diversity in the Workplace**

**Credit Hours: 3 / Billing Hours: 3**

This course explores cultural, gender/sexual, physical, and other minority experiences in the workplace and in the world. The management of human resources will be examined from a domestic and global perspective. Emphasis is on helping the majority group and the minority group become aware of the other's opinions, feelings, and perspectives. Instruction takes an experiential, awareness training approach. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 (or Reading Level 4 and ENGL 099 concurrently) and Writing Level 6

### **MGMT 235 Independent Study/Manage/Lead**      **Credit Hours: 1 to 3 / Billing Hours: 1 to 3**

Students design and implement special research projects to apply personal and professional experience to an academic area of interest, linking theory with practice. Students meet with coordinator and work independently towards completion of project report. Students should plan a minimum 16 hours per credit and ten pages of report per credit. (F,Sp)

- Prerequisite Course: None. Department Approval Required
- Placement Score: None

### **MGMT 237 Managing/Continual Improvement**

**Credit Hours: 3 / Billing Hours: 3**

This course provides an introduction to concepts of quality, continual improvement, systems thinking, and other new management practices. The history of the quality movement including key thinkers/leaders is covered. Methods for continual improvement teams, learning organizations, and new ways of thinking and leading are explored. (F)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6 or (Reading Level 4 and Writing Level 4 and ENGL 099 concurrently) and Math Level 4



## 2022-2023 Course Descriptions

### **MGMT 280 Mgmt/Leadership Internship**

**Credit Hours: 3 / Billing Hours: 3**

This course provides an opportunity to apply classroom learning to a career-related position by working a minimum of 160 hours at an approved work site. A student may do an internship at his/her own job only if the duties are new, management or leadership related, and provide an appropriate learning situation. (F,Sp)

- Prerequisite Course: None. Department Approval
- Placement Score: None
- Recommended: Have completed a minimum of 30 Credits

### **MGMT 300 Leading for Possibility**

**Credit Hours: 3 / Billing Hours: 3**

Provides an overview of the changing roles of leadership within an organization and lays a foundation for exploration of the emerging roles and functions of leadership in today's changing environments. Theories and skills are applied to a variety of organizational settings. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### **MGMT 304 Organization Development**

**Credit Hours: 3 / Billing Hours: 3**

Based on the assumption that all managers and leaders must recognize, plan for, and manage organizational change, this course examines the process of improving organization effectiveness by means of a systematic change program. Students practice identifying problems, selecting appropriate interventions, building action plans, and developing facilitator skills. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

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## 2022-2023 Course Descriptions

### **MGMT 329    Advanced Mgmt Communication**

**Credit Hours: 3 / Billing Hours: 3**

This course explores the importance of ethical and effective communication at the managerial and organizational level of organizations. The course examines strategies for more effective listening, oral, and written communication in business. It explores the ways managers can influence positive strategies for overcoming communication obstacles and recognize the benefits of conflict. (F,Sp)

- Prerequisite Course: Minimum 2.0 in (COMM 110 or COMM 120 or COMM 130) or Department Approval
- Placement Score: None

### **MGMT 332    Ethics: Assumpt for the Future**

**Credit Hours: 3 / Billing Hours: 3**

This course is designed to sensitize participants to the impact of ethics on decision-making. Participants will examine values and assumptions, both personal and organizational, which influence management and leadership style. Exploration of the importance of intention and right relationships in strategy and the creation of the future workplace is also included. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### **MGMT 335    Managerial Statistics**

**Credit Hours: 3 / Billing Hours: 3**

This course covers applications of statistical tools and techniques to improve managerial decision-making processes. It includes basic descriptive statistics and graphing techniques, probability, probability distributions, hypothesis testing, analysis of variance, regression analysis, time series and forecasting models. (F,Sp)

- Prerequisite Course: Minimum 2.0 in (MATH 112 or MATH 115 or MATH 117 or MATH 119) or Math Level 6 as noted below
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 6

1223

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## 2022-2023 Course Descriptions

### **MGMT 337    Advanced Human Resource Mgmt                      Credit Hours: 3 / Billing Hours: 3**

Human resource skills are developed at an advanced level. Workplace relationships between employee, manager, human resource department, and the organization are analyzed in areas of leadership and motivation, legal compliance, performance planning and evaluation, union-management dynamics, and recognition and reward practices. (F,Sp)

- Prerequisite Course: Minimum 2.0 in MGMT 224 or Department Approval
- Placement Score: Reading Level 5 and Writing Level 6

### **MGMT 338    Current Topics in Management                      Credit Hours: 3 / Billing Hours: 3**

Study of specific current topics and issues that affect managerial/leadership decisions. Students explore internal and external constraints on actions. External factors considered include legal, social, educational, and political. Internal factors include shareholders, employees, and customers. (F)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### **MGMT 345    Context and Transformation                      Credit Hours: 3 / Billing Hours: 3**

This course is designed to help people of vision and courage examine the beliefs, principles, and behaviors which drive organizations. In seminar format, participants investigate possibilities for new ways of thinking together, focusing on emerging perspectives of ourselves, our organizations, our communities, and our world. Students explore the growing importance of environment in creating a context for transformation. (F)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6



## 2022-2023 Course Descriptions

### **MGMT 346    Managerial Finance**

**Credit Hours: 3 / Billing Hours: 3**

This course is designed to provide necessary and practical skills to deal with financial matters and communicate with people who specialize in finance. Topics covered include basic financial analysis, short-term and long-term financing, financial planning, and managing the finance function. (F)

- Prerequisite Course: (Minimum 2.0 in MATH 112 or MATH 115 or MATH 117 or MATH 119 or Math Level 6) and (minimum 2.0 in ACCG 210 and minimum 2.0 in ACCG 211)
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: Have taken previous MGMT courses

### **MILS 110    Introduction to the Army**

**Credit Hours: 1 / Billing Hours: 1**

This course addresses duties and responsibilities of the Army officer and noncommissioned officer, and organizational structure of the Army, Army Reserve, and National Guard. Students will also explore the Army's role in joint operations, Army values, leadership, customs and traditions. (F,Sp)

- Prerequisite Course: None
- Placement Score: None. Department approval required.
- Course Note: Call MSU Department of Military Science at (517) 355-1913 for specific days and times.

### **MILS 111    Introduction to the Army-Lab**

**Credit Hours: 1 / Billing Hours: 2**

The Leadership Laboratory augments the Army ROTC academic curriculum by providing hands-on practice of subjects taught in the Military Science classes. Students receive feedback from department staff regarding their leadership performance within the unit structure. Students seeking a commission with the United States Army are highly encouraged to take the laboratories. Over the continuum of the Military Science courses, cadets practice individual movement techniques and field craft, small unit tactics, operations planning and execution, culminating with operational-level organizational management.

- Prerequisite Course: None
- Placement Score: None. Department approval required.

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## 2022-2023 Course Descriptions

### **MILS120**      **Foundations of Army Leadership**      **Credit Hours: 1 / Billing Hours: 1**

Topics include: fundamentals of basic Army leadership, military problem solving process, military briefing and writing skills, and goal setting and time management. Students are also introduced to the Army's developmental counseling program. (Sp)

- Prerequisite Course: None
- Placement Score: None. Department approval required.
- Course Note: Call MSU Department of Military Science at (517) 355-1913 for specific days and times.

### **MILS 121**      **Fndtion of Army Leadership-Lab**      **Credit Hours: 1 / Billing Hours: 2**

The Leadership Laboratory augments the Army ROTC academic curriculum by providing hands-on practice of subjects taught in the Military Science classes. Students receive feedback from department staff regarding their leadership performance within the unit structure. Students seeking a commission with the United States Army are highly encouraged to take the laboratories. Over the continuum of the Military Science courses, cadets practice individual movement techniques and field craft, small unit tactics, operations planning and execution, culminating with operational-level organizational management.

- Prerequisite Course: None
- Placement Score: None. Department approval required.

### **MILS 210**      **Army Doctrine & Team Developmnt**      **Credit Hours: 2 / Billing Hours: 2**

Students will examine military case studies, critical dilemmas in combat situations and the ethical decisions Army leaders make to ensure mission success to develop an understanding of how to improve Army organizations and soldier performance. The Army's leadership development program, battle drills, land navigation, and combat decision making are also addressed. (F, Sp)

- Prerequisite Course: None
- Placement Score: None. Department approval required.
- Course Note: Call MSU Department of Military Science at (517) 355-1913 for specific days and times.



## 2022-2023 Course Descriptions

### **MILS 211      Army Doctrine/Team Develop-Lab      Credit Hours: 1 / Billing Hours: 2**

The Leadership Laboratory augments the Army ROTC academic curriculum by providing hands-on practice of subjects taught in the Military Science classes. Students receive feedback from department staff regarding their leadership performance within the unit structure. Students seeking a commission with the United States Army are highly encouraged to take the laboratories. Over the continuum of the Military Science courses, cadets practice individual movement techniques and field craft, small unit tactics, operations planning and execution, culminating with operational-level organizational management.

- Prerequisite Course: None
- Placement Score: None. Department approval required.

### **MILS 220      Mil Leadership & Decision Making      Credit Hours: 2 / Billing Hours: 2**

This course uses military case studies to study challenging situations for military leaders and units, and understand how to apply sound ethical leadership practices to implement decisions. Students will also develop an understanding of basic military small unit tactics. (F)

- Prerequisite Course: None
- Placement Score: None. Department approval required.
- Course Note: Call MSU Department of Military Science at (517) 355-1913 for specific days and times.

### **MILS 221      Mil Leadership/Decision Making-Lab      Credit Hours: 1 / Billing Hours: 2**

The Leadership Laboratory augments the Army ROTC academic curriculum by providing hands-on practice of subjects taught in the Military Science classes. Students receive feedback from department staff regarding their leadership performance within the unit structure. Students seeking a commission with the United States Army are highly encouraged to take the laboratories. Over the continuum of the Military Science courses, cadets practice individual movement techniques and field craft, small unit tactics, operations planning and execution, culminating with operational-level organizational management.

- Prerequisite Course: None
- Placement Score: None. Department approval required

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## 2022-2023 Course Descriptions

### **MKTG 119**     **Mktg/Manage Your Profess Image**     **Credit Hours: 3 / Billing Hours: 3**

This course is a complete guide for everything people and their companies need to know to do the right thing at the right time in every business situation. Students will understand the importance of a professional image as it relates to business success and will develop a personal image development plan. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4

### **MKTG 120**     **Sales**     **Credit Hours: 3 / Billing Hours: 3**

This course presents the fundamentals of selling. Topics include the basics of sales, motivation, and human relations. The course is designed so that students will not only learn about selling, but to be able to do it. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4

### **MKTG 130**     **Retailing**     **Credit Hours: 3 / Billing Hours: 3**

Students will gain understanding of activities and strategies used in selling goods to ultimate consumers. The course develops an awareness of problems facing retailers and explores feasible solutions. Career opportunities in retailing are examined. (Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4

### **MKTG 140**     **Introduction to Advertising**     **Credit Hours: 3 / Billing Hours: 3**

Methods and techniques used in modern advertising. Information on the entire advertising function. Preparation of an advertising campaign will be required to facilitate hands-on understanding of the component parts which include marketing review, marketing plan, creative strategy, and media selection. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

1228

*F=Fall; Sp=Spring; Su=Summer*

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## 2022-2023 Course Descriptions

### **MKTG 200 Principles of Marketing**

**Credit Hours: 3 / Billing Hours: 3**

Designed to define marketing, develop an understanding of the marketing concept and functions, and generally investigate the field of marketing. Will cover the marketing environment; identifying consumer needs; examining product, price, promotion; and distribution strategies within our society. Provides a basic marketing understanding with practical applications. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: BUSN 118

### **MKTG 202 Managerial Marketing**

**Credit Hours: 3 / Billing Hours: 3**

The course focuses on the solution of marketing problems through case analysis. It relates marketing to the total enterprise by analyzing problems, and suggesting approaches to business decision-making. Particular attention is paid to the elements of the marketing mix and how marketing management deals with these variables. (Sp)

- Prerequisite Course: Minimum 2.0 in MKTG 200
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: MKTG 204 and Second Year Student

### **MKTG 204 Marketing Research**

**Credit Hours: 3 / Billing Hours: 3**

Types of data, sampling, data collection, analysis, interpretation, and applications of marketing research. A practical managerial approach - not a statistical or mathematical orientation. Students will design and execute a marketing research project. (F)

- Prerequisite Course: Minimum 2.0 in MKTG 200
- Placement Score: Placement Scores: Reading Level 5 and Writing Level 6

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## 2022-2023 Course Descriptions

### **MKTG 210 Marketing on the Internet**

**Credit Hours: 3 / Billing Hours: 3**

This course will explore the impact of information technology on the practice of marketing. Course content focuses on the internet, its culture and procedures from a marketing perspective, and will include using the internet for customer contact and customer service. This class uses extensive hands-on activities. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: MKTG 200 and basic understanding of computers and their use on the Internet.

### **MKTG 221 Consumer Behavior**

**Credit Hours: 3 / Billing Hours: 3**

Covers the basic perspectives involved in consumer motivation and decision-making. Students will investigate relevant variables that shape consumer actions and concepts that integrate the study of consumer behavior with the practice of marketing. (F)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4

### **MKTG 229 Public Relations**

**Credit Hours: 3 / Billing Hours: 3**

Provides an introduction to principles involved in creating and maintaining good public relations. Techniques for developing improved employer-employee relations, customer relations, and the total public relations effort will be discussed and applied. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4

### **MKTG 231 Independent Study in Marketing**

**Credit Hours: 1 to 3 / Billing Hours: 1 to 3**

Advanced marketing students design, implement, and draw conclusions relevant to a marketing project in a specific area of interest in marketing. Minimum of 16 hours of work per credit is required. (F,Sp)

- Prerequisite Course: Department Approval

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## 2022-2023 Course Descriptions

### **MKTG 235      Marketing Internship**

**Credit Hours: 3 / Billing Hours: 3**

This course provides an opportunity to apply classroom learning to a career-related position by working a minimum of 160 hours at an approved work site. A student may do an internship at his/her own job only if the duties are new, marketing related, and provide an appropriate learning situation. (F,Sp)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None
- Recommended: Have completed a minimum of 30 credits

### **MRIT 200      Professional Prospectus**

**Credit Hours: 1 / Billing Hours: 0**

This course serves to orientate the MRI student to the profession of medical imaging. Students will explore the integration of MRI within the encompassing health care system. The evolution of MRI as a profession will be investigated with students classifying various organizations and agencies that drive the development and continuing education of the MRI technologist's role and responsibilities. (Su)

- Prerequisite Course: None. Admission to the EPiC Magnetic Resonance Imaging Program is required
- Placement Score: None
- Corequisite Course: MRIT 229 and MRIT 260

### **MRIT 201      Computer Apps/Medical Imaging**

**Credit Hours: 3 / Billing Hours: 0**

This course serves to provide the MRI student with a basic understanding of computer applications. Students will explore the components, principles, and operation of digital imaging systems, image data management, and data manipulation as it relates to the imaging department. Students will also explore the basic concepts of patient information management including medical record concerns, patient privacy, and regulatory issues. (F)

- Prerequisite Course: Minimum 2.5 in MRIT 200 and MRIT 229 and MRIT 260
- Placement Score: None
- Corequisite Course: MRIT 220 and MRIT 230 and MRIT 261

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## 2022-2023 Course Descriptions

### MRIT 220 MR Physics I

**Credit Hours: 3 / Billing Hours: 0**

This is the first in a series of two courses that provide the MRI student with a basic foundation of MRI physics. Students will explore the properties of atoms and their interactions within the magnetic field. Emphasis will be placed on the basic principles of MRI, data acquisition, and tissues characteristics in image formation. (F)

- Prerequisite Course: Minimum 2.5 in MRIT 200 and MRIT 229 and MRIT 260
- Placement Score: None
- Corequisite Course: MRIT 201 and MRIT 230 and MRIT 261

### MRIT 222 MR Physics II

**Credit Hours: 3 / Billing Hours: 0**

This is the final physics course in a series of two. The course content is a continuation of Physics I concepts including pulse sequencing, applications, coil selection as it relates to scan selection, calculation of scan times, scan parameters and imaging factors. Emphasis will be placed on the topics of gradient echoes, cardiac imaging, magnetic resonance angiography, diffusion, perfusion, and spectroscopy. (Sp)

- Prerequisite Course: Minimum 2.5 in MRIT 201 and MRIT 220 and MRIT 230 and MRIT 261
- Placement Score: None
- Corequisite Course: MRIT 232 and MRIT 240 and MRIT 262

### MRIT 229 Applied Sectional Anatomy

**Credit Hours: 3 / Billing Hours: 0**

This course is a study of human anatomy as seen in multiple planes. Students will review the gross anatomy of the entire body and identify anatomic structures in the axial, sagittal, coronal, and orthogonal planes. Emphasis will be applied to the appearance characteristics of each structure as seen on illustrations and photographic images correlated with magnetic resonance (MR) and computed tomography (CT). (Su)

- Prerequisite Course: None. Admission to the EPiC Magnetic Resonance Imaging Program is required
- Placement Score: None
- Corequisite Course: MRIT 200 and MRIT 260

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## 2022-2023 Course Descriptions

### **MRIT 230      MR Procedures and Pathophys I      Credit Hours: 3 / Billing Hours: 0**

This is the first in a series of two courses that will provide the student with considerations related to routine imaging techniques of the central nervous system (CNS) and musculoskeletal system (MSK). Students will explore the signal characteristics of normal anatomy and compare it to common pathologies. Emphasis will be placed on tissue characteristics, protocol options, and positioning considerations. (F)

- Prerequisite Course: Minimum 2.5 in MRIT 200 and MRIT 229 and MRIT 260
- Placement Score: None
- Corequisite Course: MRIT 201 and MRIT 220 and MRIT 261

### **MRIT 232      MR Procedures and Pathophys II      Credit Hours: 3 / Billing Hours: 0**

This is the final procedures and pathophysiology course in a series of two that will provide the student with considerations related to routine imaging techniques related to the abdomen and pelvis and special imaging techniques. Students will explore the signal characteristics of normal anatomy and compare it to common pathologies. Emphasis will be placed on tissue characteristics, protocol options, and positioning considerations. (Sp)

- Prerequisite Course: Minimum 2.5 in MRIT 201 and MRIT 220 and MRIT 230 and MRIT 261
- Placement Score: None
- Corequisite Course: MRIT 222 and MRIT 240 and MRIT 262

### **MRIT 240      MRI Image Analysis      Credit Hours: 3 / Billing Hours: 0**

This course provides the MRI student with the critical assessment skills necessary to recognize and identify pathology and artifacts. Students will explore the necessary parameter adjustments for differential diagnosis. Emphasis will be placed on quality control procedures, image post-processing, and image archiving. (Sp)

- Prerequisite Course: Minimum 2.5 in MRIT 201 and MRIT 220 and MRIT 230 and MRIT 261
- Placement Score: None
- Corequisite Course: MRIT 222 and MRIT 232 and MRIT 262

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## 2022-2023 Course Descriptions

### **MRIT 260      MRI Pre-Clinical Preparation      Credit Hours: 3 / Billing Hours: 0**

This course prepares the MRI student for safe participation in clinical education within the MRI environment. Students will explore and discuss the importance of MRI safety and patient assessment. While most of the course is delivered online, students will practice and master various safety procedures in a face-to-face workshop setting. (Su)

- Prerequisite Course: None. Admission to the EPiC Magnetic Resonance Imaging Program is required
- Placement Score: None
- Corequisite Course: MRIT 200 and MRIT 229

### **MRIT 261      Clinical Practice I      Credit Hours: 3 / Billing Hours: 0**

This is the first in a series of three clinical courses that provides the necessary supervised clinical education needed for the MRI student to competently apply basic protocols, recognize when to appropriately alter the standard protocol and recognize equipment and patient considerations that affect image quality. Emphasis will be placed on patient safety and comfort while professional values, attitudes, and behaviors are upheld. (F)

- Prerequisite Course: Minimum 2.5 in MRIT 200 and MRIT 229 and MRIT 260
- Placement Score: None
- Corequisite Course: MRIT 201 and MRIT 220 and MRIT 230

### **MRIT 262      Clinical Practice II      Credit Hours: 3 / Billing Hours: 0**

This is the second in a series of three clinical courses that provides the necessary supervised clinical education needed for the MRI student to competently apply basic protocols, recognize when to appropriately alter the standard protocol, and recognize equipment and patient considerations that affect image quality. Emphasis will be placed on patient safety and comfort while professional values, attitudes, and behaviors are upheld. (Sp)

- Prerequisite Course: Minimum 2.5 in MRIT 201 and MRIT 220 and MRIT 230 and MRIT 261
- Placement Score: None
- Corequisite Course: MRIT 222 and MRIT 232 and MRIT 240



## 2022-2023 Course Descriptions

### MRIT 263

### Clinical Practice III

**Credit Hours: 3 / Billing Hours: 0**

This is the final clinical course in a series of three that provides the necessary supervised clinical education needed to complete all remaining competencies required by the American Registry of Radiologic Technologists (ARRT) following the Primary Pathway requirements. Emphasis will be placed on patient safety and comfort while professional values, attitudes, and behaviors are upheld. (Su)

- Prerequisite Course: Minimum 2.5 in MRIT 222 and MRIT 232 and MRIT 240 and MRIT 262
- Placement Score: None
- Corequisite Course: MRIT 295

### MRIT 295

### MRI Certification Exam Prep

**Credit Hours: 3 / Billing Hours: 0**

This course provides the student with instructional review and a self-examination process as preparation for the certification exam in MRI. Discussions will focus on the four content specifications for examination in magnetic resonance as outlined in the American Registry of Radiologic Technology (ARRT) primary pathway certification handbook. Students will have the opportunity to participate in an 8 hour registry review seminar. (Su)

- Prerequisite Course: Minimum 2.5 in MRIT 222 and MRIT 232 and MRIT 240 and MRIT 262
- Placement Score: None
- Corequisite Course: MRIT 263

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## 2022-2023 Course Descriptions

### **MSGE 110    Massage for Non-Majors**

**Credit Hours: 0.53 / Billing Hours: 1**

This course provides instruction in basic relaxation massage therapy skills for non-majors. Along with a brief introduction to the history and principles of massage therapy, the student will learn to perform a professionally draped, full-body relaxation massage on a partner for health enhancement. (F,Sp,Su)

- Prerequisite Course: None. Must be 18 years of age
- Placement Score: None
- Course Note: Students are required to bring two sheets and unscented massage lotion to the first class session. Lotion can be purchased prior to the start of the class in HHS 016 (payment with credit card only at the [LCC Marketplace](#) webpage). For questions please call Medical Locked Storage at 517-483-9741. If you are pregnant in your 2nd or 3rd trimester, or are receiving treatment for a diagnosed medical condition, you are required to bring a written release from your doctor to the first class session to participate in this course.

### **MSGE 131    Massage I**

**Credit Hours: 2.13 / Billing Hours: 4**

This course provides foundational information on the theory and practice of therapeutic massage. Swedish massage techniques, with variations, are developed into a sequence for a full-body therapeutic massage for healthy adults. Topics include basic anatomy and physiology of major muscle groups and bones, massage benefits and contraindications, professional ethics, clinical charting, thermo- and cryotherapy, body mechanics, and self-care. (F,Sp)

- Prerequisite Course: None. HS Diploma or Equivalent and Program Approval is required
- Placement Score: Reading Level 5 and Writing Level 6
- Course Note: The Massage Program is offered in two distinct sessions that cannot be combined: a Daytime Cohort beginning in the fall and an Evening Cohort beginning in the spring. Students enrolling in the Daytime Cohort will complete the program in three consecutive semesters, Fall 2022 through Summer 2023. Students enrolling in the Evening Cohort will complete the program in four consecutive semesters, Spring 2023 through Spring 2024. To enroll, students must be 18 years of age or older by the start of classes and must declare Massage Therapy as their major. Students wishing to enroll must attend a mandatory one-hour program orientation and submit a program approval application with required supporting documentation at least two weeks prior to the start of the semester. Orientation dates and the program application can be found on the [“Steps to Apply”](#) webpage. Seats are limited and are awarded on a first come, first served basis. Contact Jodi or Crystal at 517-483-1410 for more information.

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## 2022-2023 Course Descriptions

### **MSGE 132A Anatomy/Physiology Massage I**

**Credit Hours: 2.13 / Billing Hours: 4**

An introductory course in human anatomy and physiology that combines lecture and integrated assignments to provide a basic understanding of the structure and function of the skeletal, muscular, and nervous systems of the human body. It is designed for students enrolled in the Massage Therapy Program to prepare for professional practice and licensing exams. (F,Sp)

- Prerequisite Course: None. Program Approval is required
- Placement Score: Reading Level 5 and Writing Level 6

### **MSGE 132B Anatomy/Physiology Massage II**

**Credit Hours: 1.06 / Billing Hours: 2**

An introductory course in human anatomy and physiology that combines lecture and laboratory experiences to provide a basic understanding of the structure and function of the cardiovascular, respiratory, endocrine, digestive, special sensory, lymphatic, immune, urinary, and reproductive systems of the human body. It is designed for students enrolled in the Massage Program to prepare for licensing exams and professional practice. (F,Sp)

- Prerequisite Course: Minimum 2.5 in all previous required MASG courses. Program approval is required
- Placement Score: Reading Level 5 and Writing Level 6

### **MSGE 137 Medical Terminology in Massage**

**Credit Hours: 1.06 / Billing Hours: 2**

This course will introduce the student to basic medical vocabulary related to the body system. Basic pharmacology will be presented with the classifications and names of common medications, as well as massage considerations for common medications. (F,Sp)

- Prerequisite Course: None. Program Approval is required
- Placement Score: Reading Level 5 and Writing Level 6

### **MSGE 139A Pathology for Massage I**

**Credit Hours: 0.53 / Billing Hours: 1**

This course will introduce students to the pathology of the skeletal, muscular, and nervous systems and will address the positive or negative impact that massage may have on those conditions. Students will learn to apply this knowledge to decision-making skills for client care. (F,Sp)

- Prerequisite Course: None. Program Approval is required
- Placement Score: Reading Level 5 and Writing Level 6

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## 2022-2023 Course Descriptions

### **MSGE 139B Pathology for Massage II**

**Credit Hours: 0.53 / Billing Hours: 1**

This course will introduce students to the pathology of the integumentary, cardiovascular, lymphatic, immune, endocrine, respiratory, digestive, urinary, and reproductive body systems and will address the positive or negative impact that massage may have on those conditions. Students will learn to apply this knowledge to decision-making skills for client care. (F,Sp)

- Prerequisite Course: Minimum 2.5 in all previous required MASG courses. Program approval is required
- Placement Score: Reading Level 5 and Writing Level 6

### **MSGE 141 Massage Clinic I**

**Credit Hours: 1.33 / Billing Hours: 2.5**

Students will progressively utilize the knowledge, skills, and practical experience attained throughout the Massage Program in a clinical setting and in event massage. The student will be engaged in weekly scheduled massage sessions with clients in this first of three clinical courses. (F,Sp)

- Prerequisite Course: Minimum 2.5 in all previous required MASG courses. Program Approval is required
- Placement Score: Reading Level 5 and Writing Level 6

### **MSGE 150 Masg Special Topics**

**Credit Hours: .13 to 4.26 / Billing Hours: .25 to 7**

This course offers students the opportunity to learn new skills and knowledge related to massage. Specific up-to-date course content will vary with each offering and will be related to massage. (As Needed)

- Prerequisite Course: Determined by Section
- Placement Score: Determined by Section

## 2022-2023 Course Descriptions

### **MSGE 151A Research Literacy**

**Credit Hours: 0.8 / Billing Hours: 1.5**

Students will discover the value of clinical research to the massage therapy profession by learning to identify sources of research literature in the massage therapy field, interpreting those findings, and applying the evidence to treatment planning. They will also learn how to become involved in current research. (F)

- Prerequisite Course: Minimum 2.5 in all previous required MASG courses. Program Approval is required
- Placement Score: Reading Level 5 and Writing Level 6

### **MSGE 151B Event Massage**

**Credit Hours: 0.8 / Billing Hours: 1.5**

This course prepares the student to perform corporate-venue office massage and massage prior to and following an athletic event or training session. Techniques cover table, on-site chair, and tabletop chair equipment options. Thermal injuries, the use of ice and heat to supplement the healing effects of massage, cross-fiber friction techniques, and indications, contraindications and procedures of event massage are also covered. (F)

- Prerequisite Course: Minimum 2.5 in all previous required MASG courses. Program Approval is required
- Placement Score: Reading Level 5 and Writing Level 6

### **MSGE 151C Maternal/Infant Massage**

**Credit Hours: 0.53 / Billing Hours: 1**

This course teaches massage techniques specifically beneficial to women during pregnancy and post-partum recovery. Massage techniques beneficial to infants and young children will also be introduced. (Sp,Su)

- Prerequisite Course: Minimum 2.5 in all previous required MASG courses. Program Approval is required
- Placement Score: Reading Level 5 and Writing Level 6



## 2022-2023 Course Descriptions

### **MSGE 151D Special Populations**

**Credit Hours: 0.8 / Billing Hours: 1.5**

The focus of this course will be on learning information needed for designing and implementing appropriate massage therapy sessions for the chronic and terminally ill, the elderly, and clients with psychological and emotional issues. Students learn to adapt massage techniques to the needs of target populations. (Su)

- Prerequisite Course: Minimum 2.5 in all previous required MASG courses. Program Approval is required
- Placement Score: Reading Level 5 and Writing Level 6

### **MSGE 170 Massage Directed/Indep Study Credit Hours: .13 to 4.26 / Billing Hours: .25 to 7**

This course includes special research, projects, or directed study in massage. Massage students may enroll to update or enhance knowledge, skills, and competencies. Advanced students may explore topics related to, but not included in the curriculum. A learning contract specifying objectives, activities, outcomes, and grading methods is required. (As Needed)

- Prerequisite Course: None
- Placement Score: Determined by Section

### **MSGE 231 Massage II**

**Credit Hours: 2.13 / Billing Hours: 4**

This course will introduce the student to clinical massage techniques. Students will learn anatomy, physiology, and kinesiology of specific muscles of the superficial front line, superficial back line, and lateral line followed by clinical massage techniques and stretches to treat these areas. (F,Sp)

- Prerequisite Course: Minimum 2.5 in all previous required MASG courses. Program approval required
- Placement Score: Reading Level 5 and Writing Level 6

### **MSGE 232 Massage III**

**Credit Hours: 2.13 / Billing Hours: 4**

This course will continue to introduce the student to clinical massage techniques. Students will learn anatomy, physiology and kinesiology of specific muscles of the spiral line, arm line, and deep front line followed by clinical massage techniques and stretches to treat these areas. (Sp)

- Prerequisite Course: Minimum 2.5 in all previous required MASG courses. Program approval required
- Placement Score: Reading Level 5 and Writing Level 6

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## 2022-2023 Course Descriptions

### **MSGE 235    Licensing Exam Prep**

**Credit Hours: .53 / Billing Hours: 1**

This course is designed to prepare massage students or practicing massage therapists to study for national massage exams. It will review all areas of the licensing exams content and cover test taking strategies. (Sp,Su)

- Prerequisite Course: Minimum 2.5 in all previous required MASG courses. Program approval required. Basic Life Support (BLS) certification from American Heart Association or American Red Cross valid through the end of the class or Passing grade in NCHE 102 or NCHE 103 within 2 years.
- Placement Score: Reading Level 5 and Writing Level 6

### **MSGE 241    Massage Clinic II**

**Credit Hours: 1.33 / Billing Hours: 2.5**

Students will progressively utilize the knowledge, skills, and practical experience attained throughout the Massage Program in a clinical setting and in an event massage. The student will be engaged in weekly scheduled massage sessions with clients in this second of three clinical courses. (Sp)

- Prerequisite Course: Minimum 2.5 in all previous required MASG courses. Program Approval is required
- Placement Score: Reading Level 5 and Writing Level 6

### **MSGE 242    Massage Clinic III**

**Credit Hours: 1.6 / Billing Hours: 3**

Students will progressively utilize the knowledge, skills, and practical experience attained throughout the Massage Program in a clinical setting and in an event massage. The student will be engaged in weekly scheduled massage sessions with clients in this last of three clinical courses. (Sp,Su)

- Prerequisite Course: Minimum 2.5 in all previous required MASG courses. Program Approval is required
- Placement Score: Reading Level 5 and Writing Level 6

## 2022-2023 Course Descriptions

### **MSGE 252 Energy-Based Modalities**

**Credit Hours: 1.06 / Billing Hours: 2**

This course presents a survey of various energy modalities used in the bodywork profession. Students will learn both theories and techniques of these approaches. Modalities include reflexology, Asian body therapy, and polarity therapy. Students will also have the opportunity to investigate other modalities according to their interests. (Su)

- Prerequisite Course: Minimum 2.5 in all previous MSGE courses. Program approval required
- Placement Score: Reading Level 5 and Writing Level 6

### **MSGE 253 Spa and Clinic Modalities**

**Credit Hours: 1.06 / Billing Hours: 2**

This course presents a survey of various spa modalities and modalities used in medical settings. Students will learn theories and techniques of these approaches. Modalities include thermotherapy, cryotherapy, cupping, aromatherapy, hot stones, brushing, Positional Release, and instrument use. Students will also have the opportunity to investigate other modalities. (Sp,Su)

- Prerequisite Course: Minimum 2.5 in all previous MSGE courses. Program approval required
- Placement Score: Reading Level 5 and Writing Level 6

### **MSGE 254 Busn App for Massage**

**Credit Hours: 1.06 / Billing Hours: 2**

This course introduces students to aspects of business and marketing in the field of massage and body work. Emphasis is placed on development of a professional and personal business sense using planning and persistence, client-practitioner relationships, research, marketing strategy, goal-setting, motivation, and professional legalities. (Sp,Su)

- Prerequisite Course: Minimum 2.5 in all previous required MASG courses. Program Approval is required
- Placement Score: Reading Level 5 and Writing Level 6

## 2022-2023 Course Descriptions

### **MSGE 256 Clinical Assess for Massage**

**Credit Hours: 1.06 / Billing Hours: 2**

This course introduces the student to a systematic method of deciding which specific massage techniques to apply and when to apply them. Students use newly acquired assessment skills to gather data to deal effectively with common musculoskeletal complaints, and then apply critical thinking skills to formulate a treatment plan that best addresses the issues identified. (F,Sp)

- Prerequisite Course: Minimum 2.5 in all previous required MASG courses. Program Approval is required
- Placement Score: Reading Level 5 and Writing Level 6

### **MSGE 258 Career Longevity**

**Credit Hours: 1.06 / Billing Hours: 2**

The concepts taught in this Massage Therapy Program class teach students how to mentally and physically care for themselves in order to sustain a career as a massage therapist. Emphasis is placed on the impact of health, wellness and fitness for career longevity. General wellness principles and specific massage-related applications are also addressed. (F,Sp)

- Prerequisite Course: None. Program approval required
- Placement Score: Reading Level 5 and Writing Level 6

### **MUSC 101 Vocal Jazz & Pop Ensemble**

**Credit Hours: 1 / Billing Hours: 3**

A select vocal ensemble specializing in jazz and contemporary music for mixed voices. Artistic and creative vocal skills, improvisation and interpretation are developed through ensemble, small group and solo performance. Participation in two to four concerts per semester is required. (F, Sp)

- Prerequisite Course: None
- Recommended: Music reading skills

### **MUSC 106 Private Music Lesson**

**Credit Hours: 2 / Billing Hours: 2**

Concentrated one-to-one training in vocal/instrumental skills, techniques and repertory. (F, Sp,Su)

- Prerequisite Course: None. Department Approval Required
- Placement Score: None
- Corequisite Course: MUSC 121 or MUSC 122 or MUSC 123 or MUSC 124

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## 2022-2023 Course Descriptions

### **MUSC 108**    **Concert Choir**

**Credit Hours: 1 / Billing Hours: 3**

A larger student and community member mixed voice choir exploring diverse styles, genres, repertoires and cultural traditions spanning the choral experience. General musicianship and training in choral singing are developed. Participation in two to four concerts per semester is required. (F, Sp)

- Prerequisite Course: None
- Placement Score: None
- Recommended: Music reading skills
- Course Note: A non-credit option is available for this class at a reduced rate. See the NCCE 200 listing in the Community and Continuing Education section of the College Catalog for more information.

### **MUSC 109**    **Studio Class**

**Credit Hours: 1 / Billing Hours: 1**

Studio Class will include discussion of practice routines and habits, technical and stylistic problems, performance anxiety, and repertoire memorization, as well as in class performances by the students. Students enrolled in MUSC 157, 158, 257, or 258 must enroll in MUSC 109. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: None
- Corequisite Course: MUSC 157 or MUSC 158 or MUSC 257 or MUSC 258

### **MUSC 119**    **Lansing Concert Band**

**Credit Hours: 1 / Billing Hours: 3**

A community band serving as the official band of the City of Lansing. The group performs throughout the year and plays all styles of music but primarily concentrates on traditional concert band literature. Students are required to play in public performances of the band. (F, Sp,Su)

- Prerequisite Course: Department Approval by Audition and Music reading skills

## 2022-2023 Course Descriptions

### MUSC 121 Percussion Ensemble

**Credit Hours: 1 / Billing Hours: 3**

The Percussion Ensemble rehearses and performs works of various styles, genres, cultural traditions and repertoires. Percussion techniques and musical skills are developed through ensemble, small group and solo performances. Participation in two to four concerts per semester is required. (F, Sp)

- Prerequisite Course: None
- Recommended: Music reading skills

### MUSC 122 Rock Band

**Credit Hours: 1 / Billing Hours: 3**

The Rock Band rehearses and performs rock music of diverse styles, including cover songs as well as original compositions and arrangements by students. The instrumentation is open to the characteristic make-up of rock ensembles, including guitar, bass, keyboard, drum-set instruments and singers. Other instrumentalists may join to expand the ensemble. Participation in two to four concerts per semester is required. (F, Sp)

- Prerequisite Course: None
- Placement Score: None
- Recommended: Music reading skills
- Course Note: A non-credit option is available for this class at a reduced rate. See the NCCE 200 listing in the Community and Continuing Education section of the College Catalog for more information.

### MUSC 123 Jazz Ensemble

**Credit Hours: 1 / Billing Hours: 3**

The Jazz Ensemble rehearses and performs pieces of diverse styles from various periods in jazz history. Musical, interpretative and improvisational skills are developed through ensemble, small combo and solo performances. Participation in two to four concerts per semester is required. (F, Sp)

- Prerequisite Course: None. Department Approval by Audition Required
- Placement Score: None
- Recommended: Music reading skills
- Course Note: A non-credit option is available for this class at a reduced rate. See the NCCE 200 listing in the Community and Continuing Education section of the College Catalog for more information.

1245

*F=Fall; Sp=Spring; Su=Summer*

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## 2022-2023 Course Descriptions

### **MUSC 124      Multi-Instrumental Music Ensem                      Credit Hours: 1 / Billing Hours: 3**

This course is dedicated to the exploration of new sound combinations of a variety of instrumentations. This ensemble welcomes players of all instrument types. Compositional, improvisational, and interpretative skills are developed through ensemble, small group, and solo performances. (F,Sp)

- Prerequisite Course: None
- Placement Score: None
- Recommended: Music reading skills
- Course Note: A non-credit option is available for this class at a reduced rate. See the NCCE 200 listing in the Community and Continuing Education section of the College Catalog for more information.

### **MUSC 138      Keyboard Harmony I    Credit Hours: 2 / Billing Hours: 3**

Music reading skills are required for this course. Keyboard Harmony I introduces fundamental keyboard skills primarily for music majors. Students develop facility in performing scales, arpeggios, intervals, chords, inversions, and diatonic harmonic progressions in all major and some minor keys. Pieces in two- to four-part textures are performed. Harmonizing melodies, simple transposition and reading lead sheets are introduced. (Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4

### **MUSC 143      Beginning Piano I - Summer    Credit Hours: 1 / Billing Hours: 1**

Course assumes no prior music experience or knowledge. Students are introduced to the rudiments of playing piano. Staff notation, rhythmic notation, correct fingering/hand positions, major scales, and primary chords are introduced. Simple two hand pieces are performed. (Su)

- Prerequisite Course: None
- Placement Score: None
- Recommended: Music reading skills

## 2022-2023 Course Descriptions

### **MUSC 144**    **Beginning Piano I**

**Credit Hours: 2 / Billing Hours: 2**

Course assumes no prior music experience or knowledge. Students are introduced to the rudiments of playing piano. Staff notation, rhythmic notation, correct fingering/hand positions, major scales, and primary chords are introduced. Simple two hand pieces are performed.

(F, Sp)

- Prerequisite Course: None
- Placement Score: None
- Recommended: Music reading skills

### **MUSC 145**    **Beginning Piano II**

**Credit Hours: 2 / Billing Hours: 2**

This course is designed to take the student up to an intermediate level of playing. Rhythmic subdivisions, more complex fingering, and new major and minor keys are introduced. Two-hand pieces are performed. (F, Sp)

- Prerequisite Course: Minimum 2.0 in MUSC 144
- Placement Score: None

### **MUSC 155**    **Class Voice Commercial I**

**Credit Hours: 2 / Billing Hours: 3**

Beginning course designed to introduce students to vocal techniques and performance skills required in singing/performing commercial music. Breathing, posture, diction, tone production, interpretative skills, and microphone techniques are presented and developed. Students are required to attend live performances. (F, Sp, Su)

- Prerequisite Course: None

### **MUSC 156**    **Class Voice Commercial II**

**Credit Hours: 2 / Billing Hours: 3**

The advanced course in a series of two, this course will refine techniques introduced in MUSC155. Students will prepare a final public performance. Students are required to attend live performances. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in MUSC 155



## 2022-2023 Course Descriptions

### **MUSC 157    Applied Lesson I**

**Credit Hours: 2 / Billing Hours: 2**

Concentrated one-to-one training in vocal/instrumental skills, techniques and repertory for Music majors only. Students must perform in Music Studio convocations and attend public concert events. Progression to the next level of Applied Lessons is by successfully passing a jury performance adjudicated by a Music faculty panel. (F, Sp)

- Prerequisite Course: None. Music Major Audition Required
- Placement Score: None
- Corequisite Course: MUSC 109

### **MUSC 158    Applied Lesson II**

**Credit Hours: 2 / Billing Hours: 2**

Concentrated one-to-one training in vocal/instrumental skills, techniques and repertory for Music majors only. Students must perform in Music Studio convocations and attend public concert events. Progression to the next level of Applied Lessons is by successfully passing a jury performance adjudicated by a Music faculty panel. (F, Sp)

- Prerequisite Course: Minimum 2.0 in MUSC 157 or Music Major Audition
- Placement Score: None
- Corequisite Course: MUSC 109

### **MUSC 163    Aural Skills I**

**Credit Hours: 1 / Billing Hours: 2**

Music reading skills are required for this course. Aural Skills I allows students to develop their aural capacity through exercises in beginning melodic and rhythmic dictation. The ability to sing melodies on sight through the use of solfeggio will also be developed. This is the first of two courses in freshman aural skills. (Sp)

- Prerequisite Course: None
- Placement Score: None

## 2022-2023 Course Descriptions

### **MUSC 164    Aural Skills II**

**Credit Hours: 1 / Billing Hours: 2**

This course allows students to develop their aural skills through intermediate exercises in melodic and rhythmic dictation. The ability to sight-sing melodies through the use of solfeggio continue to be developed. This course is the second in a sequence of two freshman music major requirements. (F)

- Prerequisite Course: Minimum 2.0 in MUSC 163
- Placement Score: None
- Corequisite Course: MUSC 194

### **MUSC 168    Rudiments of Music**

**Credit Hours: 3 / Billing Hours: 3**

This course introduces students and beginning musicians to the basics of reading and notating music. Fundamentals of rhythm, meter, pitch, intervals, scales, chords, keys and simple harmonic progressions are reviewed. Elements of music are explored through musical examples drawn from a variety of styles and genres. (F)

- Prerequisite Course: None
- Placement Score: None

### **MUSC 188    Class Guitar**

**Credit Hours: 2 / Billing Hours: 2**

This course is for beginners and experienced players who desire note reading skills. Folk, blues, and classical guitar traditions are presented using basic plectrum technique. Beginning chord theory is introduced. Students will provide their own guitar, and attend live performances. (F, Sp)

- Prerequisite Course: None

### **MUSC 193    Music Theory I**

**Credit Hours: 4 / Billing Hours: 4**

Freshman-level course in tonal harmony covering concepts and applications of scales, intervals, keys, rhythm, diatonic chords, inversions and basic part-writing for four voices. Harmonic progressions, cadence structures and simple forms are studied through both analysis and student composition. Introduces principles of counterpoint and jazz theory. (Sp)

- Prerequisite Course: Minimum 2.0 in MUSC 168 or passing score on the Music Theory Placement Exam
- Placement Score: Reading Level 5 or ENGL 099 concurrently

1249

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## 2022-2023 Course Descriptions

### **MUSC 194 Music Theory II**

**Credit Hours: 4 / Billing Hours: 4**

Third semester course in tonal harmony covering diatonic seventh chords, non-chord tones, secondary functions, modulations and larger musical forms. Focus on advancing students' skills in part-writing, analysis, score-reading and counterpoint. Concepts are applied through student composition in classical, jazz and/or popular styles. (F)

- Prerequisite Course: Minimum 2.0 in MUSC 193
- Placement Score: Reading Level 5 or ENGL 099 concurrently
- Corequisite Course: MUSC 164

### **MUSC 197 Music Tech 1 Home Studio Prod**

**Credit Hours: 2 / Billing Hours: 3**

First in a sequence of two courses designed to introduce students to the role of computers in music. Students will learn the fundamental concepts of MIDI and digital audio recording and editing, mixing and producing work suitable for diverse media applications. Additionally, exploration of music notation and printing software is included for music majors. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: None
- Recommended: Familiarity with computers; music reading skills and familiarity with music keyboard

### **MUSC 199 Music Appreciation**

**Credit Hours: 3 / Billing Hours: 3**

Designed for non-music majors, this course develops well-informed, focused listening. Students are acquainted with representative composers, compositions, and musical characteristics of a variety of style periods from early music through 20th Century music from selected cultural centers including the United States and Europe. Students are required to attend live performances. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: (Reading Level 5 and Writing Level 6) or (ENGL 099 concurrently)

1250

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## 2022-2023 Course Descriptions

### **MUSC 237 Musical Theater Performance**

**Credit Hours: 2 / Billing Hours: 3**

An introductory course for vocalists and actors emphasizing applying acting techniques to song performance. Students will explore music from a preselected range of musical theatre styles. Focus is on stage presence, movement, and advancing dramatic action through the song. The class concludes with a public performance. (F)

- Prerequisite Course: None
- Placement Score: None
- Recommended: Music Reading Skills
- Course Note: A non-credit option is available for this class at the special rate of \$100, course fees included. See the NCCE 200 listing in the Community and Continuing Education section.

### **MUSC 240 Musical Cultures to 1750**

**Credit Hours: 4 / Billing Hours: 4**

An historical and analytical survey of music and its development from Antiquity through 1750. Emphasizes an understanding of both Western and non-western genres, styles, composers and literature in relationship to historical, geographical and cultural contexts. Strengthens aural analytical skills and understanding of fundamental musical concepts. (F,Sp)

- Prerequisite Course: None
- Placement Score: (Reading Level 5 and Writing Level 4) or ENGL 099 concurrently

### **MUSC 241 Musical Cultures 1750-Present**

**Credit Hours: 4 / Billing Hours: 4**

An historical and analytical survey of music and its development from 1750 to the present. Emphasizes an understanding of both Western and non-western genres, styles, composers, literature and emerging world musics in relationship to historical, geographical and cultural contexts. Strengthens aural analytical skills and understanding of fundamental musical concepts. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4 or ENGL 099 concurrently

## 2022-2023 Course Descriptions

### **MUSC 246    Appreciation of Jazz**

**Credit Hours: 2 / Billing Hours: 2**

An overview of the emergence, development and relevance of two of America's most genuine musical art forms. Stylistic, cultural, and sociological investigations of such musics provide a mirror to the ever-changing popular American soundscape. Informed listening introduces: major creator/performers, genres, expressions, and reflections of an increasingly global and technological musical world. (F)

- Prerequisite Course: None
- Placement Score: Reading Level 5

### **MUSC 247    History and Culture of Rock**

**Credit Hours: 2 / Billing Hours: 2**

Survey of the origins, elements, developments, and reflections of Rock and Roll from its roots in the 1920s to the present. Major trends and artists are considered in stylistic, social, commercial, and global perspectives. Informed listening and comparative analyses reveal complex issues continuously redefining Rock music and its cultural legacy. (Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5

### **MUSC 255    Music Business & Management**

**Credit Hours: 4 / Billing Hours: 4**

An introduction to the business aspects of the music industry. Areas covered include copyrights, contracts, trademarks, publishing, recording and record company operations, personal managers, booking agents, concert promotions, and unions. Aspects of band management are also covered, including intra-band arrangements, promotion and sales, road management, and basic organizational information. (F)

- Prerequisite Course: None
- Placement Score: Reading Level 4 and Writing Level 4

## 2022-2023 Course Descriptions

### **MUSC 257    Applied Lesson III**

**Credit Hours: 2 / Billing Hours: 2**

Concentrated one-to-one training in vocal/instrumental skills, techniques and repertory for Music majors only. Students must perform in Music Studio convocations and attend public concert events. Progression to the next level of Applied Lessons is by successfully passing a jury performance adjudicated by a Music faculty panel. (F,Sp)

- Prerequisite Course: Minimum 2.0 in MUSC 158 or Music Major Audition
- Placement Score: None
- Corequisite Course: MUSC 109

### **MUSC 258    Applied Lesson IV**

**Credit Hours: 2 / Billing Hours: 2**

Concentrated one-to-one training in vocal/instrumental skills, techniques and repertory for Music majors only. Students must perform in Music Studio convocations and attend public concert events. A final jury or recital performance is adjudicated by a music faculty panel. (F,Sp)

- Prerequisite Course: Minimum 2.0 in MUSC 257 or Music Major Audition
- Placement Score: None
- Corequisite Course: MUSC 109

### **MUSC 270    Rock Guitar**

**Credit Hours: 2 / Billing Hours: 2**

A presentation on fundamental rhythm and lead guitar techniques and music theory concepts applicable to rock music from its rhythm and blues origin to the present, as well as other related popular styles. Student must provide own guitar. Students may be required to attend live performances. (F,Sp,Su)

- Prerequisite Course: None

### **MUSC 280    Private Composition**

**Credit Hours: 1 / Billing Hours: 1**

Private coaching/instruction for music majors, 40 minutes per week, in musical composition, giving attention and suggestion to melody, harmony, chord substitution, and formal design. Students are required to attend live performances. (F,Sp)

- Prerequisite Course: None. Department Approval Required
- Placement Score: None

1253

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## 2022-2023 Course Descriptions

### **MUSC 292     Arranging & Songwriting**

**Credit Hours: 3 / Billing Hours: 3**

Sophomore-level course in the practical techniques of the working songwriter and popular music composer. Focus on advancing student's skills in melody, harmony, form, instrumentation, and song logic. Concepts of solo writing and collaboration are introduced. The development of an individual's unique compositional "voice" is encouraged. (F)

- Prerequisite Course: Minimum 2.0 in MUSC 193
- Placement Score: Reading Level 5

### **MUSC 296     Music Internship**

**Credit Hours: 3 / Billing Hours: 3**

A worksite experience that serves as a business-related course for music management students. Students will work at venues that support music performance, promotions, business, management, and/or recording. Regularly scheduled progress reports will be given and discussed with the supervising faculty member.(F,Sp,Su)

- Prerequisite Course: None. Department Approval Required
- Placement Score: None

### **MUSC 298     Music Tech 2 Advanced Studio**

**Credit Hours: 3 / Billing Hours: 3**

A continuation of the Intro to Music Technologies I course. The student will proceed to more advanced training including manipulation of MIDI, digital audio editing, and processing, sound design and synthesis. Special emphasis is placed on the synchronization of software and exploration of music styles and techniques of electronic based performance. (Sp)

- Prerequisite Course: Minimum 2.0 in MUSC 197
- Placement Score: None
- Recommended: Computer experience; Music reading skills



## 2022-2023 Course Descriptions

### **NCAS 102      Noncredit Academic Supprt-ENGL      Credit Hours: 0 / Billing Hours: 0**

NCAS102 is a 2-hour per week, pass/fail lab open to students placing just below college-level in writing. Students co-enroll in the lab and a paired section of ENGL121. The lab follows the curriculum of the composition class and focuses on building skills in critical reading (text and visual information); writing/research strategies and processes; vocabulary expansion; and textbook navigation. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4
- Corequisite Course: ENGL 121

### **NCAS 103      Noncredit Academic Supprt-SOCL      Credit Hours: 0 / Billing Hours: 0**

NCAS 103 is a 2-hour per week, pass/fail lab open to students enrolled in ENGL098. Students co-enroll in the lab and a paired section of SOCL 120 (Introduction to Sociology). The lab follows the curriculum of the sociology class and focuses on applying skills in critical reading (text and visual information); writing/research strategies and processes; vocabulary expansion; and textbook navigation to the Introduction to Sociology course work. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: None
- Corequisite Course: ENGL 098 and SOCL 120

### **NCAS 104      Noncredit Academic Supprt-PSYC      Credit Hours: 0 / Billing Hours: 0**

NCAS104 is a 2-hour per week, pass/fail lab open to students enrolled in ENGL098. Students co-enroll in the lab and a paired section of PSYC 200 (Introduction to Psychology). The lab follows the curriculum of the psychology class and focuses on applying skills in critical reading (text and visual information); writing/research strategies and processes; vocabulary expansion; and textbook navigation to the Introduction to Psychology course work. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: None
- Corequisite Course: ENGL 098 and PSYC 200

1255

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## 2022-2023 Course Descriptions

### **NCAS 105      Noncredit Academic Supprt-BUSN      Credit Hours: 0 / Billing Hours: 0**

NCAS105 is a 2-hour per week, pass/fail lab open to students enrolled in ENGL098. Students co-enroll in the lab and a paired section of BUSN118 (Introduction to Business). The lab follows the curriculum of the business class and focuses on applying skills in critical reading (text and visual information); writing/research strategies and processes; vocabulary expansion; and textbook navigation to the Introduction to Business course work. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: None
- Corequisite Course: ENGL 098 and BUSN 118

### **NCBD 050      Building/Design Special Topics      Credit Hours: 0 / Billing Hours: 0**

Skilled tradespersons and job seekers who need to gain skills and knowledge in order to obtain or retain employment in building, design, and industries utilizing tradespersons. (F,Sp)

- Prerequisite Course: None

### **NCCE 200      Creative Arts      Credit Hours: 0 / Billing Hours: 0**

This non-credit series of courses focuses on personal creativity through music and the arts. Seminars provide students hands-on opportunities in the areas of instrumental or vocal music, photography, or the visual and performing arts. (F,Sp)

- Prerequisite Course: None

### **NCCT 600      Noncredit Public Safety Svcs      Credit Hours: 0 / Billing Hours: 0**

Training in this series will focus on topics within public safety services. (F,Sp, Su)

- Prerequisite Course: None

### **NCCT 800      Noncredit Career Preparation      Credit Hours: 0 / Billing Hours: 0**

Training in this series will focus on topics towards career preparation. (F,Sp, Su)

- Prerequisite Course: None

1256

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## 2022-2023 Course Descriptions

### **NCEL 030**

### **Low Intermediate Accelerated**

**Credit Hours: 0 / Billing Hours: 0**

This 6-week non-credit course is the Low Intermediate ESOL reading, speaking, writing, and listening course for English as a Second Language learners. This course is an accelerated course, utilizing lectures and online instruction. This course focuses on assisting students in further developing fluency and accuracy in speaking and reading skills for college and workplace success.

Students will be able to develop and apply additional strategies for comprehending and processing written and spoken passages. Students will be able to expand their vocabulary building skills and improve their reading strategies, reading and listening comprehension, and speaking skills. Audio equipment and computers are available to aid students in developing proficiency. In addition to class time, students are expected to spend 4-6 hours/week on course work.

- Placement Score: ESL Test AVERAGE 89-99 (ESOL 3; no score below 84) and Listening >50 (ESLL 1)
- Course Note: For any questions, please contact the Job Training Center at 517-483-1857. Cost of this class is \$50.

### **NCEL 033**

### **Multi-Skills III**

**Credit Hours: 0 / Billing Hours: 0**

This 6-week non-credit course is the intermediate ESOL Multi-skills course for English as a Second Language learners. This course focuses on improving and building upon the skills and strategies acquired in NCEL 030.

- Placement Score: ESL Test AVERAGE 89-99 (ESOL 3; no score below 84), and Listening >50 (ESLL 1).
- Course Note: For any questions, please contact the Job Training Center at 517-483-1857. Cost of this class is \$50.

1257

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## 2022-2023 Course Descriptions

### **NCHE 102     AHA BLS Provider CPR**

**Credit Hours: 0 / Billing Hours: 0**

This non-credit American Heart Association (AHA) seminar is designed to provide healthcare professionals the ability to recognize several life-threatening emergencies, provide Basic Life Support (BLS) also known as CPR, use an AED with BVM, how to work as a team, and choking management. The seminar is intended for individuals working or planning to work in the healthcare profession, and was formerly called CPR for Healthcare Professionals. This course meets the needs for anyone needing a BLS Provider CPR certification. Persons wishing to be certified must pass both the physical skills and written test sessions. (F,Sp,Su)

- Prerequisite Course: None
- Corequisite Course: None
- Course Note: Cost of this seminar is \$95.00. If you have any questions, call Continuing Education at (517) 483-1415.

### **NCHE 227     Health Special Topics**

**Credit Hours: 0 / Billing Hours: 0**

This course offers students the opportunity to learn new health career skills and knowledge. Specific up-to-date content will vary with each topic presented. (F,Sp,Su)

- Prerequisite Course: Determined by Section

### **NCLD 210     Leadership Practicum I**

**Credit Hours: 0 / Billing Hours: 0**

This non-credit course provides an opportunity for Student Leadership Academy members to apply leadership skills in on-campus and community service settings. The practicum includes a minimum of 30 hours of volunteer service with a community agency of the student's choice, serving on college committees, and participation in other assigned Student Leadership Academy events and activities. Students will develop practical skills in servant leadership and evaluate their experiences as they relate to academic, professional, and personal goals. (F)

- Prerequisite Course: Minimum 2.0 in (LEAD 110 and LEAD 111)
- Placement Score: None



## 2022-2023 Course Descriptions

### **NCLD 211 Leadership Practicum II Credit Hours: 0 / Billing Hours: 0**

This non-credit course provides an opportunity for Student Leadership Academy members to apply leadership skills in on-campus and community service settings. The practicum includes a minimum of 30 hours of volunteer service with a community agency of the student's choice, serving on college committees, and participation in other assigned Student Leadership Academy events and activities. Students will develop practical skills in servant leadership and evaluate their experiences as they relate to academic, professional, and personal goals. (Sp)

- Prerequisite Course: P (Pass) in NCLD 210
- Placement Score: None

### **NCMA 101 Math Refresher Credit Hours: 0 / Billing Hours: 0**

Refresher workshop for students who place below college level math and wish to review the mathematical concepts. The goal of this workshop course is to prepare students to retake the Accuplacer test so that they might improve their placement Math Level. An online learning platform will be utilized to determine the individualized content for each student. Problem solving and test taking strategies will be included.

- Prerequisite Course: None
- Placement Score: None

### **NCRW 100 Foundations for Success Credit Hours: 0 / Billing Hours: 0**

Designed to teach essential reading and writing skills and to introduce the student to the foundations of a successful student life. Also serves to prepare students for high school completion exams. (F,Sp,Su)

- Prerequisite Course: None. Department Approval Required
- Placement Score: Reading Level 1 and Writing Level 1

### **NCRW 101 Read/Write Refresh: Achieve360 Credit Hours: 0 / Billing Hours: 0**

The purpose of this non-credit refresher is to prepare students to retake the placement tests for Reading and Writing. The course includes a review of essential reading and writing skills, focusing on main idea, supporting details, inferences, organizational patterns, topic sentences, thesis statements, paragraph and essay unity, and support for conclusions. (F,Sp,Su)

- Prerequisite Course: None

1259

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## 2022-2023 Course Descriptions

### **NDXT 100      Neuroanatomy and Physiology      Credit Hours: 3 / Billing Hours: 0**

This course provides an introduction to neuroanatomy and physiology necessary for working in the diverse field of Neurodiagnostics. Students will discuss the structures and functions of the Nervous System. Topics include the Central Nervous System, Peripheral Nervous System, and blood supply. (F)

- Prerequisite Course: None. Admission to the Neurodiagnostic Technology Program is required
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 4
- Corequisite Course: NDXT 101 and NDXT 102 and NDXT 120
- Course Note: \$150 of the course fee is for supplies and is non-refundable

### **NDXT 101      Neurodiagnostic Procedures      Credit Hours: 3 / Billing Hours: 0**

This course provides an introduction to the routine Neurodiagnostic testing procedures performed. Students will discuss the Scope of Practice specific to the Neurodiagnostic Technologist. Topics will include medical terminology, diagnostic procedures, and common neurological disorders. (F)

- Prerequisite Course: None. Admission to the Neurodiagnostic Technology Program is required
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 4
- Corequisite Course: NDXT 100 and NDXT 102 and NDXT 120
- Course Note: \$200 of the course fee is for supplies and is non-refundable

### **NDXT102      EEG Applications      Credit Hours: 3 / Billing Hours: 0**

This course provides the basic skills necessary to accurately measure and apply electrodes. Students will discuss the standards for electrode placement based on the International 10-20 System of Electrode Placement. Topics will include skin preparation, skin safety, and modification techniques. (F)

- Prerequisite Course: None. Admission to the Neurodiagnostic Technology Program is required
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 4
- Corequisite Course: NDXT 100 and NDXT 101 and NDXT 120
- Course Note: \$150 of the course fee is for supplies and is non-refundable

1260

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## 2022-2023 Course Descriptions

### **NDXT 120      EEG Pre-Clinical Preparation      Credit Hours: 3 / Billing Hours: 0**

This course prepares the EEG student for safe participation in clinical education within a Neurodiagnostic department. Students will explore and discuss the importance of patient safety, patient assessment, and equipment placement. While most of the course is delivered online, students will practice and master various procedures in a scheduled laboratory setting. (F)

- Prerequisite Course: None. Admission to the Neurodiagnostic Technology Program is required
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 4
- Corequisite Course: NDXT 100 and NDXT 101 and NDXT 102
- Course Note: \$200 of the course fee is for supplies and is non-refundable

### **NDXT 130      Principles of EEG      Credit Hours: 2 / Billing Hours: 0**

This course explores the history of electroencephalograms (EEG). Students will discuss the use of EEG's in the diagnosis of neurological diseases. Topics will include the national competency standards for performing EEG's, fundamentals of patient care, and HIPAA compliance. (Sp)

- Prerequisite Course: Minimum 2.5 in NDXT 100 and NDXT 101 and NDXT 102 and NDXT 120
- Placement Score: None
- Corequisite Course: NDXT 131 and NDXT 132 and NDXT 220
- Course Note: \$100 of the course fee is for supplies and is non-refundable

### **NDXT 131      Electricity Principles/Safety      Credit Hours: 1 / Billing Hours: 0**

This course familiarizes the Neurodiagnostic student with the principles of electricity and electrical safety. Students will discuss digital EEG, EEG recordings, and the digital EEG display. Topics will include risks related to current, grounding, and factors contributing to electrical injury. (Sp)

- Prerequisite Course: Minimum 2.5 in NDXT 100 and NDXT 101 and NDXT 102 and NDXT 120
- Placement Score: None
- Corequisite Course: NDXT 130 and NDXT 132 and NDXT 220
- Course Note: \$50 of the course fee is for supplies and is non-refundable

1261

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## 2022-2023 Course Descriptions

### **NDXT 132 EEG Instrumentation I**

**Credit Hours: 2 / Billing Hours: 0**

This course provides a foundation for EEG instrumentation. Students will discuss the basic requirements of the EEG system. Topics will include amplifier settings, filters, chart speeds, calibration methods, system selections, and post-acquisition setting adjustments. (Sp)

- Prerequisite Course: Minimum 2.5 in NDXT 100 and NDXT 101 and NDXT 102 and NDXT 120
- Placement Score: None
- Corequisite Course: NDXT 130 and NDXT 131 and NDXT 220
- Course Note: \$100 of the course fee is for supplies and is non-refundable

### **NDXT 200 EEG Procedures & Pathology I**

**Credit Hours: 1 / Billing Hours: 0**

This course explores the normal EEG patterns in adults, during both awake and sleep cycles. Students will discuss the normal EEG variants. Topics will include waveform descriptions and medication effects on the EEG. (Sp)

- Prerequisite Course: Minimum 2.5 in NDXT 130 and NDXT 131 and NDXT 132
- Placement Score: None
- Corequisite Course: NDXT 201 and NDXT 202 and NDXT 220
- Course Note: \$50 of the course fee is for supplies and is non-refundable

### **NDXT 201 EEG Instrumentation II**

**Credit Hours: 2 / Billing Hours: 0**

This course provides the EEG student with the technical skills needed to analyze waveforms and polarity. Students will discuss techniques needed to improve EEG recording quality. Topics will include recording annotations, patient considerations based on specific need, and challenges of performing bedside procedures. (Sp)

- Prerequisite Course: Minimum 2.5 in NDXT 130 and NDXT 131 and NDXT 132
- Placement Score: None
- Corequisite Course: NDXT 200 and NDXT 202 and NDXT 220
- Course Note: \$100 of the course fee is for supplies and is non-refundable

1262

*F=Fall; Sp=Spring; Su=Summer*

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## 2022-2023 Course Descriptions

### **NDXT 202 EEG Quality Control Credit Hours: 1 / Billing Hours: 0**

This course explores the physiological and non-physiological artifacts found in routine EEG recordings. Students will discuss the factors that contribute to artifacts and troubleshoot the ways to eliminate them. Topics will include impedance and common mode rejection (CMR). (Sp)

- Prerequisite Course: Minimum 2.5 in NDXT 130 and NDXT 131 and NDXT 132
- Placement Score: None
- Corequisite Course: NDXT 200 and NDXT 201 and NDXT 220
- Course Note: \$50 of the course fee is for supplies and is non-refundable

### **NDXT 220 EEG Clinical Practice I Credit Hours: 3 / Billing Hours: 0**

This is the first in a series of two clinical courses that provides the necessary supervised clinical education needed for the EEG student to competently perform routine procedures and recognize patient considerations that affect diagnosis. Emphasis will be placed on patient safety and comfort while professional values, attitudes, and behaviors are upheld. (Sp)

- Prerequisite Course: Minimum 2.5 in NDXT 100 and NDXT 101 and NDXT 102 and NDXT 120
- Placement Score: None
- Corequisite Course: NDXT 130 and NDXT 131 and NDXT 132 and NDXT 200 and NDXT 201 and NDXT 202
- Course Note: \$250 of the course fee is for supplies and is non-refundable

### **NDXT 221 EEG Clinical Practice II Credit Hours: 3 / Billing Hours: 0**

This is the second course in a series of two clinical courses that provides the necessary supervised clinical education needed for the EEG student to competently perform routine procedures and recognize patient considerations that affect diagnosis. Emphasis will be placed on patient safety and comfort while professional values, attitudes, and behaviors are upheld. (Su)

- Prerequisite Course: Minimum 2.5 in NDXT 220
- Placement Score: None
- Corequisite Course: NDXT 230 and NDXT 231 and NDXT 232
- Course Note: \$150 of the course fee is for supplies and is non-refundable

1263

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## 2022-2023 Course Descriptions

### **NDXT 230 EEG Procedures & Pathology II Credit Hours: 1 / Billing Hours: 0**

This course provides the EEG student with skills to recognize EEG patterns related to seizures. Students will discuss the International Classification of Seizures and Information. Topics will include seizure classification, treatment, and seizure protocols. (Su)

- Prerequisite Course: Minimum 2.5 in NDXT 200
- Placement Score: None
- Corequisite Course: NDXT 221 and NDXT 231
- Course Note: \$50 of the course fee is for supplies and is non-refundable

### **NDXT 231 EEG Procedures & Pathology III Credit Hours: 1 / Billing Hours: 0**

This course provides EEG students with skills to recognize EEG patterns related to seizures. This course familiarizes EEG students with the common neurological disorders found on electroencephalogram. Students will discuss the signs and symptoms related to various neurological disorders. Topics will include EEG patterns, diagnostic procedures, and patient considerations. (Su)

- Prerequisite Course: Minimum 2.5 in NDXT 200
- Placement Score: None
- Corequisite Course: NDXT 221 and NDXT 230
- Course Note: \$50 of the course fee is for supplies and is non-refundable

### **NDXT 232 EEG Procedures & Pathology IV Credit Hours: 1 / Billing Hours: 0**

This course familiarizes EEG students with the skills needed to perform procedures on neonates and pediatric patients. Students will discuss the special considerations needed working with neonates and pediatric patients. Topics will include EEG patterns specific to age group, physiological variables, and challenges of working in critical care departments. (Su)

- Prerequisite Course: Minimum 2.5 in NDXT 231
- Placement Score: None
- Corequisite Course: NDXT 221
- Course Note: \$50 of the course fee is for supplies and is non-refundable



## 2022-2023 Course Descriptions

### **NURS 101    Nursing Directed Study    Credit Hours: .25 to 3 / Billing Hours: .25 to 6**

This course is designed to update or enhance knowledge, skills, and competencies for: returning Nursing students, remediation, self-study, lecture/lab sessions, and/or supervised clinical. The course's foundation is based on the six Aims for Improvement of Quality Healthcare. A learning contract specifying objectives, activities and outcomes is required. (As Needed)

- Prerequisite Course: None. Program Approval is required
- Placement Score: Determined by Section

### **NURS 102    Nursing Directed Study    Credit Hours: .25 to 3 / Billing Hours: .25 to 6**

This course is designed to update or enhance knowledge, skills, and competencies for: returning Nursing students, remediation, self-study, lecture/lab sessions, and/or supervised clinical. The course's foundation is based on the six Aims for Improvement of Quality Healthcare. A learning contract specifying objectives, activities and outcomes is required. (As Needed)

- Prerequisite Course: None. Department Approval is required
- Placement Score: Determined by Section

### **NURS 118    Special Topics in Nursing    Credit Hours: .25 to 8 / Billing Hours: .25 to 11**

This course offers students the opportunity to practice and gain support for new nursing skills and knowledge. The foundation of this course is based on the six Aims for Improvement of Quality Healthcare. Specific up-to-date content will vary with each seminar and will be related to the nursing profession. (As Needed)

- Prerequisite Course: Determined by Section
- Placement Score: Determined by Section

### **NURS 119    Special Topics in Nursing    Credit Hours: .25 to 8 / Billing Hours: .25 to 11**

Nursing Special Topics offer students the opportunity to practice and gain support for new nursing skills and knowledge. The foundation of this course is based on the six Aims for Improvement of Quality Healthcare. Specific up-to-date content will vary with each seminar and will be related to the nursing profession. (As Needed)

- Prerequisite Course: Determined by Section
- Placement Score: Determined by Section

1265

*F=Fall; Sp=Spring; Su=Summer*

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## 2022-2023 Course Descriptions

### **NURS 200     Nursing Pharmacology**

**Credit Hours: 3 / Billing Hours: 3.5**

NURS 200 provides nursing students with fundamental knowledge of pharmacology and the implications for nursing including assessment, teaching, monitoring and dosage calculation for patients across the lifespan. The focus is on commonly-used drug classes and prototypes.

(F,Sp,Su)

- Prerequisite Course: Minimum 2.5 in BIOL 202 and (MATH 119 or higher or STAT 170 or STAT 215 or Math Level noted below)
- Placement Score: Math Level 6

### **NURS 201     Patient-Centered Care**

**Credit Hours: 3 / Billing Hours: 3**

NURS 201 introduces students to a model of health care in which patients and their families are acknowledged and valued for their unique attributes. Concepts of development, family dynamics, and adaptation to stress are presented. (F,Sp,Su)

- Prerequisite Course: Minimum 2.5 in (MATH 119 or higher or STAT 170 or STAT 215) or concurrently or Math Level noted below
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 5

### **NURS 210     Transition to Prof Nursing**

**Credit Hours: 6 / Billing Hours: 10.5**

The Transition Course introduces licensed paramedics, practical nurses, and respiratory therapists to the role of the professional nurse. The course builds on basic concepts to care for adult patients with common acute and chronic health problems. Clinical experiences will help students refine focused assessment and psychomotor skills in a variety of settings. (Su)

- Prerequisite Course: Minimum 3.0 in NURS 201 within 2 years of Nursing application. Admission to the Nursing Program is required.
- Placement Score: Reading Level 5 and Writing Level 6
- Corequisite Course: NURS 212
- Course Note: \$715 of the course fee is for a medical kit and is non-refundable.

1266

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## 2022-2023 Course Descriptions

### **NURS 211      Intro to Nursing Practice      Credit Hours: 8 / Billing Hours: 13.25**

Introduces the role of the nurse as a member of the healthcare team focusing on basic care concepts addressing human needs. Nursing process is presented as a framework for the provision of safe patient care. Clinical experiences facilitate the development of assessment and beginning psychomotor skills. (F,Sp)

- Prerequisite Course: None. Admission to the Nursing Program is required.
- Placement Score: Reading Level 5 and Writing Level 6
- Corequisite Course: NURS 212
- Course Note: \$1,030 of the course fee is for a medical kit and is non-refundable

### **NURS 212      Concepts of Pharmacology      Credit Hours: 3 / Billing Hours: 3.5**

Provides nursing students with fundamental knowledge of pharmacology and the implications for nursing, including assessment, teaching, monitoring and dosage calculation for patients across the lifespan. The focus is on commonly-used drug classes and prototypes. (F,Sp)

- Prerequisite Course: None. Admission to the Nursing Program is required.
- Placement Score: Reading Level 5 and Writing Level 6
- Corequisite Course: NURS 210 or NURS 211

### **NURS 221      Nursing Practice I      Credit Hours: 6 / Billing Hours: 10.75**

Builds on basic concepts to care for adult patients with common acute and chronic health problems. Clinical experiences will help students refine focused assessment skills and psychomotor skills. Students will practice in a variety of healthcare and community based settings. (F,Sp,Su)

- Prerequisite Course: None. Successful completion of Level I of the 2-Year or 2nd Degree Nursing program tracks is required.
- Placement Score: None
- Course Note: \$180 of the course fee is for a medical kit and is non-refundable.

## 2022-2023 Course Descriptions

### **NURS 222     Childbearing Families**

**Credit Hours: 4 / Billing Hours: 5.5**

Introduces concepts related to the child-bearing family. Emphasis is on health promotion, reproduction, sexual health, newborn assessment and care, and child growth and development. Clinical experiences promote the development of knowledge, skills, and attitudes to provide family-centered care in a variety of settings. (F,Sp,Su)

- Prerequisite Course: None. Successful completion of Level I of the 2-Year or 2nd Degree Nursing program tracks is required.
- Placement Score: None

### **NURS 231     Nursing Practice II**

**Credit Hours: 6 / Billing Hours: 10**

Builds on complex acute and chronic health concepts to provide collaborative care for adults with multi-system, emergent, and complex mental health problems. Clinical experiences help students refine nursing judgment skills. Students practice in a variety of inpatient acute care and community settings. (F,Sp)

- Prerequisite Course: None. Successful completion of Level II of the 2-year or 2nd Degree Nursing Tracks is required
- Placement Score: None
- Course Note: \$350 of the course fee is for a medical kit and is non-refundable

### **NURS 232     Children and Their Families**

**Credit Hours: 4 / Billing Hours: 5.5**

Focuses on collaborative care for children with commonly occurring and complex health problems. Students will practice in a variety of health care and community-based settings and collaborate with the inter-professional health team to provide safe, family-centered care. (1, 4, 5) (F,Sp)

- Prerequisite Course: None. Successful completion of Level II of the 2-year or 2nd Degree Nursing Tracks is required
- Placement Score: None



## 2022-2023 Course Descriptions

### **NURS 241      Nursing Practice III**

**Credit Hours: 5 / Billing Hours: 10.75**

Synthesizes professional nursing concepts within a seminar format. Intensive clinical experience help students apply nursing judgment and practice leadership and management skills in collaboration with the inter-professional team. (F,Sp)

- Prerequisite Course: None. Successful completion of Level III of the 2-year or 2nd Degree or Advanced Standing Nursing Tracks is required
- Placement Score: None
- Course Note: \$75 of the course fee is for a medical kit and is non-refundable

### **NURS 242      Professional Practice**

**Credit Hours: 3 / Billing Hours: 3**

Focuses on the principles of leadership and management as they apply to coordination of care and the professional roles of the nurse. Examination of healthcare systems, legal regulations, and quality improvement will guide the student to apply delegation and supervision skills in their transition to practice. (F,Sp)

- Prerequisite Course: None. Successful completion of Level III of the 2-year or 2nd Degree or Advanced Standing Nursing Tracks is required
- Placement Score: None

### **PARA 200      Paramedic Directed Study**

**Credit Hours: 1 to 4 / Billing Hours: 1 to 7**

Provides selection of content from the Basic EMT or Paramedic curriculum to update or enhance current knowledge and skill for returning students and health care professionals. Through evaluation of previous learning, examinations, self study, and scheduling into needed lectures and labs students are advanced placed or readmitted into the Basic EMT or Paramedic program. (As Needed)

- Prerequisite Course: None. Program Approval required
- Placement Score: Determined by section



## 2022-2023 Course Descriptions

### **PARA 221 Paramedic Medical Trauma I**

**Credit Hours: 4 / Billing Hours: 4**

This course provides information about the pre-hospital management of medical and traumatic conditions at the advanced life support level. Emphasis is placed on pathophysiology, recognition of signs and symptoms, review of basic life support management techniques, and strategies for advanced life support care. (F,Sp)

- Prerequisite Course: Minimum 2.5 in BIOL 145 or (BIOL 201 and BIOL 202). Admission to Paramedic Program is required
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 4
- Corequisite Course: PARA 231 and PARA 241

### **PARA 221A Paramedic Medical Trauma IA**

**Credit Hours: 2 / Billing Hours: 2**

This course, the first of two modules, provides information about the pre-hospital management of medical and traumatic conditions at the advanced life support level. Emphasis in this module is on the role and responsibilities of an advanced life support provider. (F,Sp,Su)

- Prerequisite Course: None. Admission to the Military Medic to Paramedic Program is required
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 4

### **PARA 221B Paramedic Medical Trauma IB**

**Credit Hours: 2 / Billing Hours: 2**

This course, the second of two modules, provides information about the pre-hospital management of medical and traumatic conditions at the advanced life support level. Emphasis in this module is on foundational topics for advanced practice of airway and IV therapy. (F,Sp,Su)

- Prerequisite Course: None. Admission to the Military Medic to Paramedic Program is required
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 4

1270

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## 2022-2023 Course Descriptions

### **PARA 222 Paramedic Medical Trauma II Credit Hours: 4 / Billing Hours: 4**

PARA222 incorporates previous knowledge gained at the basic EMT level and PARA221. Provides material for management of prehospital emergencies including assessment and management of neurological, behavioral, abdominal, metabolic, geriatric, and multiple trauma patients. The principles of triage, management of mass casualty incidents, and telecommunications are also included. (F,Sp)

- Prerequisite Course: Minimum 2.5 in PARA 221
- Placement Score: None
- Corequisite Course: PARA 232 and PARA 242

### **PARA 222A Paramedic Medical Trauma IIA Credit Hours: 1 / Billing Hours: 1**

The PARA222 modules incorporate previous knowledge gained at the basic EMT level and PARA221. This course, the first of three modules, provides material for management of pre-hospital emergencies as an advanced life support provider. Emphasis in this module is a review of anatomy/physiology, triage, stress management, and rescue operations. (F,Sp,Su)

- Prerequisite Course: None. Admission to Military Medic Program is required
- Placement Score: None

### **PARA 222B Paramedic Medical Trauma IIB Credit Hours: 1 / Billing Hours: 1**

The PARA222 modules incorporate previous knowledge gained at the basic EMT level and PARA221. This course, the second of three modules, provides material for management of pre-hospital emergencies as an advanced life support provider. Emphasis in this module is on infectious disease, poisoning, and environmental emergencies. (F,Sp,Su)

- Prerequisite Course: Minimum 3.0 in PARA 222A
- Placement Score: None

### **PARA 222C Paramedic Medical Trauma IIC Credit Hours: 2 / Billing Hours: 2**

The PARA222 modules incorporate previous knowledge gained at the basic EMT level and PARA221. This last of three modules provides material for management of pre-hospital emergencies as an advanced life support provider. Emphasis in this module is on trauma care including soft tissue injuries and kinematics of trauma. (F,Sp,Su)

- Prerequisite Course: Minimum 3.0 in PARA 222B
- Placement Score: None

1271

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## 2022-2023 Course Descriptions

### **PARA 231 Paramedic Cardiology I Credit Hours: 2.5 / Billing Hours: 2.5**

This course provides the paramedic student with information about cardiovascular anatomy, physiology, and electrophysiology. Emphasis is placed on rhythm interpretation, recognition of life threatening arrhythmias, electrical intervention and other prehospital patient management strategies. (F,Sp)

- Prerequisite Course: None. Admission to Paramedic Program is required
- Placement Score: None
- Corequisite Course: PARA 221 and PARA 241

### **PARA 231A Paramedic Cardiology IA Credit Hours: 1 / Billing Hours: 1**

This course provides the paramedic student with information about cardiovascular anatomy, physiology, and electrophysiology. Emphasis is placed on rhythm interpretation. (F,Sp,Su)

- Prerequisite Course: None. Admission to the Military Medic to Paramedic Program is required
- Placement Score: None

### **PARA 231B Paramedic Cardiology IB Credit Hours: 1.5 / Billing Hours: 1.5**

This course is a continuation of Cardiology IA. Emphasis is placed on rhythm interpretation, recognition of life threatening arrhythmias, electrical intervention and other prehospital patient management strategies. (F,Sp,Su)

- Prerequisite Course: Minimum 3.0 in PARA 231A
- Placement Score: None

### **PARA 232 Paramedic Cardiology II Credit Hours: 2.5 / Billing Hours: 2.5**

Builds on information learned in PARA231 as a basis for more advanced arrhythmia interpretation. Management of cardiac arrest including medications, cardioversion, transcutaneous pacing, and defibrillation will be a major emphasis. Pacemakers, 12-lead ECG interpretation, and other advanced procedures, and arrhythmias will be presented. Application of theory, judgment, and decision-making strategies are evaluated. (F,Sp)

- Prerequisite Course: Minimum 2.5 in PARA 231
- Placement Score: None
- Corequisite Course: PARA 222 and PARA 242

1272

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## 2022-2023 Course Descriptions

### **PARA 232A Paramedic Cardiology IIA**

**Credit Hours: 1 / Billing Hours: 1**

This module expands on information presented in PARA231 to cover more advanced arrhythmia interpretation. Management of cardiac arrest, including medications, cardioversion, transcutaneous pacing, and defibrillation will be a major emphasis. Pacemakers, 12-lead ECG interpretation, and other advanced procedures, and arrhythmias will be presented. Application of theory, judgment, and decision-making strategies are evaluated. (F,Sp,Su)

- Prerequisite Course: Minimum 3.0 in PARA 231B
- Placement Score: None

### **PARA 232B Paramedic Cardiology IIB**

**Credit Hours: 1.5 / Billing Hours: 1.5**

This course is a continuation of Cardiology IIA, building on information learned in PARA231 as a basis for more advanced arrhythmia interpretation. Management of cardiac arrest including medications, cardioversion, transcutaneous pacing, and defibrillation will be a major emphasis. Pacemakers, 12-lead ECG interpretation, and other advanced procedures, and arrhythmias will be presented. Application of theory, judgment, and decision-making strategies are evaluated. (F,Sp,Su)

- Prerequisite Course: Minimum 3.0 in PARA 232A
- Placement Score: None

### **PARA 241 Paramedic Pharmacology I**

**Credit Hours: 2.5 / Billing Hours: 2.5**

Provides the student with information necessary for the preparation, calculation of doses, and administration of drugs used in the prehospital setting, including classification, action, use, and side effects. Information about other commonly prescribed drugs is also provided. (F,Sp)

- Prerequisite Course: None. Admission to Paramedic Program is required
- Placement Score: None
- Corequisite Course: PARA 221 and PARA 231

1273

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## 2022-2023 Course Descriptions

### **PARA 241A Paramedic Pharmacology IA**

**Credit Hours: 1 / Billing Hours: 1**

One of two modules which provides the student with information necessary for the preparation, calculation of doses, and administration of drugs used in the prehospital setting, including classification, action, use, and side effects. This module focuses on core concepts including routes, calculations, equipment, and standards. (F,Sp,Su)

- Prerequisite Course: None. Admission to the Military Medic to Paramedic Program is required
- Placement Score: None

### **PARA 241B Paramedic Pharmacology IB**

**Credit Hours: 1.5 / Billing Hours: 1.5**

One of two modules which provides the student with information necessary for the preparation, calculation of doses, and administration of drugs used in the prehospital setting, including classification, action, use, and side effects. This module focuses on pharmacokinetics/pharmacodynamics of medications and integration into patient care. (F,Sp,Su)

- Prerequisite Course: None. Admission to the Military Medic to Paramedic Program is required
- Placement Score: None

### **PARA 242 Paramedic Pharmacology II**

**Credit Hours: 2.5 / Billing Hours: 2.5**

This course provides the paramedic student with additional in-depth information on Advanced Cardiac Life Support drugs including classification, action, use, and side effects. Information about other commonly used and prescribed drugs is also provided. (F,Sp)

- Prerequisite Course: Minimum 2.5 in PARA 241
- Placement Score: None
- Corequisite Course: PARA 222 and PARA 232

### **PARA 242A Paramedic Pharmacology IIA**

**Credit Hours: 1 / Billing Hours: 1**

One of two modules that provides the paramedic student with additional in-depth information on Advanced Cardiac Life Support drugs including classification, action, use, and side effects. Focus of this module is linking medication with patient condition. (F,Sp,Su)

- Prerequisite Course: Minimum 3.0 in PARA 241B
- Placement Score: None

1274

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## 2022-2023 Course Descriptions

### **PARA 242B Paramedic Pharmacology IIB**

**Credit Hours: 1.5 / Billing Hours: 1.5**

One of two modules that provides the paramedic student with additional in-depth information on Advanced Cardiac Life Support drugs including classification, action, use, and side effects. Focus of this module is developing management plans for patient care. (F,Sp,Su)

- Prerequisite Course: Minimum 3.0 in PARA 242A
- Placement Score: None

### **PARA 251 Paramedic Skills I**

**Credit Hours: 2.5 / Billing Hours: 7.5**

Provides introduction of paramedic skills required for advanced life support and provides the opportunity to apply theory to field practice in a discussion and skills lab setting. Skills will be demonstrated, practiced during supervised labs, and tested for competency. Students are also evaluated in the management of simulated emergencies. (F,Su)

- Prerequisite Course: Minimum 2.5 in (PARA 221 and PARA 231 and PARA 241) or concurrently. Program approval is required
- Placement Score: None
- Corequisite Course: PARA 261

### **PARA 251A Paramedic Skills IA**

**Credit Hours: 1 / Billing Hours: 3**

One of two modules which provides introduction of paramedic skills required for advanced life support and provides the opportunity to apply theory to field practice in a discussion and skills lab setting. Skills will be demonstrated, practiced during supervised labs, and tested for competency. Students are also evaluated in the management of simulated emergencies. Focus in this module is on basic life support skills review/testing/remediation, IV skills, and injections. (F,Sp,Su)

- Prerequisite Course: None. Admission to the Military Medic to Paramedic Program is required
- Placement Score: None

## 2022-2023 Course Descriptions

### **PARA 251B Paramedic Skills IB**

**Credit Hours: 1.5 / Billing Hours: 4.5**

One of two modules which provides introduction of paramedic skills required for advanced life support and provides the opportunity to apply theory to field practice in a discussion and skills lab setting. Skills will be demonstrated, practiced during supervised labs, and tested for competency. Students are also evaluated in the management of simulated emergencies. Focus in this module is on advanced airway techniques, cardiac arrhythmias monitoring, and simulations. (F,Sp,Su)

- Prerequisite Course: None. Admission to the Military Medic to Paramedic Program is required
- Placement Score: None

### **PARA 252 Paramedic Skills II**

**Credit Hours: 2.5 / Billing Hours: 7.5**

This course is a continuation of Skills I with the introduction of additional skills and continued application of theory. Measurement criteria for skills competencies becomes more stringent and students must become competent in all paramedic skills in preparation for the field internship component. Students are also evaluated in the management of simulated emergencies. (Sp)

- Prerequisite Course: Minimum 2.5 in PARA 251
- Placement Score: None
- Corequisite Course: PARA 262

### **PARA 252A Paramedic Skills IIA**

**Credit Hours: 1 / Billing Hours: 3**

One of two modules which provide continuation of Skills I with the introduction of additional skills and continued application of theory. Measurement criteria for skills competencies becomes more stringent and students must become competent in all paramedic skills in preparation for the field internship component. Students are also evaluated in the management of simulated emergencies. (F,Sp,Su)

- Prerequisite Course: Minimum 3.0 in PARA 251B
- Placement Score: None

1276

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## 2022-2023 Course Descriptions

### **PARA 252B Paramedic Skills IIB**

**Credit Hours: 1.5 / Billing Hours: 4.5**

This course is a continuation of Skills IIA. Measurement criteria for skills competencies becomes more stringent and students must become competent in all paramedic skills in preparation for the field internship component. Students are also evaluated in the management of simulated emergencies. (F,Sp,Su)

- Prerequisite Course: Minimum 3.0 in PARA 252A
- Placement Score: None

### **PARA 261 Paramedic Clinical I**

**Credit Hours: 3 / Billing Hours: 4**

The first of two courses that provide clinical experience for paramedic students in hospital units such as the emergency department, critical care units, obstetrics, and pediatrics; and designated EMS agencies under the supervision of licensed paramedics and clinical faculty. (F,Su)

- Prerequisite Course: Minimum 2.5 in (PARA 221 and PARA 231 and PARA 241) or concurrently. Program approval is required
- Placement Score: None
- Corequisite Course: PARA 251

### **PARA 262 Paramedic Clinical II**

**Credit Hours: 3 / Billing Hours: 4**

The second of two courses that provide clinical experience for paramedic students in hospital units such as emergency department, critical care units, obstetrics, and pediatrics; and designated EMS agencies under the supervision of licensed paramedics and clinical faculty. (Sp)

- Prerequisite Course: Minimum 2.5 in PARA 261
- Placement Score: None
- Corequisite Course: PARA 252

### **PARA 262A Paramedic Clinical IIA**

**Credit Hours: 1 / Billing Hours: 1**

This course provides clinical experience for paramedic students in areas including hospital units such as emergency departments, and designated EMS agencies under the supervision of licensed paramedics. (F,Sp,Su)

- Prerequisite Course: Minimum 3.0 in PARA 261C
- Placement Score: None

1277

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## 2022-2023 Course Descriptions

### **PARA 262B Paramedic Clinical IIB**

**Credit Hours: 1 / Billing Hours: 1**

This course provides clinical experience for paramedic students in areas including hospital units such as critical care units, surgery, and designated EMS agencies under the supervision of licensed paramedics. (F,Sp,Su)

- Prerequisite Course: Minimum 3.0 in PARA 262A
- Placement Score: None

### **PARA 262C Paramedic Clinical IIC**

**Credit Hours: 1 / Billing Hours: 1**

This course provides clinical experience for paramedic students in areas including hospital units such as obstetrics, pediatrics, and designated EMS agencies under the supervision of licensed paramedics. (F,Sp,Su)

- Prerequisite Course: Minimum 3.0 in PARA 262B
- Placement Score: None

### **PARA 263 Paramedic Internship**

**Credit Hours: 4 / Billing Hours: 4**

This course provides a field internship with a paramedic-level EMS agency. Students are assigned to a paramedic preceptor to provide patient care and other professional duties with continuous evaluation of the student's progress. Oversight is provided by the program clinical coordinator and program director. Successful completion of all Paramedic program courses qualifies the student to take the National Registry of Emergency Medical Technicians (NREMT) certification exam, then apply for state licensure as a Paramedic upon passing exam. (Su)

- Prerequisite Course: Minimum 3.0 in PARA 222 and PARA 232 and PARA 242 and PARA 252 and PARA 262
- Placement Score: None



## 2022-2023 Course Descriptions

### **PFFT 100      Total Fitness A-Fitness      Credit Hours: 2 / Billing Hours: 3**

Total Fitness A encompasses fitness, nutrition, health, exercise and cognition, and wellness principles, with emphasis on physical fitness, including cardiovascular fitness, strength, and flexibility. Students will complete an assessment measuring aerobic fitness, strength, and flexibility. With instructor supervision, students will develop and participate in a personal exercise plan. Course features flexibility of attendance. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: None
- Course Note: This is an open workout class. Students may attend at the downtown or west campus fitness center. Cannot be taken during the same semester with PFFT 101, PFFT 102, or PFFT 109. Course textbook "Anybody's Guide to Total Fitness" must be purchased prior to orientation. ALL STUDENTS MUST COMPLETE a 50-minute ORIENTATION during the first week of the semester. Log on to the [Fitness and Wellness](#) webpage and select Facilities for a detailed orientation schedule.

### **PFFT 101      Total Fitness B-Nutrition      Credit Hours: 2 / Billing Hours: 3**

Total Fitness B encompasses fitness, health, exercise and cognition, and wellness principles with emphasis on nutrition and healthy eating choices. Students will complete a physical fitness assessment and develop and participate in a personal exercise plan. Healthy meal planning will be included. The course features flexibility of attendance. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: None
- Course Note: This is an open workout class. Students may attend at the downtown or west campus fitness center. Cannot be taken during the same semester with PFFT 100, PFFT 102, or PFFT 109. ALL STUDENTS MUST COMPLETE a 50-minute ORIENTATION during the first week of the semester. Course textbook "Anybody's Guide to Total Fitness" must be purchased prior to orientation. Log on to the [Fitness and Wellness](#) webpage and select Facilities for a detailed orientation schedule.

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## 2022-2023 Course Descriptions

### **PFFT 102      Total Fitness C-Weight Control      Credit Hours: 2 / Billing Hours: 3**

Total Fitness C encompasses fitness, health, exercise and cognition, and wellness principles with an emphasis on weight management: loss, gain or maintenance. Students will complete a physical fitness assessment and will develop and participate in a personal exercise plan. The course features flexibility of attendance. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: None
- Course Note: Students may attend at the downtown or west campus fitness center. Cannot be taken during the same semester with PFFT 100, PFFT 101, or PFFT 109. ALL STUDENTS MUST COMPLETE a 50-minute ORIENTATION during the first week of the semester. Course textbook "Anybody's Guide to Total Fitness" must be purchased prior to orientation. Log on to the [Fitness and Wellness](#) webpage and select Facilities for a detailed orientation schedule.

### **PFFT 103      Total Fitness D-Life Fitness      Credit Hours: 2 / Billing Hours: 3**

Total Fitness D encompasses fitness, health, exercise and cognition, and wellness principles with emphasis on lifelong fitness. Students will complete a physical fitness assessment and will develop a personal exercise plan. Students will choose and participate in fitness and recreational activities in the community. The course features flexibility of attendance. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: None
- Corequisite Course:
- Course Note: Students may attend at the downtown or west campus facility. Cannot be taken during the same semester with PFFT 100, PFFT 101, PFFT 102 or PFFT 109.

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## 2022-2023 Course Descriptions

### **PFFT 109 Introduction to Fitness**

**Credit Hours: 1 / Billing Hours: 2**

Introduction to Fitness is designed to introduce general fitness and wellness concepts to students. With supervision of an instructor, students will develop and participate in exercise plans tailored to their individual needs. This course features flexibility of attendance and modular teaching. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: None
- Course Note: This is an open workout class. Students may attend at the downtown or west campus fitness center. Cannot be taken during the same semester with PFFT 100, PFFT 101, or PFFT 102. ALL STUDENTS MUST COMPLETE a 50-minute ORIENTATION during the first week of the semester. Course textbook "Anybody's Guide to Total Fitness" must be purchased prior to orientation. Log on to the [Fitness and Wellness](#) webpage and select Facilities for a detailed orientation schedule.

### **PFFT 113 Core Strength & Flexibly Trng**

**Credit Hours: 1 / Billing Hours: 2**

This course combines core training and flexibility exercises. Students will use calisthenics and floor exercises to improve muscle strength, increase flexibility, and develop core strength (back and abdominal muscles). Proper flexibility techniques and exercises will be emphasized. Students will experience a total body workout utilizing all major muscle groups. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: None

### **PFFT 114 Police Academy Fitness Trng**

**Credit Hours: 2 / Billing Hours: 3**

This course is designed for Law Enforcement students to incorporate strength conditioning, muscle endurance, flexibility, exercise and cognition, and cardiovascular training for a total body workout. (F,Sp)

- Prerequisite Course: None
- Placement Score: None

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## 2022-2023 Course Descriptions

### **PFFT 119**      **Fire Academy Fitness Training**      **Credit Hours: 3 / Billing Hours: 4**

This course provides Fire Academy students with techniques and practice to improve and maintain a high degree of physical fitness necessary to meet the demands of their profession. (F,Sp)

- Prerequisite Course: None. Admission to Fire Academy is required
- Placement Score: None
- Corequisite Course: FIRE 101 and FIRE 102

### **PFFT 120**      **Aerobic Exercise**      **Credit Hours: 2 / Billing Hours: 3**

This course helps students to improve cardiovascular function and oxygen efficiency to enhance muscle structure and function through toning exercises, aerobic dancing, and stretching. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: None

### **PFFT 170**      **Yoga: Beginning**      **Credit Hours: 1 / Billing Hours: 2**

This course is an introduction to yogic breathing and yogic stretching exercises with emphasis on relaxation and meditation. Yoga postures will be utilized to reduce stress and tension. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: None

### **PFFT 171**      **Yoga: Continuing**      **Credit Hours: 1 / Billing Hours: 2**

This course promotes psycho-physical integration of body and mind through yogic breathing, stretching, and relaxation. Guided breathing and visualization are used to enhance depth and quality of relaxation and meditation. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: None
- Recommended: PFFT 170



## 2022-2023 Course Descriptions

**PFFT 180 Seminar: Special Subjects Credit Hours: 0 to 6 / Billing Hours: 0 to 6**

Seminars are designed to meet specific community needs. (As Needed)

- Prerequisite Course: Determined by Section
- Placement Score: Determined by Section

**PFFT 181 Lineworker Fitness A Credit Hours: 1 / Billing Hours: 2**

This course combines weight machines, core training, interval training and flexibility training to increase overall fitness for pole climbing. Proper technique will be emphasized to ensure safety and continued progress. There will be initial fitness testing and students will be responsible for tracking their progress. (Su)

- Prerequisite Course: None. Program Approval required for Acceptance into the Electrical Utility/Lineworker Curriculum
- Placement Score: Reading Level 3 and Writing Level 2

**PFFT 182 Lineworker Fitness B Credit Hours: 1 / Billing Hours: 2**

Students will establish and/or build upon foundational fitness levels tested at the beginning of the course and begin to transition to obtaining more muscular and cardiovascular endurance. The class will also introduce basic knowledge of nutrition and the importance of hydration. (F)

- Prerequisite Course: Minimum 3.0 in PFFT 181 or 2 minutes or better on LPAT score
- Placement Score: Reading Level 3 and Writing Level 2

**PFFT 183 Lineworker Fitness C Credit Hours: 2 / Billing Hours: 4**

Students will continue to work on increasing muscular and cardiovascular endurance. Students will be expected to improve on all fitness levels tested at the beginning of the course and perform an advanced cardiovascular endurance test on Jacobs Ladder. This course will prepare students for the 10 week climbing school. (Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 3 and Writing Level 2
- Recommended: Minimum 3.0 in PFFT 182

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## 2022-2023 Course Descriptions

### **PFHW 100    Health and Wellness Seminar    Credit Hours: .5 to 4 / Billing Hours: .5 to 4**

This course introduces the student to 8 hours of various topics related to health awareness, wellness, and/or prevention of lifestyle-related illness. (As Needed)

- Prerequisite Course: Determined by Section
- Placement Score: Determined by Section

### **PFHW 120    Health and Wellness for Police    Credit Hours: 0.5 / Billing Hours: 0.5**

This course introduces the student to health-related topics, including physical fitness, nutrition, stress management, and the prevention of lifestyle-related illness. (F,Sp)

- Prerequisite Course: None. Admission to the Mid-Michigan Police Academy is required
- Placement Score: None

### **PFHW 123    Human Nutrition    Credit Hours: 3 / Billing Hours: 3**

An introductory course in human nutrition. Topics include digestion, absorption, metabolism, and biological functions of nutrients; nutrition needs throughout the life cycle; relationship of nutrition and eating patterns to health and disease; individual and societal influences on food choices; and the role of government in food safety and security. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: BIOL 145 or equivalent

### **PFHW 163    Healthy Lifestyles    Credit Hours: 2 / Billing Hours: 3**

This course introduces the student to lifestyle skills that lead to better health. The student will learn healthy nutritional habits, basic fitness concepts, positive stress reduction, and development of a personalized healthy lifestyle plan. Assessment skills and wellness concepts will be put into practice. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

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## 2022-2023 Course Descriptions

### **PFHW 181     Stress Management**

**Credit Hours: 1 / Billing Hours: 1**

This course helps students understand the basic components of the stress response and how they limit our physical, mental and emotional well-being. Students learn and apply basic principles that help to resolve stressful situations and lead to greater sense of ease and pleasure in life, work and relationships. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 4 and Writing Level 4

### **PFKN 106     Group Fitness Instructor Prep**

**Credit Hours: 3 / Billing Hours: 4**

This course prepares students to take a national Group Fitness Instructor certification exam. Students will learn how to safely instruct a variety of fitness classes and how to modify exercises for special populations. Human anatomy, exercise physiology, class design, cueing, injury prevention, and safe exercise techniques will be covered. (Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4

### **PFKN 170     Foundations of Kinesiology**

**Credit Hours: 3 / Billing Hours: 3**

This course examines multiple aspects of the Kinesiology discipline and profession. This course reviews concepts in each major discipline and theoretical concepts of kinesiology as it impacts professional careers, research, and lifestyle. Current issues and historical perspectives related to the field will be presented. Kinesiology career preparation will be discussed. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: BIOL 145 or equivalent

### **PFKN 200     Exercise Physiology**

**Credit Hours: 3 / Billing Hours: 3**

This course is designed to acquaint the student with physiological principles of training, exercise prescription, and the role of physical activity in health and disease. Both acute and chronic effects of exercise on various body systems will be discussed. (Sp)

- Prerequisite Course: Minimum 2.0 in [BIOL 145 or (BIOL 201 and BIOL 202) or concurrently]
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 3

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## 2022-2023 Course Descriptions

### **PFKN 201      Exercise Physiology Lab**

**Credit Hours: 1 / Billing Hours: 2**

This course will explore theory and practices related to exercise testing and prescription. It will include practical experience in body composition techniques, muscle strength and endurance testing, flexibility testing and cardiovascular endurance testing. The results of the testing will be used to form appropriate exercise prescriptions according to the American College of Sports Medicine guidelines. (Sp)

- Prerequisite Course: Minimum 2.0 in [BIOL 145 or (BIOL 201 and BIOL 202)] and (PFKN 200 or concurrently)
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 4

### **PFKN 205      Sport & Exercise Psychology**

**Credit Hours: 3 / Billing Hours: 3**

This course will provide an overview of concepts and applied principles of sport and exercise psychology. Emphasis will be placed on the effect of psychological factors on performance and participation in sport and exercise settings, and the effect of participation in sport and exercise on personal growth and development. (F)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### **PFKN 208      Biomechanics**

**Credit Hours: 3 / Billing Hours: 3**

This course introduces students to the mechanical and anatomical principles that govern human motion. The student will understand the link between the structure of the human body and its function, especially as it applies to movement in exercise and sport. (F)

- Prerequisite Course: Minimum 2.0 in BIOL 145 or (BIOL 201 and BIOL 202)
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 4

### **PFKN 210      Athletic Training Principles**

**Credit Hours: 3 / Billing Hours: 4**

This course is an overview of prevention, management, and rehabilitation as each relates to athletic injury. It also provides an examination of various techniques used for the assessment, treatments, and rehabilitation of athletic injuries. Other topics include legal implications for the athletic trainer, first aid principles, and taping procedures. (Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: BIOL 145 or equivalent

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## 2022-2023 Course Descriptions

### **PFKN 250      Measurements in Kinesiology      Credit Hours: 3 / Billing Hours: 4**

This is an introductory course which examines materials and methods used for assessment and analysis within Kinesiology. Emphasis will be placed on procedures and tools used within the various sub-disciplines. Measurement and evaluation methods will address motor skills, physical fitness, and psychological components associated with physical fitness. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 3
- Recommended: PFKN 170

### **PFKN 260      Growth and Motor Behavior      Credit Hours: 3 / Billing Hours: 3**

This is a fundamental course which investigates the relationship between biological maturation and physical growth as it relates to motor performance and motor skills learning. The course will also cover fundamentals of motor learning, stages of skill acquisition, physical fitness, and motor abilities of children and youth. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: BIOL 145 or equivalent

### **PFKN 265      Exercise-Diverse Populations      Credit Hours: 3 / Billing Hours: 3**

This course presents information related to exercise for diverse populations in the worksite, clinical, and health/fitness settings. Populations studied include: youth, elderly, pregnant, obese, pulmonary and vascular disease patients. Musculoskeletal, cognitive, psychological, and sensory disorders will also be covered. Health assessments, exercise evaluations, and exercise prescription will be analyzed. (F,Sp)

- Prerequisite Course: Minimum 2.0 in BIOL 145 or (BIOL 201 and BIOL 202)
- Placement Score: Reading Level 5 and Writing Level 6

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## 2022-2023 Course Descriptions

### **PFKN 270      Personal Trainer Preparation      Credit Hours: 4 / Billing Hours: 5**

This Personal Trainer Certification preparatory course provides students with the theoretical and practical skills required to take a national certification exam in order to enter the profession of personal training. Focal topics include basic human anatomy, exercise physiology, nutrition, exercise programming, client assessment, injury prevention, legal issues, and business management. (F)

- Prerequisite Course: Minimum 2.0 in BIOL 145 or (BIOL 201 and BIOL 202)
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 4
- Recommended: BIOL 201 and BIOL 202 for Kinesiology majors; BIOL 145 for non-Kinesiology majors

### **PFKN 280      Kinesiology Internship      Credit Hours: 3 / Billing Hours: 3**

This course provides students the opportunity to apply acquired academic knowledge and practical skills in a Kinesiology related worksite location. A minimum of 108 worksite hours are required. In addition, lecture topics will include workplace etiquette, professionalism, mentorship, diversity, time management, ethical and legal issues. (F,Sp,Su)

- Prerequisite Course: None. Program Approval required for worksite location and intern prerequisites and responsibilities.
- Placement Score: Reading Level 5 and Writing Level 6

### **PFKN 295      Ind Study in Physical Fitness      Credit Hours: .5 to 4 / Billing Hours: .5 to 4**

An opportunity for self-directed learners to explore topics related to, but not taught in the curriculum. Students spend at least two hours per week for each credit. A detailed proposal must be submitted by the student for approval by the Department and supervising instructor prior to registration. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: None

## 2022-2023 Course Descriptions

### **PFWT 112    Intro to Weight Training**

**Credit Hours: 1 / Billing Hours: 2**

This basic resistance (weight) training course is designed to introduce resistance training and proper lifting techniques to students. Safety rules, proper use of equipment, and concepts of lifting will be emphasized. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: None

### **PFWT 123    Weight Training I**

**Credit Hours: 2 / Billing Hours: 3**

This course is designed to promote physical fitness through progressive resistance (weight) training. Instruction will include principles, methods and techniques of resistance training. Using this material, students will design their own program with emphasis on muscle strengthening, muscle endurance and weight reduction. Principles of proper body mechanics will be applied. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: None
- Recommended: PFWT 112 or PFWT 123

### **PFWT 124    Weight Training II**

**Credit Hours: 2 / Billing Hours: 3**

This course expands students' knowledge of progressive resistance (weight) training, (using both free weights and machines), thus increasing the variety and methods of training techniques. Students will monitor their food intake throughout the semester, further developing an understanding of the impact of appropriate dietary habits on resistance training. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: None
- Recommended: PFWT 112 or PFWT 123



## 2022-2023 Course Descriptions

### **PHIL 101**      **Introduction to Philosophy**      **Credit Hours: 3 / Billing Hours: 3**

A survey introduction to the central topics, theories, and arguments from a range of philosophical traditions. Topics may include: theory of knowledge, the nature of truth and reality, science and technology, free will, the existence of god, the nature of consciousness, personal identity, moral responsibility, and the nature of justice. (F,Sp)

- Prerequisite Course: None
- Placement Score: (Reading Level 5 and Writing Level 6) or (ENGL 099 or concurrently)

### **PHIL 151**      **Intro to Logic & Critical Think**      **Credit Hours: 4 / Billing Hours: 4**

Introduction to both informal and basic formal logic, including both deductive and inductive logic, validity (both formal and informal), soundness, informal fallacies, and an analysis of the pragmatic functions of language within argumentative speech and writing. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5

### **PHIL 152**      **Introduction to Ethics**      **Credit Hours: 4 / Billing Hours: 4**

Introduction to ethics, including an introduction to and evaluation of central normative ethical traditions, an introduction to basic metaethics, and a consideration of different areas of applied ethics. The course will include a consideration of cross-cultural material, when appropriate. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### **PHIL 211**      **Philosophy: Ancient & Medieval**      **Credit Hours: 4 / Billing Hours: 4**

Surveys major developments in theories of knowledge, reality, ethics, and society, and their historical role in shaping cultures and human identity. Covers Chinese, Indian, Greek, Roman, Christian, Islamic, and European thought from mythic beginnings to the period of early scientific reasoning. (F,Sp, Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: ENGL 121 or ENGL 131

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## 2022-2023 Course Descriptions

### **PHIL 212**      **Philosophy: Modern & Contemporary**      **Credit Hours: 4 / Billing Hours: 4**

Surveys major developments in theories of knowledge, reality, ethics, and society, and their historical role in shaping cultures and human identity. Covers European, Asian, African, Native American, and American pragmatic thought from the scientific revolution to the present. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: ENGL 121 or ENGL 131

### **PHIL 295**      **Ind Study in Philosophy**      **Credit Hours: 1 to 4 / Billing Hours: 1 to 4**

An opportunity for self-directed learners to explore topics related to, but not taught in the curriculum. Students spend at least two hours per week for each credit. A detailed proposal must be submitted by the student for approval by the Department and supervising instructor prior to registration. (F,Sp,Su)

- Prerequisite Course: Department Approval

### **PHOT 101**      **Basic Photo for Non-Majors**      **Credit Hours: 2 / Billing Hours: 2**

Students will learn to use camera controls, photographic composition, and lighting to make better photographs. Digital capture (the student's own computer will be used). Designed for students with little or no previous still photography experience who do not plan to major in imaging technology. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: None
- Course Note: A digital single lens reflex (DSLR) or mirrorless camera with manual mode is required.

## 2022-2023 Course Descriptions

### **PHOT 111     Digital Photography I**

**Credit Hours: 3 / Billing Hours: 3**

An introduction to photographic technology on both a theoretical and practical level. The student will learn camera types and related equipment, exposure controls, creative controls, and beginning and intermediate digital darkroom skills including correcting and enhancing digital images and preparing files for output on printing devices using image editing. This course is the introductory course in the Photographic Imaging Technology Program. (F)

- Prerequisite Course: None
- Placement Score: Reading Level 3 and Writing Level 2 and Math Level 3
- Course Note: This course is the first course in the Photography Degree sequence and also may be taken for personal interest. A manually-adjustable Digital SLR/or mirrorless camera capable of shooting raw format is required. See official syllabus.

### **PHOT 112     Digital Imag for Photographers**

**Credit Hours: 4 / Billing Hours: 4**

An introduction to the capture, processing and manipulation of digital photographic images using image editing software. Students will learn to scan, capture, correct and enhance digital images and prepare files for output on black and white and color printing devices. Introduces students to theories, terminology, and applications of digital imaging technologies. (F)

- Prerequisite Course: Minimum 2.0 in PHOT 111 or concurrently
- Placement Score: Reading Level 3 and Writing Level 2 and Math Level 3
- Course Note: A manually-adjustable Digital SLR/or mirrorless camera is required. See official syllabus.

### **PHOT 113     Lighting Concepts and Applic**

**Credit Hours: 3 / Billing Hours: 3**

Introduces the student to the fundamental concepts of photographic lighting for image capture in the studio and on location. Students will learn to apply their knowledge by identifying and solving common photographic lighting problems. Students will use professional continuous lighting equipment to produce images. (F)

- Prerequisite Course: Minimum 2.0 in PHOT 111 or concurrently
- Placement Score: Reading Level 3 and Writing Level 2 and Math Level 3
- Course Note: A manually-adjustable Digital SLR/or mirrorless camera is required. See official syllabus.

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## 2022-2023 Course Descriptions

### **PHOT 114      Advanced Photographic Imaging      Credit Hours: 4 / Billing Hours: 4**

An advanced-level study in the capture, processing, and manipulation of digital photographic images using image editing software. Students will acquire knowledge and skills to solve technical, aesthetic, and communication problems. Learners will apply color management and color image design principles in the production of professional-level color photographic images. (Sp)

- Prerequisite Course: Minimum 2.0 in (PHOT 111 and PHOT 112 and PHOT 113)
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 3
- Course Note: A manually-adjustable Digital SLR/or mirrorless camera is required. See official syllabus.

### **PHOT 117      Digital Photography II      Credit Hours: 4 / Billing Hours: 4**

Students will learn intermediate and advanced digital imaging exposure, image processing, and output controls and techniques. Students will acquire knowledge and skills to solve technical, aesthetic, and communication problems. Students will learn black and white inkjet printing techniques. (F,Sp)

- Prerequisite Course: Minimum 2.0 in (PHOT 111 and PHOT 112)
- Placement Score: Reading Level 3 and Writing Level 2 and Math Level 3
- Course Note: A manually-adjustable Digital SLR/or mirrorless camera is required. See official syllabus.

### **PHOT 118      Visual Literacy      Credit Hours: 2 / Billing Hours: 2**

An introduction to the basic theories of visual communication and how photographic images are and have historically been used as a language to disseminate information. Learners will explore the history and contemporary use of the photographic image and will create work in the style of a particular period or photographer. (Sp)

- Prerequisite Course: Minimum 2.0 in (ARTS 102 and PHOT 111 and PHOT 112 and PHOT 113)
- Placement Score: Reading Level 3 and Writing Level 6 and Math Level 3

## 2022-2023 Course Descriptions

### **PHOT 119 Intermediate Lighting**

**Credit Hours: 3 / Billing Hours: 3**

An exploration of intermediate lighting theories, practices and techniques. This course emphasizes the use and control of natural light and electronic flash as applied to people, locations and advanced studio settings. (Sp)

- Prerequisite Course: Minimum 2.0 in (PHOT 111 and PHOT 113)
- Placement Score: Reading Level 3 and Writing Level 6 and Math Level 3
- Course Note: A manually-adjustable Digital SLR/or mirrorless camera is required. See official syllabus.

### **PHOT 120 Still/Motion Capture & Editing**

**Credit Hours: 3 / Billing Hours: 3**

An introduction to the fundamentals of capturing, editing, and outputting video footage and still images for a variety of visual applications. Students will learn to light, capture, edit, manipulate, and export visual content in a variety of formats for print, web and soft display. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in ARTS 102
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: ARTS 171

### **PHOT 190 Film Capture/Hybrid Imaging**

**Credit Hours: 3 / Billing Hours: 3**

An introduction to the capture, processing, and printing of photographic images using silver halide color and black and white films. Medium and large format cameras will be utilized for producing film negatives. Students will learn to process film, scan negatives, produce silver-based traditional prints, and enhance hybrid images for output on black and white and color printing devices. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in PHOT 117 or Department Approval
- Placement Score: Reading Level 3 and Writing Level 2 and Math Level 3



## 2022-2023 Course Descriptions

### **PHOT 191 Photo Imaging Special Topics Credit Hours: 1 to 3 / Billing Hours: 1 to 3**

Photo Imaging Special Topics will be offered for intermediate and advanced photographic students. Topics will cover a broad range of subjects related to photographic imaging and related fields. (F,Sp,Su)

- Prerequisite Course: Determined by Section
- Placement Score: Determined by Section

### **PHOT 212 Advanced Still/Video Projects Credit Hours: 3 / Billing Hours: 3**

Students will learn the technical requirements to produce professional photographic illustrations and will use appropriate tools and techniques to produce professional photographic illustrations and DSLR video footage. Students will be introduced to appropriate medium format technologies and video capture as applied to professional photographic illustration. (F)

- Prerequisite Course: Minimum 2.0 in PHOT 114 and PHOT 119
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 3

### **PHOT 213 Portrait Photography Credit Hours: 3 / Billing Hours: 3**

Introduces students to the techniques and technologies associated with professional portrait photography. Students will work in areas directly linked to the technical and expressive elements of portrait photography including proper lighting techniques and digital retouching methods. (F)

- Prerequisite Course: Minimum 2.0 in PHOT 114 and PHOT 119
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 3
- Course Note: A manually-adjustable Digital SLR/or mirrorless camera is required. See official syllabus.



## 2022-2023 Course Descriptions

### **PHOT 214 Photojournalism**

**Credit Hours: 2 / Billing Hours: 2**

This course introduces students to techniques and practices of photojournalism, documentary photography, public relations photography, and emerging media. (F)

- Prerequisite Course: Minimum 2.0 in PHOT 114 and PHOT 117 and PHOT 119 and minimum 2.0 in PHOT 215 or concurrently
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 3
- Course Note: A manually-adjustable Digital SLR/or mirrorless camera is required. See official syllabus.

### **PHOT 215 Digital Color Management/Print**

**Credit Hours: 2 / Billing Hours: 2**

Students will apply color management, color correction, image enhancement techniques, and digital lab efficiency to professionally prepare their photographic images. Students will also produce professionally acceptable prints using digital color output devices, processes, and materials. (F,Sp)

- Prerequisite Course: Minimum 2.0 in PHOT 114 and PHOT 117
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 3

### **PHOT 232 Internship**

**Credit Hours: 3 / Billing Hours: 3**

This course allows advanced students to work as intern developing competencies in the technical, business, creative, and communicative aspects of photography and digital imaging. An acceptable application and internship agreement is required prior to registration. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in PHOT 117 and Approved Internship Agreement and Department Approval
- Placement Score: Reading Level 3 and Writing Level 2 and Math Level 3

### **PHOT 270 Busn Issues for Photography**

**Credit Hours: 3 / Billing Hours: 3**

This course exposes the student to the general business practices and approaches used in the photographic marketplace including small business management, copyright, marketing and legal issues. (Sp)

- Prerequisite Course: Minimum 2.0 in (PHOT 113 and PHOT 114 and PHOT 117)
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 3

## 2022-2023 Course Descriptions

### PHOT 280      **Advanced Projects**

**Credit Hours: 3 / Billing Hours: 3**

Students will apply critical thinking processes and digital photographic imaging technologies to produce a body of work illustrating their area(s) of special interest. (Sp)

- Prerequisite Course: Minimum 2.0 in (PHOT 212 and PHOT 213 and PHOT 214 and PHOT 215) and (PHOT 290 concurrently)
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 3
- Course Note: A manually-adjustable Digital SLR camera is required. See official syllabus.

### PHOT 290      **Portfolio Assembly**

**Credit Hours: 2 / Billing Hours: 2**

This is a concluding course for the Photographic Imaging Technology program associate degree. This course finalizes the student's portfolio and immediate career plans. Students edit and assemble their best work into a cohesive, visual resume in order to secure employment or gain admission to another institution for continued studies. (Sp)

- Prerequisite Course: Minimum 2.0 in (PHOT 212 and PHOT 213 and PHOT 214 and PHOT 215) and (minimum 2.0 in PHOT 270 or concurrently) and (PHOT 280 concurrently)
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 3.

### PHYS 120      **The Art of Physics**

**Credit Hours: 4 / Billing Hours: 5**

This course reveals the wonders of the physical universe by giving students a basic understanding of motion, forces, acoustics and optics. Designed for students in the Humanities; Art, Design & Multimedia; other non-science areas, or sonography. Extensive hands-on activities and laboratory exercises supplement the lecture. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in (MATH 105 or MATH 106) or Math Level indicated below
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 4

## 2022-2023 Course Descriptions

### **PHYS 200**      **Intro to Applied Physics**

**Credit Hours: 4 / Billing Hours: 5**

The basic principles of force, work, rate, resistance, energy, and power are applied to four systems: mechanical, fluid (liquids and gases), electrical, and thermal systems using unifying concepts through mathematical expressions. Activities and experiments explore physics behind real-world applications. (F,Sp)

- Prerequisite Course: Minimum 2.0 in (MATH 105 or MATH 106) or Math Level indicated below
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 4

### **PHYS 221**      **Introductory Physics I**

**Credit Hours: 4 / Billing Hours: 6**

First semester of algebra-based physics with laboratory, designed to present the fundamental principles of physics, with applications. Topics in mechanics include one and two dimensional kinematics, forces, energy and work, momentum and impulse, circular motion and rotational dynamics, conservation laws, elasticity and simple harmonic motion. Experiments and hands-on activities are integrated with lecture topics. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in (MATH 122 or MATH 126 or MATH 141) or Math Level 9 noted below
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 9
- Course Note: The PHYS 221/222 courses are often taken by students going into fields of study related to health, the life sciences, and architecture.

### **PHYS 222**      **Introductory Physics II**

**Credit Hours: 4 / Billing Hours: 6**

Second semester continuation of algebra- and trigonometry-based physics with laboratory, designed to present the fundamental principles of physics, with applications. Topics include simple harmonic motion, waves, sound, light, wave and geometric optics, and electricity and magnetism, including circuits. Experiments and hands-on activities are integrated with the lecture topics. (F,Sp)

- Prerequisite Course: Minimum 2.0 in PHYS 221 or Department Approval
- Placement Score: Reading Level 5 and Writing Level 6
- Course Note: The PHYS 221/222 courses are often taken by students going into fields of study related to health, the life sciences, and architecture.

## 2022-2023 Course Descriptions

### **PHYS 251      Physics I with Calculus**

**Credit Hours: 5 / Billing Hours: 7**

First in a two-semester sequence of calculus-based physics with laboratory for science and engineering students. Topics include forces and motion, momentum, work and energy, conservation laws of energy and momentum, rotational motion, static equilibrium, gravitation, and oscillations. May include relativity. Experiments and hands-on activities are integrated with lecture topics. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in (MATH 152 or MATH 162) or concurrently
- Placement Score: Reading Level 5 and Writing Level 6
- Course Note: The PHYS 251/252 courses are often taken by students going into fields of engineering, physics, chemistry, and other fields requiring a Calculus-level understanding of physics.

### **PHYS 252      Physics II with Calculus**

**Credit Hours: 5 / Billing Hours: 7**

Second in a two-semester sequence of calculus-based physics with laboratory for science and engineering students. Topics include electric and magnetic forces and fields, electromagnetic energy, currents and circuits, electromagnetic oscillations and waves, mechanical waves and sound, light waves, physical and geometrical optics. Experiments and hands-on activities are integrated with lecture topics. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in PHYS 251 and Minimum 2.0 in (MATH 152 or MATH 162)
- Placement Score: Reading Level 5 and Writing Level 6
- Course Note: The PHYS 251/252 courses are often taken by students going into fields of engineering, physics, chemistry, and other fields requiring a Calculus-level understanding of physics.

### **PHYS 260      Statics for Engineers**

**Credit Hours: 3 / Billing Hours: 3**

This course will place emphasis on the understanding of principles through the solution of problems in analysis of vectors, torques, trusses, resultants, machines, force systems, centroids and center gravity, equilibrium and friction. (F,Sp)

- Prerequisite Course: Minimum 2.0 in PHYS 251
- Placement Score: None



## 2022-2023 Course Descriptions

### **POLS 120 American Political System**

**Credit Hours: 4 / Billing Hours: 4**

An analysis of the American political system, emphasizing the federal system and government at the national level. This course studies national governmental institutions' activities, functions and methods of organizing resources and making policy. Emphasis is on political participation by an informed public. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5

### **POLS 121 State and Local Government**

**Credit Hours: 4 / Billing Hours: 4**

An overview of state and local government in the United States with an emphasis on the Michigan government. Study is focused on state and local governmental institutions' activities, functions, resource management and policymaking. Consideration is given to relationships between federal, state and local governments, the issues they confront, and public participation. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5

### **POLS 201 Intro to Political Science**

**Credit Hours: 3 / Billing Hours: 3**

This course is an introduction to the study of politics and the academic fields of Political Science. It examines the fundamental nature of politics, the exercise of power and their implications. Students will explore the need for governance, role of power, place of individuals in society and political institutions. (F,Sp, Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5

### **POLS 205 Government Internship**

**Credit Hours: 3 / Billing Hours: 3**

This course offers the student a chance to observe the actual workings of the political process by participating in it. Participation will provide students an exposure to public policy making and an opportunity to reflect on that process through course assignments. The program covers all levels of government, from city and township through the federal level. (Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5

1300

*F=Fall; Sp=Spring; Su=Summer*

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## 2022-2023 Course Descriptions

### **POLS 240 Introduction to Public Policy Credit Hours: 3 / Billing Hours: 3**

This course will provide an analysis of political and organizational processes which influence the formulation and implementation of public policy. Special attention will be given to the formulation, implementation, and evaluation of various selected public policies. Further, the course is intended to develop some skills for the evaluation and design of policies. (Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5

### **POLS 250 Campaigns & Elections Credit Hours: 3 / Billing Hours: 3**

Emphasizes origins, structure, and functions of US and Michigan political parties. Examines the election process and factors influencing election results. Emphasis is placed on the importance of organizing effective political action and citizen participation, and the role of interest groups in American and Michigan politics. (F)

- Prerequisite Course: Reading Level 5 and Writing Level 6

### **POLS 260 Comparative Political Systems Credit Hours: 3 / Billing Hours: 3**

An introduction to the institutions, processes, and policies of political systems throughout the world. The course will compare political cultures and behavior in the United States, the industrial nations of Europe and Asia, and the developing nations, with special emphasis on the themes of democracy, participation, and political change. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### **POLS 270 International Relations Credit Hours: 3 / Billing Hours: 3**

A course in contemporary international relations, with emphasis on the effect political cultures in different countries have on the international system. Concepts, theories, and rudimentary methods of comparison and analysis are surveyed. The relationship between international politics and U.S. foreign and domestic policy is explored. (F)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

1301

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## 2022-2023 Course Descriptions

### **POLS 295      Ind Study in Political Science      Credit Hours: 1 to 4 / Billing Hours: 1 to 4**

An opportunity for self-directed learners to explore topics related to, but not taught in the curriculum. Students spend at least two hours per week for each credit. A detailed proposal must be submitted by the student for approval by the Department and supervising instructor prior to registration. (F,Sp,Su)

- Prerequisite Course: Department Approval

### **PSYC 175      Psyc of Death: Prep for Living      Credit Hours: 3 / Billing Hours: 3**

Examines psychological theories, concepts, and research that pertain to the study of death and personal death awareness. Topics include cross-cultural and historical perspectives, health care systems, medical ethics, grief/loss issues, funerals and body disposition, legal and social issues, death in modern society, suicide and beliefs about life after death. (Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5

### **PSYC 180      Intro to Positive Psychology      Credit Hours: 3 / Billing Hours: 3**

A general overview of positive psychology and its place within psychology as a whole. Major topics are well-being, strengths and virtues, positive emotional and cognitive states, positive institutions, and the need for positivity with stigmatized groups. Attention will be paid to research underlying the formal study of these topics. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5



## 2022-2023 Course Descriptions

### **PSYC 200      Introduction to Psychology      Credit Hours: 4 / Billing Hours: 4**

The basic orientation to the field of psychology, designed as a general survey and as preparation for advanced courses in the field. Topics include methods, nervous systems, intelligence, development, learning, memory, personality, abnormality, therapy, and social behavior. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5
- Course Note: Some sections of PSYC 200 allow concurrent enrollment with ENGL 098 and NCAS 104. See an academic advisor for sections that allow concurrent enrollment with ENGL 098 and NCAS 104.

### **PSYC 202      Psychology of Personality      Credit Hours: 3 / Billing Hours: 3**

A survey of the leading theories of personality and personality development. Topics include Freudian/psychodynamic, trait, behavioral, humanistic, and Yoga/Buddhist theories, assessment of personality, and major personality theorists. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in PSYC 200
- Placement Score: Reading Level 5
- Recommended: Writing Level 6 or Minimum 2.0 in (ENGL 121 or ENGL 131)

### **PSYC 203      Social Psychology      Credit Hours: 3 / Billing Hours: 3**

A theoretical and empirical approach to understanding individual social and group behavior. Examines the person and the social environment with a focus on attitudes, attributions, interpersonal and intrapersonal behavior, and group processes. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in (PSYC 200 or SOCL 120)
- Placement Score: Reading Level 5
- Recommended: Writing Level 6 or Minimum 2.0 in (ENGL 121 or ENGL 131)

1303

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## 2022-2023 Course Descriptions

### **PSYC 205      Human Growth and Development      Credit Hours: 3 / Billing Hours: 3**

A study of the human life cycle from conception to death. Designed to investigate, describe, and explain changes in the physical, social, emotional, and cognitive areas that are a result of the continuous interaction of maturation and experience. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in PSYC 200
- Placement Score: Reading Level 5
- Recommended: Writing Level 6 or Minimum 2.0 in (ENGL 121 or ENGL 131)

### **PSYC 209      Cognitive Psychology      Credit Hours: 3 / Billing Hours: 3**

Cognitive psychology is the study of the human mind; its domain includes questions concerning how people perceive the world, remember information, use knowledge, understand language, learn, reason, and solve problems. (F)

- Prerequisite Course: Minimum 2.0 in PSYC 200
- Placement Score: Reading Level 5
- Recommended: Writing Level 6 or Minimum 2.0 in (ENGL 121 or ENGL 131)

### **PSYC 210      Brain and Behavior      Credit Hours: 3 / Billing Hours: 3**

Brain and Behavior integrates psychology and biology, emphasizing how the nervous system controls behavior. The course provides an examination of the structure and function of the nervous system and the neurobiological bases of mental illness, drug abuse, movement, sleep, memory, feeding and drinking, sensory processing, and neurological disorders. (Sp)

- Prerequisite Course: Minimum 2.0 in (PSYC 200 or BIOL 121 or BIOL 127)
- Placement Score: Reading Level 5
- Recommended: Writing Level 6 or Minimum 2.0 in (ENGL 121 or ENGL 131)

### **PSYC 221      Child Psychology      Credit Hours: 3 / Billing Hours: 3**

Explores theories and principles of child cognitive and physical development from conception to puberty. The course covers psychological, sociological, and biological aspects of maturation and development. Topics include issues such as moral development, social development, language development, and cultural and cross cultural influences on the developing child. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in PSYC 200
- Placement Score: Reading Level 5
- Recommended: Writing Level 6 or Minimum 2.0 in (ENGL 121 or ENGL 131)

1304

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## 2022-2023 Course Descriptions

### **PSYC 222      Adolescent Psychology**

**Credit Hours: 3 / Billing Hours: 3**

Examines theoretical and empirical literature related to adolescence, emphasizing biological, psychological, and sociological aspects of maturation and development from puberty to young adulthood. Topics include the adolescent's search for identity; influences of culture, family, school and peer group; and problems and pathologies in adolescence. (Sp)

- Prerequisite Course: Minimum 2.0 in PSYC 200
- Placement Score: Reading Level 5
- Recommended: Writing Level 6 or Minimum 2.0 in (ENGL 121 or ENGL 131)

### **PSYC 240      Psychology of Human Sexuality**

**Credit Hours: 3 / Billing Hours: 3**

An exploration of psychological aspects of human sexuality, including research methods, response, identity, development, attraction and intimacy, communication, orientation, attitudes, diseases, and disorders. (Sp)

- Prerequisite Course: Reading Level 5

### **PSYC 250      Abnormal Psychology**

**Credit Hours: 3 / Billing Hours: 3**

A survey of the nature, development, diagnosis, and treatment of psychopathology viewed from a general-systems perspective (psychological, sociological, and biological). Major theories of causes, scientific research, and diagnostic and therapeutic techniques are studied with respect to various psychological disorders. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in PSYC 200
- Placement Score: Reading Level 5
- Recommended: Writing Level 6 or Minimum 2.0 in (ENGL 121 or ENGL 131)

### **RELG 150      Intro to World Religions**

**Credit Hours: 4 / Billing Hours: 4**

This course will provide students with a global perspective on the human religious experience through an introductory examination of the beliefs and practices of the world's largest religions: Christianity, Islam, Hinduism, and Buddhism. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

1305

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## 2022-2023 Course Descriptions

### **RELG 210**      **Comparative Religions**      **Credit Hours: 3 / Billing Hours: 3**

This course will introduce students to various topics and themes across major religions in order to analyze the nature of reality and determinations of truth, while cultivating a global perspective on the nature of religious belief, religious practice, and the religious experience of The Sacred. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6 or (Reading Level 4 and Writing Level 4 and ENGL 099) concurrently

### **RELG 211**      **Asian Religions and Traditions**      **Credit Hours: 4 / Billing Hours: 4**

This course offers an exploration of the historical development and contemporary practice of religions and philosophies of East and South Asia, including but not limited to: Hinduism, Buddhism, Islam, Confucianism, and Taoism. The course also considers the influences of these religions on contemporary culture in North America and globally. (F, Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### **RELG 212**      **Judaism, Christianity & Islam**      **Credit Hours: 4 / Billing Hours: 4**

This course examines and analyzes the beliefs and practices of Judaism, Christianity and Islam in cultural contexts from their origins to the present. Global reaches and interactions of these religious traditions are explored in Europe, Africa and the Americas. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### **RELG 230**      **Introduction to Christianity**      **Credit Hours: 3 / Billing Hours: 3**

In this course, students will analyze the historical and cultural contexts of Jesus' teachings and the New Testament. The student will interpret scriptures and acknowledge the contributions of historical figures that shaped Christianity's beliefs and practices. Three expressions of Christianity will be studied: Catholicism, Orthodox, and Protestantism. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6 or (Reading Level 4 and Writing Level 4 and ENGL 099) concurrently

1306

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## 2022-2023 Course Descriptions

### RELG 232 Introduction to Islam

**Credit Hours: 3 / Billing Hours: 3**

This course will introduce students to the historical and cultural contexts for understanding the teachings of The Prophet Muhammad, the beliefs and practices derived from the Qur'an and Sunnah (Hadith), and early caliphates or dynasties. The student will be introduced to three expressions of Islam: Sunni, Shi'a, and Sufism. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6 or (Reading Level 4 and Writing Level 4 and ENGL 099) concurrently

### RELG 241 Old Testament Literature

**Credit Hours: 4 / Billing Hours: 4**

This course surveys the content of Judaism's Bible (Christianity's Old Testament) in its original Hebrew cultural/religious context, using insights of modern critical scholarship. Origins and early development of Hebrew religious beliefs and practices are examined. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### RELG 242 New Testament Literature

**Credit Hours: 4 / Billing Hours: 4**

This course surveys the content of Christianity's New Testament in its original Hebraic and Greco-Roman context, using insights of modern critical scholarship. Origins and early development of Christianity and its religious beliefs and practices are examined. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### SCIN 287 Science Technology Internship

**Credit Hours: 2 to 4 / Billing Hours: 2 to 4**

This course provides on-the-job training for an applied degree in science technology. Placement is made at an approved training site to earn credits for satisfactory work performance. This internship may be a paid or unpaid work experience. Students will apply knowledge and skills learned in academic courses to real world situations. (F,Sp,Su)

- Prerequisite Course: Department Approval



## 2022-2023 Course Descriptions

### **SCIS 297      Independent Study in Science      Credit Hours: 1 to 4 / Billing Hours: 1 to 4**

An opportunity for self-directed learners to explore topics related to, but not taught in the curriculum. Students spend at least two hours per week for each credit. A detailed proposal must be submitted by the student for approval by the Department and supervising instructor prior to registration. (F,Sp,Su)

- Prerequisite Course: Department Approval

### **SIGN 160      Intro to the Deaf Community      Credit Hours: 3 / Billing Hours: 3**

This course is designed to introduce the student to the various aspects of life in the deaf community including cultural identity, education, language, the medical perspective, civil rights, disability law, advocacy, audiology, and oppression. Students will be taught up to 300 American Sign Language vocabulary words and phrases, Fingerspelling and numbers. A grade of 2.0 fulfills the Communication Core requirement. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4
- Course Note: May be taken concurrently with SIGN 161. Non-degree students may waive SIGN 160.

### **SIGN 161      American Sign Language I      Credit Hours: 3 / Billing Hours: 3**

This course introduces the basics of American Sign Language (ASL) and is designed for students who have little or no previous knowledge of ASL. Beginning vocabulary, ASL questions, commands, and simple sentence structures as well as basic personal and descriptive classifiers are introduced to develop rudimentary conversational skills in ASL. Elements of the Deaf Community and Deaf Culture will be introduced. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in SIGN 160 or concurrently
- Placement Score: Reading Level 5 and Writing Level 4
- Course Note: May be taken concurrently with SIGN 160

## 2022-2023 Course Descriptions

### **SIGN 162**      **American Sign Language II**      **Credit Hours: 3 / Billing Hours: 3**

This course is designed to continue development of American Sign Language (ASL) skills. Vocabulary, semantic, classifiers, pluralization, and temporal aspects, beginning grammatical non-manual signals are introduced to develop conversational skills. Elements of the Deaf Community and Deaf Culture will be included. (F,Sp)

- Prerequisite Course: Minimum 2.0 in SIGN 161
- Placement Score: Reading Level 5 and Writing Level 4

### **SIGN 163**      **American Sign Language III**      **Credit Hours: 3 / Billing Hours: 3**

This course is designed to continue development of American Sign Language (ASL) skills. Vocabulary, body part classifiers, grammatical non-manual signals, spatial referencing, English idioms, conceptual accuracy practice and beginning role shifting are used to develop conversational skills. Elements of Deaf Community and Deaf Culture will be included. (Sp,Su)

- Prerequisite Course: Minimum 2.0 in SIGN 162
- Placement Score: Reading Level 5 and Writing Level 4

### **SIGN 164**      **American Sign Language IV**      **Credit Hours: 3 / Billing Hours: 3**

This course is designed to continue development of American Sign Language (ASL) skills. Vocabulary, grammatical non-manual signals, role shifting, conceptual accuracy practice and sign translation are used to develop conversational and sight translation skills. Designed for students intending to become sign language interpreters. (F)

- Prerequisite Course: Minimum 2.0 in SIGN 163
- Placement Score: Reading Level 5 and Writing Level 4

### **SIGN 166**      **Fingerspelling**      **Credit Hours: 3 / Billing Hours: 3**

This course provides the student with concentrated instruction and practice in both expressive and receptive fingerspelling and numbering skills. Designed for students intending to become sign language interpreters. (F,Sp)

- Prerequisite Course: Minimum 2.0 in SIGN 161
- Placement Score: Reading Level 5 and Writing Level 4
- Recommended: SIGN 162 or concurrently

1309

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## 2022-2023 Course Descriptions

### **SIGN 167**      **Beginning Sign to Voice**      **Credit Hours: 3 / Billing Hours: 3**

Designed to increase the student's receptive skills in conversational sign language focusing on comprehension of the various manual communication systems utilized by deaf persons. Sign-to-voice techniques and practice will be introduced through use of prepared videotapes. Intended for students who plan to become sign language interpreters. (Sp,Su)

- Prerequisite Course: Minimum 2.0 in SIGN 163 or concurrently
- Placement Score: Reading Level 5 and Writing Level 4

### **SIGN 170**      **Expressive/Receptive ASL**      **Credit Hours: 3 / Billing Hours: 3**

This course focuses on grammatical elements of American Sign Language (ASL) using expressive skills. Conversational behaviors will be discussed. Student's receptive and voicing skills will focus on ASL vocabulary recognition, English sentence structure, and vocal tone and volume. (Su)

- Prerequisite Course: Minimum 2.0 in SIGN 163 or concurrently
- Placement Score: Reading Level 5 and Writing Level 4

### **SIGN 176**      **Advanced Fingerspelling**      **Credit Hours: 2 / Billing Hours: 2**

This course provides the student with advanced concentrated instruction and practice in both expressive and receptive fingerspelling skills. Designed for students intending to become sign language interpreters. (Sp)

- Prerequisite Course: Minimum 2.0 in SIGN 166
- Placement Score: Reading Level 5 and Writing Level 4

### **SIGN 200**      **Applied Skill in the Workplace**      **Credit Hours: 2 / Billing Hours: 2**

Prepares students to develop working relationships within the field of interpreting. This course will focus on ethics, professional behavior, and networking. This course will prepare students for directed observation and application of practical interpreting skills required in the consecutive semesters. Ninety (90) practicum hours required. (F)

- Prerequisite Course: none
- Placement Score: Reading Level 5 and Writing Level 4
- Restrictions: Student must successfully pass ITP screening in order to take SIGN 200



## 2022-2023 Course Descriptions

### **SIGN 240**      **Intro to Transliterating**

**Credit Hours: 3 / Billing Hours: 3**

American Sign Language vocabulary will continue to be developed while learning about the interpreting and transliterating process. Students will analyze text and demonstrate the ability to facilitate communication in both ASL sentence structure or English word order. The class involves expressive and receptive skill development. Course is designed for students intending to be sign language interpreters. (F)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4
- Restriction: Student must successfully pass ITP screening in order to take SIGN 240

### **SIGN 250**      **Deaf Culture and History**

**Credit Hours: 3 / Billing Hours: 3**

This course looks closely at the unique experiences of those in the Deaf Community by examining the history of the Deaf Community in America and the sociology of Deaf, Deaf-Blind, and Hard of Hearing people. Designed for students intending to become sign language interpreters. (F)

- Prerequisite Course: Minimum 2.0 in SIGN 163
- Placement Score: Reading Level 5 and Writing Level 4

### **SIGN 260**      **Linguistic Principles of ASL**

**Credit Hours: 3 / Billing Hours: 3**

An overview of the linguistic principles of American Sign Language (ASL) including its basic phonology, morphology, syntax, variation, results of language contact with English and other signed languages, pragmatics, bilingualism and language as art. Topics relating to interpreting, the Deaf Community, and Deaf Culture will be emphasized. Designed for students intending to become sign language interpreters. (Sp)

- Prerequisite Course: Minimum 2.0 in SIGN 163
- Placement Score: Reading Level 5 and Writing Level 4

1311

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## 2022-2023 Course Descriptions

### **SIGN 261 Principles of Interpreting Credit Hours: 3 / Billing Hours: 3**

Surveys professional interpreting through lecture, role-playing, and classroom discussion. Introduces the ethics of interpreting and, roles and responsibilities of the professional interpreter. Examines necessary skills of the interpreter in various settings: educational, mental health, vocational rehabilitation, legal, religious, phone, television, medical, deaf, blind, and minimal language skills. (F)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4
- Restriction: Student must successfully pass ITP screening in order to take SIGN 261

### **SIGN 263 Intermediate Sign to Voice Credit Hours: 3 / Billing Hours: 3**

This course develops and refines necessary basic skills and fluency in receptive sign language and for voicing all levels of communication of deaf individuals. Techniques taught include interpreter task analysis, listening, attending, internal message formulation, vocabulary search, and monitoring output. Designed for students intending to become sign language interpreters. (Sp)

- Prerequisite Course: Minimum 2.5 in (SIGN 240 and SIGN 261)
- Placement Score: Reading Level 5 and Writing Level 4

### **SIGN 266 Educational Interpreting Credit Hours: 2 / Billing Hours: 2**

Designed for students intending to become sign language interpreters, this course provides simulated testing settings using live or pre-recorded movies of hearing and deaf instructors giving classroom-appropriate lectures. Students will develop teaming skills, feedback skills, and interpreting skills. Students will practice interpreting approaches and skills for a variety of academic topics. Students will analyze lectures at message level and begin to apply principles of discourse analysis. (Su)

- Prerequisite Course: Minimum 2.5 in SIGN 263
- Placement Score: Reading Level 5 and Writing Level 4

1312

*F=Fall; Sp=Spring; Su=Summer*

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## 2022-2023 Course Descriptions

### **SIGN 267      Sign Practicum I**

**Credit Hours: 3 / Billing Hours: 3**

Combines student transliterated lectures and supervised placement in various interpreting settings to allow directed observation and application of practical interpreting skills. Students will spend an additional 8 hours a week in their placement setting. Designed for students intending to become sign language interpreters. (Sp)

- Prerequisite Course: Minimum 2.5 in (SIGN 240 and SIGN 261)
- Placement Score: Reading Level 5 and Writing Level 4

### **SIGN 268      Sign Practicum II**

**Credit Hours: 3 / Billing Hours: 3**

Combines student interpreted lectures and supervised placement in various interpreting settings to allow directed observation and application of practical interpreting skills. Students will spend an additional 8 hours a week in their placement setting. Designed for students intending to become sign language interpreters. (Su)

- Prerequisite Course: Minimum 2.5 in SIGN 267
- Placement Score: Reading Level 5 and Writing Level 4

### **SIGN 270      Advanced Interpreting**

**Credit Hours: 3 / Billing Hours: 3**

This course continues the development of skills necessary for interpreter evaluation/qualification. Students will be provided with simulated testing situations using interactive videotapes of hearing/deaf individuals requiring students to interpret/transliterate. Designed for students intending to become sign language interpreters. (F)

- Prerequisite Course: Minimum 2.5 in (SIGN 266 and SIGN 268)
- Placement Score: Reading Level 5 and Writing Level 4

### **SIGN 271      Advanced Sign to Voice**

**Credit Hours: 3 / Billing Hours: 3**

This course provides advanced skill development and fluency in voicing for all communication levels of deaf persons. Techniques taught are voice projection, breathing and relaxation, analysis of sign information, anticipation and prediction, closure, modality switching, correction, image search, decalage, and pacing. Designed for students intending to become sign language interpreters. (Sp)

- Prerequisite Course: Minimum 2.5 in SIGN 270
- Placement Score: Reading Level 5 and Writing Level 4

1313

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## 2022-2023 Course Descriptions

### **SIGN 295**      **Ind Study in Sign Language**      **Credit Hours: 1 to 4 / Billing Hours: 1 to 4**

An opportunity for self-directed learners to explore topics related to, but not taught in the curriculum. Students spend at least two hours per week for each credit. A detailed proposal must be submitted by the student for approval by the Department and supervising instructor prior to registration. Restricted to students intending to become sign language interpreters. (F,Sp,Su)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None

### **SOCL 120**      **Introduction to Sociology**      **Credit Hours: 4 / Billing Hours: 4**

A survey of major theoretical perspectives, concepts, and methods of sociology. Emphasis is placed on societal transformation, social organization, culture, cultural diversity, socialization, social stratification, social institutions, and social change within a global context.(F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 or (Reading Level 4 and ENGL 099 concurrently)
- Course Note: All sections of SOCL 120 allow concurrent enrollment with ENGL 099; some sections also allow concurrent enrollment with ENGL 098 and NCAS 103. See an academic advisor for sections that allow concurrent enrollment with ENGL 098 and NCAS 103.

### **SOCL 254**      **Marriage and Family**      **Credit Hours: 3 / Billing Hours: 3**

A survey of theoretical perspectives on the institutions of marriage and family. Topics include the historical context of family, gender roles, sexual behavior, values, psychological needs, divorce, parenting, family problems, and social policy. Variations in family types and lifestyles among diverse groups within the U. S. and elsewhere are examined. (F,Sp, Su)

- Prerequisite Course: Minimum 2.0 in (SOCL 120 or PSYC 200)
- Placement Score: Reading Level 5
- Recommended: Writing Level 6 or Minimum 2.0 in (ENGL 121 or ENGL 131)

## 2022-2023 Course Descriptions

### **SOCL 255**      **Contemporary Social Problems**      **Credit Hours: 3 / Billing Hours: 3**

This course is a theoretical and empirical survey of the nature and causes of social problems such as poverty, crime, racial and gender inequality, demographic and environmental changes, health care, education and family stability. Examples from other societies will be used for comparative analysis and establishing global links. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in SOCL 120
- Placement Score: Reading Level 5
- Recommended: Writing Level 6 or Minimum 2.0 in (ENGL 121 or ENGL 131)

### **SOCL 260**      **Race and Ethnicity**      **Credit Hours: 3 / Billing Hours: 3**

Sociological study of race and ethnicity in the U.S. and globally. Emphasis is placed on theories of race, racial and ethnic group formation, ethnic stratification, identity formation, immigration and struggles for equality. Racial and ethnic group experiences in Western and non-Western societies are traced historically and viewed comparatively. (F,Sp, Su)

- Prerequisite Course: Minimum 2.0 in SOCL 120
- Placement Score: Reading Level 5
- Recommended: Writing Level 6 or Minimum 2.0 in (ENGL 121 or ENGL 131)

### **SOCL 295**      **Independent Study in Sociology**      **Credit Hours: 1 to 4 / Billing Hours: 1 to 4**

An opportunity for self-directed learners to explore topics related to, but not taught in the curriculum. Students spend at least two hours per week for each credit. A detailed proposal must be submitted by the student for approval by the Department and supervising instructor prior to registration. (F,Sp,Su)

- Prerequisite Course: Department Approval

### **SOWK 101**      **Introduction to Social Work**      **Credit Hours: 3 / Billing Hours: 3**

This course introduces the principles of professional social work practice. Emphasis is on the history of social work, social welfare policy, empowerment, and human diversity. There is an overview of social work ethical practice, roles, and careers with relevance to the diverse social and client needs. This course complies with the Social Work Competencies, Council on Standards for Social Work Education. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

1315

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## 2022-2023 Course Descriptions

### **SPAN 121 Elementary Spanish I**

**Credit Hours: 4 / Billing Hours: 4**

First course of a two-semester sequence in elementary Spanish. Designed for persons with no knowledge of Spanish who wish to develop basic language skills. Elementary practice in listening comprehension, speaking, reading, and writing. Provides useful information about the Spanish-speaking world. Class is taught largely in Spanish. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 or (Reading Level 4 and ENGL 099 concurrently)

### **SPAN 122 Elementary Spanish II**

**Credit Hours: 4 / Billing Hours: 4**

Second course of a two-semester sequence in elementary Spanish. Introduces more complex structures while developing a foundation in the essentials of the language. Emphasizes practice in listening comprehension, speaking, reading, and writing. Provides useful information about the Spanish-speaking world. Class is taught largely in Spanish. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in SPAN 121 or equivalent
- Placement Score: Reading Level 5 or (Reading Level 4 and ENGL 099 concurrently)

### **SPAN 201 Intermediate Spanish I**

**Credit Hours: 4 / Billing Hours: 4**

First course of a two-semester sequence in intermediate Spanish. Begins with review of grammar, and continues with intensive vocabulary building, listening comprehension, and writing compositions. Encourages conversation by introducing discussions about the cultures of the Spanish-speaking world. Class is taught entirely in Spanish. (F,Sp)

- Prerequisite Course: Minimum 2.0 in SPAN 122 or equivalent.
- Placement Score: Reading Level 5 or (Reading Level 4 and ENGL 099 concurrently)

### **SPAN 202 Intermediate Spanish II**

**Credit Hours: 4 / Billing Hours: 4**

Second course of a two-semester sequence in intermediate Spanish. Continues a review of grammar, intensifies vocabulary building, strengthens listening comprehension and composition writing, and improves oral fluency through intense discussions on the cultures of the Spanish-speaking world. Class is taught entirely in Spanish. (Sp)

- Prerequisite Course: Minimum 2.0 in SPAN 201 or equivalent
- Placement Score: Reading Level 5 or (Reading Level 4 and ENGL 099 concurrently)

1316

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## 2022-2023 Course Descriptions

### **STAT 170**

### **Introduction to Statistics**

**Credit Hours: 4 / Billing Hours: 4**

This is an introductory course in concepts and methods of statistics, with an emphasis on data analysis. Topics studied include methods for collecting data, graphical and numerical descriptive statistics, correlation, simple linear regression, basic concepts of probability, confidence intervals and hypothesis tests for means and proportions, and chi-square tests. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in (MATH 105 or MATH 106) or (MATH 097 concurrently) or Math Level indicated below
- Placement Score: (Reading Level 5 and Writing Level 4) or (Reading Level 4 and Writing Level 4 and ENGL 099 concurrently) and Math Level 5
- Course Note:
  - Graphing calculator required; TI 83-84 series calculator highly recommended.
  - A student should take either STAT 170 or STAT 215 (not both), depending on his/her transfer institution.

### **STAT 215**

### **Intro to Probability and Stats**

**Credit Hours: 4 / Billing Hours: 4**

This is an introductory course in probability and statistics. Topics studied include descriptive statistics, probability, random variables, normal distribution, t distribution, chi-square distribution, F distribution, confidence intervals, hypothesis testing, correlation, and linear regression. In addition, students will solve applied problems by completing required computer assignments. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in (MATH 120 or above) or Math Level noted below
- Placement Score: Reading Level 5 and Writing Level 4 and Math Level 7
- Recommended: Knowledge of Windows software
- Course Note:
  - Graphing calculator required; TI 83-84 series calculator highly recommended.
  - A student should take either STAT 170 or STAT 215 (not both), depending on his/her transfer institution.

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## 2022-2023 Course Descriptions

### STPR 145

### Foundations Sterile Processing

**Credit Hours: 5 / Billing Hours: 6.5**

This course introduces students to basic skills needed in the Sterile Processing Department of health care facilities, including processing patient care equipment, supplies, and instruments for use in all departments. Students will also learn the principles and practices of decontamination, cleaning, disinfection, sterilization, and distribution of medical/surgical supplies. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4
- Corequisite Course: STPR 148
- Course Note: Students will be charged an additional fee of \$50 for ACEMAPP required documentation. Required:
  - Minimum age of 18 required.
  - Completion of Bloodborne Pathogens and HIPAA Training online; information provided at first class session.

### STPR 148

### Sterile Processing Externship

**Credit Hours: 2 / Billing Hours: 2**

This course prepares individuals to function competently in the Sterile Processing Department in hospitals. It builds on the principles and practices taught in STPR 145 and includes on-the-job training and hands-on practice in a hospital. Successful completion of the course qualifies a student to take the national certification examination for Sterile Processing and Distribution through the Certification Board for Sterile Processing and Distribution (CBSPD). (F,Sp)

- Prerequisite Course: Minimum 2.5 in [STPR 145 or (CHSE 120 and CHSE 145) or concurrently]
- Placement Score: Reading Level 5 and Writing Level 4
- Corequisite Course: STPR 145
- Course Note: Required:
  - Minimum age of 18 required.
  - Completion of Bloodborne Pathogens and HIPAA Training online; information provided on course D2L site.
  - Negative 2-step TB (tuberculosis) skin test within the last year.
  - Student must pass an ICHAT criminal



## 2022-2023 Course Descriptions

### **SURG 100      Fundamentals of Surgical Tech**

**Credit Hours: 3 / Billing Hours: 3**

Introduction to role and function of the surgical technologist as a member of the surgical team. Lectures present all skills, procedures, and protocol necessary to participate in the operating room. (F)

- Prerequisite Course: None. Admission to Surgical Technology Program is required.
- Placement Score: None
- Corequisite Course: SURG 101 and SURG 108 and SURG 109 and SURG 121 and SURG 122

### **SURG 101      The Surgical Patient**

**Credit Hours: 2 / Billing Hours: 2**

Lectures will present the protocol and procedures directly affecting the care and safety of the patient. This includes the ethical, legal, and moral responsibilities of the technologist, the concepts of patient care, and preoperative routines, along with elements of proper documentation and risk management. (F)

- Prerequisite Course: None. Admission to Surgical Technology Program
- Placement Score: None
- Corequisite Course: SURG 100 and SURG 108 and SURG 109 and SURG 121 and SURG 122

### **SURG 103      Surgical Asepsis**

**Credit Hours: 2 / Billing Hours: 2**

This course defines and describes pathogenic microorganisms and the causes and prevention of infection in the hospital. The student will be introduced to sterilization, disinfection, and other methods of controlling microbial growth. (F,Sp)

- Prerequisite Course: None
- Placement Score: None

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## 2022-2023 Course Descriptions

### **SURG 106      Surgical Tech Directed Study      Credit Hours: 1 to 3 / Billing Hours: 1 to 6**

This course is designed to update or enhance knowledge, skills, and competencies for the returning Surgical Technology student or for remediation in the program through evaluation of previous learning, self-study, and scheduling into preceptor-directed clinical mentorship. It requires at least 16 hours of independent work for each credit or 48 hours of clinical per credit. A learning contract specifying objectives, activities and outcomes is required. (As Needed)

- Prerequisite Course: None. Department Approval is required.
- Placement Score: None

### **SURG 108      Surgical Pharmacology      Credit Hours: 2 / Billing Hours: 2**

This course introduces the student to basic types of anesthesia, anesthesia agents, indications and contraindications of medications, and the calculations of maximum dosages of various drugs. The student will become familiar with a wide array of pharmacological agents specifically related to the peri-operative care being provided for the surgical patient. (F)

- Prerequisite Course: None. Admission to Surgical Technology Program is required.
- Placement Score: None
- Corequisite Course: SURG 100 and SURG 101 and SURG 109 and SURG 121 and SURG 122

### **SURG 109      Basic Surgical Procedures      Credit Hours: 2 / Billing Hours: 2**

This course introduces the student to basic types of surgical procedures with a primary focus on the sequential steps involved in these procedures. Surgical anatomy, physiology and pathophysiology will be addressed relative to basic surgical intervention. Students will become familiar with instrumentation, anticipatory skills, and surgical asepsis and surgical conscience. (F)

- Prerequisite Course: None. Admission to Surgical Technology Program is required.
- Placement Score: None
- Corequisite Course: SURG 100 and SURG 101 and SURG 108 and SURG 121 and SURG 122

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## 2022-2023 Course Descriptions

### **SURG 110      Advanced Surgical Procedures      Credit Hours: 6 / Billing Hours: 6**

This course introduces the student to intermediate and advanced surgical procedures with a primary focus on the sequential steps involved in these procedures, higher difficulty cases, and specialized instrumentation. Surgical anatomy, physiology, and pathophysiology will be addressed. The biomedical sciences will also be addressed: robotics, physics, computers, and electricity. (Sp)

- Prerequisite Course: None. Successful completion of 1st semester of the Surgical Technology Program is required.
- Placement Score: None
- Corequisite Course: SURG 111 and SURG 123 and SURG 124

### **SURG 111      Surgical Specialty/Prof Prep      Credit Hours: 3 / Billing Hours: 3**

This course focuses on preparing the student for lifelong learning, and includes conversations relative to the clinical experience and tracking of required surgical cases. Clinical site evaluations, documentation, and competencies will be reviewed for satisfactory compliance. Emphasis will be placed on advanced technologies, the future of tele-surgery, the operating room ten years out, and advances in specialty surgeries. Preparation for the Certified Surgical Technologist (CST) national certification exam will be provided in a review of core components, surgical anatomy, and surgical procedures. (Sp)

- Prerequisite Course: None. Successful completion of 1st semester of the Surgical Technology Program is required.
- Placement Score: None
- Corequisite Course: SURG 110 and SURG 123 and SURG 124

### **SURG 121      Applied Surgical Techniques I      Credit Hours: 2 / Billing Hours: 4**

This course covers the application of theory in the use of surgical supplies and equipment which will prepare students to scrub in for actual surgical procedures. A specified number of competencies will need to be successfully completed to advance to SURG122. (F)

- Prerequisite Course: None. Admission to Surgical Technology Program is required.
- Placement Score: None
- Corequisite Course: SURG 100 and SURG 101 and SURG 108 and SURG 109
- Course Note: \$484 of the course fee is for a medical kit and is non-refundable.

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## 2022-2023 Course Descriptions

### **TECH 102      General Industry Safety      Credit Hours: 2 / Billing Hours: 3**

This course covers safety in the industrial workplace. Included are local, state and federal safety regulations. The focus will be on the prevention of accidents but will teach the correct response if an accident should occur. OSHA-30 General Industry Certification, and First Aid/CPR/AED certificates will be issued upon successful completion. (F, Sp, Su)

- Prerequisite Course: None
- Placement Score: Reading Level 3 and Writing Level 2

### **THEA 110      Introduction to Theatre      Credit Hours: 3 / Billing Hours: 3**

Introduction to Theatre includes definition and analysis of theatrical art, incorporating script analysis, theatre history, the relationship between theatre and the culture from which it comes, and the roles of theatre practitioners. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 or ENGL 099 concurrently

### **THEA 114      Intro to Technical Theatre      Credit Hours: 3 / Billing Hours: 3**

Introduction to technical theatre for performing arts. Students will be introduced to the basic elements of scenic, lighting, costume, media, and properties design, and the execution of these design elements in a theatrical production. Students will be instructed on tool usage and on costume and scene shop safety, and will gain a practical understanding of the backstage elements in a theatrical performance. (F)

- Prerequisite Course: Minimum 2.0 in THEA 110
- Placement Score: None

### **THEA 115A      Tech Thea II-Set/Light Design      Credit Hours: 2 / Billing Hours: 3**

Intensive learning and application experience in set/lighting design. Assist at the beginning levels in set/lighting design while working on the season and studio productions for Performing Arts. (F,Sp)

- Prerequisite Course: Minimum 2.0 in THEA 114
- Placement Score: None
- Recommended: THEA 110

1323

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## 2022-2023 Course Descriptions

### **THEA 115B    Tech Thea II-Prop Design/Const                      Credit Hours: 2 / Billing Hours: 3**

Intensive learning and application experience in property design and construction. Assist at the beginning levels of property design and construction while working on the season and studio productions for Performing Arts. (F,Sp)

- Prerequisite Course: Minimum 2.0 in THEA 114
- Placement Score: None
- Recommended: THEA 110

### **THEA 115C    Tech Thea II-Costume Des/Const                      Credit Hours: 2 / Billing Hours: 3**

Intensive learning and application experience in costume design and construction. Assist at the beginning levels of costume design and construction while working on the season and studio productions for Performing Arts. (F,Sp)

- Prerequisite Course: Minimum 2.0 in THEA 114
- Placement Score: None
- Recommended: THEA 110

### **THEA 115D    Tech Thea II-Produc/Stage Mgmt                      Credit Hours: 2 / Billing Hours: 3**

Intensive learning and application experience in production and stage management. Assist at the beginning levels of production and stage management while working on the season and studio productions for Performing Arts. (F,Sp)

- Prerequisite Course: Minimum 2.0 in THEA 114
- Placement Score: None
- Recommended: THEA 110

### **THEA 120    Introduction to Acting    Credit Hours: 2 / Billing Hours: 3**

Explores various acting techniques and introduces the beginning student to the skills necessary to maintain a sustained dramatic performance. Theatre games and improvisation exercises to overcome stage fright and to develop concentration and listening skills are heavily emphasized. Students present final short scene. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: None



## 2022-2023 Course Descriptions

### **THEA 131 Studio Theatre Performance I**

**Credit Hours: 1 / Billing Hours: 2**

Course includes rehearsal, performance, and evaluation of a contemporary script. Focus is on an understanding and implementation of skills acquired in THEA 141 and the relationships experienced between actor and director. (Sp)

- Prerequisite Course: None
- Placement Score: None
- Corequisite Course: THEA 141

### **THEA 132 Studio Theatre Performance II**

**Credit Hours: 1 / Billing Hours: 2**

Rehearsal, performance, and evaluation of a script which incorporates heightened language and movement. Focus is on expanding the actor's physical and vocal expressiveness. (F)

- Prerequisite Course: Minimum 2.0 in THEA 141 and (Minimum 2.0 in THEA 143 and THEA 173) or concurrently or department approval
- Placement Score: None

### **THEA 141 Acting I - Contemporary**

**Credit Hours: 2.5 / Billing Hours: 4**

Fundamentals of acting, including improvisational techniques; the physical, vocal, and internal development of character; analysis and scoring by beats of a contemporary script. (Sp)

- Prerequisite Course: Minimum 2.0 in THEA 120 or concurrently
- Placement Score: None
- Corequisite Course: THEA 131

### **THEA 143 Stage Voice for the Actor**

**Credit Hours: 3 / Billing Hours: 4**

Course will cover exercises in vocal production: posture, support, relaxation, resonance, projection, and enunciation. Focus will be on exercises to develop vocal flexibility from Rodenburg, Linklater, and/or Berry techniques. Students will experience vocal techniques which lead to greater emotional awareness and responsiveness. (Sp)

- Prerequisite Course: None
- Placement Score: None

1325

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## 2022-2023 Course Descriptions

### **THEA 150      Acting for the Camera      Credit Hours: 3 / Billing Hours: 4**

Acting techniques and methods relevant to camera work will be explored. Student work is videotaped and critiqued. Acting for the Camera applies and builds on fundamentals established in Introduction to Acting. (Sp)

- Prerequisite Course: Minimum 2.0 in THEA 120 or concurrently
- Placement Score: None. Department Approval required

### **THEA 160      Stage Combat      Credit Hours: 2 / Billing Hours: 3**

Students learn to use a variety of weapons and hand to hand combat styles on stage. Students learn the style of combat used in theatre/film industry. Students explore fight scenes, basics of mechanics of choreographing fight scenes, and are instructed on basic safety procedures for choreographing/executing fight sequences. (Sp)

- Prerequisite Course: None
- Placement Score: None
- Recommended: THEA 120

### **THEA 170      Stage Combat II: Film Combat      Credit Hours: 3 / Billing Hours: 3**

In this course students will learn how to use a variety of weapons and hand-to-hand combat styles for film and will learn the style of combat currently used in the film industry. Students will explore fight scenes to understand the basics of the mechanics of choreographing a fight scene, and will be instructed on the basic safety procedures for choreographing and executing fight sequences to be filmed. (Sp)

- Prerequisite Course: None
- Placement Score: None
- Recommended: THEA 160

### **THEA 171      Play Analysis      Credit Hours: 3 / Billing Hours: 3**

An analysis of modern contemporary classics of the theatre. The student will read and analyze a minimum of four modern or contemporary scripts. The student will develop a comprehensive production concept for one of these scripts. (F,Sp)

- Prerequisite Course: None
- Placement Score: None

1326

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## 2022-2023 Course Descriptions

### **THEA 173      Movement for the Actor**

**Credit Hours: 2 / Billing Hours: 3**

Students will learn methods of physical transformation which can be applied to acting and character development. (F)

- Prerequisite Course: None
- Placement Score: None

### **THEA 181      Improvisation**

**Credit Hours: 2.5 / Billing Hours: 4**

By using the improvisational techniques of mask work and developmental exercises, this course will train the student in long-term, in-depth character development. (F)

- Prerequisite Course: None
- Placement Score: None

### **THEA 210      Theatre History**

**Credit Hours: 4 / Billing Hours: 4**

Examines the history of Western Theatre, including the literature, performance conventions, the physical theatre, and major figures from the Greek to Modern eras. (F)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: THEA 110

### **THEA 220      Play Directing**

**Credit Hours: 3 / Billing Hours: 4**

Introduction to the fundamentals of directing a play, including play analysis, stage composition and working with actors. Practical experience through scene work and class exercises will be emphasized. Students will demonstrate their mastery of the principles taught by directing and presenting a short one-act play for an audience. (F)

- Prerequisite Course: Minimum 2.0 in THEA 110 or Department Approval
- Placement Score: None

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## 2022-2023 Course Descriptions

### **THEA 224      Special Subjects in Theater      Credit Hours: 1 to 4 / Billing Hours: 1.5 to 6**

This seminar allows students to take courses in various theater techniques. It offers either state-of-the-art techniques or an opportunity to work with professionals. Seminars include topics such as stage, film, or theatrical combat and new techniques in acting. (F,Sp,Su)

- Prerequisite Course: Determined by Section
- Placement Score: Determined by Section

### **THEA 225      Building a Character      Credit Hours: 2 / Billing Hours: 2**

This course will focus on giving theatre majors an "acting toolbox" for creating fully realized characters on stage. Class will focus on the Chekhov Technique, which emphasizes the psycho-physical development of character, as well as the language-based techniques of John Barton. Master Classes by professional actors from the Stratford Shakespeare Festival may be included. (Sp)

- Prerequisite Course: None
- Placement Score: None
- Corequisite Course: THEA 240

### **THEA 233      Studio Theatre Performance III      Credit Hours: 2 / Billing Hours: 4**

Students will rehearse and perform a Shakespeare play. (Su)

- Prerequisite Course: Minimum 2.0 in (THEA 143 and THEA 225 and THEA 240) or department approval
- Placement Score: None

### **THEA 240      Acting-Shakespeare      Credit Hours: 3 / Billing Hours: 4**

Students will explore the unique demands of acting and speaking Shakespeare and the qualities of his verse, including alliteration, assonance, rhymes, antithesis, puns, onomatopoeia, imagery, and iambic rhythms. Status, social, and historical context will be addressed. (Sp)

- Prerequisite Course: Minimum 2.0 in (THEA 131 and THEA 141 and THEA 143) or department approval
- Placement Score: Reading Level 5
- Corequisite Course: THEA 225



## 2022-2023 Course Descriptions

### **THEA 283      Audition Workshop**

**Credit Hours: 2 / Billing Hours: 3**

Students will learn audition and resume preparation and will prepare and polish two contrasting monologues for auditions. Students will learn the audition and application processes for advanced training. (F)

- Prerequisite Course: Minimum 2.0 in THEA 141 or department approval
- Placement Score: None

### **THEA 285      Stage Makeup**

**Credit Hours: 2 / Billing Hours: 3**

A course in the application of stage makeup to develop a character and to assist the actor in sustaining the character in performance. Emphasizes skills in the use of different kinds of makeup, hair styling, and appearance changes. (Sp)

- Prerequisite Course: None
- Placement Score: None

### **WELD 103      Combination Welding**

**Credit Hours: 4 / Billing Hours: 6**

This is a beginning theory and practice course which will introduce the safe operations and applications of oxyacetylene welding, torch cutting, plasma cutting, brazing and shielded metal arc welding. Practice will consist of these methods of joining steel in the horizontal, flat and vertical positions. Destructive testing will also be provided. (F, Sp, Su)

- Prerequisite Course: None
- Placement Score: Reading Level 3 and Writing Level 2
- Recommended: Math Level 3
- Course Note: Students need to bring their own safety glasses, pliers, leather welding gloves and leather work boots to start welding on the first day of class.

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## 2022-2023 Course Descriptions

### **WELD 105    Advanced ARC Welding**

**Credit Hours: 4 / Billing Hours: 6**

Students will develop the skills necessary to produce quality multiple pass fillet and groove welds on steel plates. Conventional and low hydrogen electrodes are used in preparation of passing performance tests in all positions. Destructive testing methods, weld profiles and welding symbols as related to arc welding are introduced. (F, Sp)

- Prerequisite Course: Minimum 2.0 in WELD 103
- Placement Score: Reading Level 3 and Writing Level 2
- Course Note: Students need to bring their own safety glasses, pliers, leather welding gloves and leather work boots to start welding on the first day of class.

### **WELD 108    Welding for Non-Majors**

**Credit Hours: 4 / Billing Hours: 6**

This is a beginning theory and practice course which will introduce the safe operations and applications of torch cutting, plasma cutting, Gas Metal Arc Welding, and Shielded Metal Arc Welding. Practice will consist of these methods of joining steel in the horizontal, flat, and vertical positions. Destructive testing will also be performed. (F, Sp)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None
- Course Note: This course is for Mechatronics major students only. Students need to bring their own safety glasses, pliers, leather welding gloves and leather work boots to start welding on the first day of class.

### **WELD 110    Gas Metal ARC Welding**

**Credit Hours: 4 / Billing Hours: 6**

Provides technical understanding and applications of gas metal arc welding and flux cored arc welding. Fundamentals, safety, equipment adjustments, metal transfers and shielding gases will be covered. Develops manual skill in all positions on different thicknesses and types of metals, including mild steel, aluminum and stainless steel. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 3 and Writing Level 2
- Course Note: Students need to bring their own safety glasses, pliers, leather welding gloves and leather work boots to start welding on the first day of class.

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## 2022-2023 Course Descriptions

### **WELD 111 Gas Tungsten ARC Welding**

**Credit Hours: 4 / Billing Hours: 6**

Students will develop the skills, principles and applications of gas tungsten arc welding. Welds will be done on different thickness of ferrous and non-ferrous metals in all positions. Proper material cleaning, fit up and safety are also introduced. (F,Sp)

- Prerequisite Course: Minimum 2.0 in (WELD 103 or AUTO 100 or AUTB 114)
- Placement Score: Reading Level 3 and Writing Level 2
- Course Note: Students need to bring their own safety glasses, pliers, leather welding gloves and leather work boots to start welding on the first day of class.

### **WELD 115 Robotic MIG Welding**

**Credit Hours: 4 / Billing Hours: 6**

Students will learn to program a MIG welding robot through a teach pendant, edit programs, set weld schedules, as well as learn some basic fixture building skills. This course also provides fundamental safety precautions while programming and operating the robotic component. (F, Sp)

- Prerequisite Course: Minimum 2.0 in WELD 110
- Placement Score: Reading Level 3 and Writing Level 2 and [Math Level 3 or Minimum 2.0 in (MATH 105 or MATH 106)]
- Course Note: Students need to bring their own safety glasses, pliers, leather welding gloves and leather work boots to start welding on the first day of class.

### **WELD 125 Structural Print Reading/Weld**

**Credit Hours: 2 / Billing Hours: 2**

This course is for students, apprentices, technicians, and others who must develop the ability to read and accurately interpret prints and welding symbols, which are the universal language of the welding industry. Teaches advancements in metallurgy, welding processes, and consumables, along with strict code enforcement used in industry today. (F, Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 3 and Writing Level 2 and [Math Level 4 or Minimum 2.0 in (MATH 105 or MATH 106)]

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## 2022-2023 Course Descriptions

### **WELD 140 Creative Welding**

**Credit Hours: 2 / Billing Hours: 3**

This is a course for people with an interest in artwork in a metal medium. Participants will become familiar with welding, cutting, and basic design processes for the purpose of exploring creative expression. (F,Sp)

- Prerequisite Course: None
- Placement Score: None
- Recommended: Course work or experience in art/design
- Course Note: Students need to bring their own safety glasses, pliers, leather welding gloves and leather work boots to start welding on the first day of class.

### **WELD 170 Special Topics in Welding**

**Credit Hours: .25 to 8 / Billing Hours: .25 to 11**

This course offers students the opportunity to learn new or advanced skills in welding and other related topics. Specific content may vary with each offering but will be related to the Welding Program and profession. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: None

### **WELD 191 Welding Project Lab**

**Credit Hours: 1 to 4 / Billing Hours: 1 to 4**

An opportunity for students to expand upon welding skills in maintenance welding, production welding, resistance welding and/or tool and die welding, depending on the direction the student would like to take his/her welding skills. Actual projects must be discussed and agreed upon by both the instructor and the student. (F,Sp,Su)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None

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## 2022-2023 Course Descriptions

### **WELD 201     Tool and Die Welding**

**Credit Hours: 3 / Billing Hours: 4.5**

Theory and practice methods involved in welding various alloyed metals, preheating and postheating of metals, recognition of materials, alloying elements and their effects. The proper usage of air, oil and water hardening steels will also be covered. (F, Sp)

- Prerequisite Course: Minimum 2.0 in (METM 190 and WELD 105 and WELD 111)
- Placement Score: Reading Level 3 and Writing Level 2
- Course Note: Students need to bring their own safety glasses, pliers, leather welding gloves and leather work boots to start welding on the first day of class. \$10 of the Course Fee is non-refundable.

### **WELD 205     Pipe Welding**

**Credit Hours: 4 / Billing Hours: 6**

Theory, cutting, fit up and practice on different sizes of pipe using shielded metal arc welding. Varied weld and base metal testing methods are used to the strict code requirements. Focus on low hydrogen type electrodes in groove welds in the 2G, 5G, and 6G positions. (Sp)

- Prerequisite Course: Minimum 2.5 in WELD 105
- Placement Score: Reading Level 3 and Writing Level 2
- Course Note: Students need to bring their own safety glasses, pliers, leather welding gloves and leather work boots to start welding on the first day of class.

### **WELD 220     Structural Fab & Inspection**

**Credit Hours: 4 / Billing Hours: 6**

Introduction to steel fabrication in accordance with the American Welding Society Structural Welding Code D1.1 applications and requirements. The student will be introduced to the numerous destructive and nondestructive methods of welding inspections. Satisfactory completion of this course will assist the student in passing a welding certification test. (F, Sp)

- Prerequisite Course: Minimum 2.5 in (WELD 105 and WELD 110 and WELD 125)
- Placement Score: Reading Level 3 and Writing Level 2 and Math Level 4
- Course Note: Students need to bring their own safety glasses, pliers, leather welding gloves and leather work boots to start welding on the first day of class.

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## 2022-2023 Course Descriptions

### **WELD 250    Welding Internship**

**Credit Hours: 3 / Billing Hours: 3**

This course provides welding students with practical work experience in industry. Students work for an employer in a supervised environment which provides an opportunity to apply knowledge and skills learned in the classroom and lab to an actual job situation. (F,Sp)

- Prerequisite Course: None. Department Approval is required
- Recommended: 2.5 GPA or greater

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