



# COLLEGE CATALOG

**2020 – 2021 Academic Year**

## Message from the President



Welcome to Lansing Community College! Regardless of whether you are just beginning your academic collegiate journey, returning for retraining or interested in enhancing skills and abilities, we have a number of programs, many nationally ranked, and offerings across a variety of career fields to choose from.

You can ***Get in, Get Out & Get a Job*** after completing our Aviation Technology program where our graduate's salaries start at more than \$50,000/year, or pursue a high-paying, in-demand health or public services career. LCC trains approximately 75% of our region's nurses, firefighters, police officers and EMTs while also offering core courses that transfer to 99% of colleges and universities across the country. Interested in learning a second language, starting a new career or honing professional skills? We have you covered there too.

With faculty and staff who are dedicated to your success and support services that are tailored to your needs, LCC is an amazing place to achieve your goals. From start to finish, our staff is ready to assist you every step of the way; whether you need help registering, understanding financial aid, finding your books or even securing a laptop, we will be there to help you get where you want to go.

The future is yours, I encourage you to browse our catalog of offerings and just ***Imagine What You Can Do!***

Go Stars!

Steve Robinson, Ph.D.  
President

## Message from the Provost



Welcome to Lansing Community College! At LCC, we pride ourselves on helping you succeed no matter your goal. Whether you want to quickly gain the technical skills you need to get a job, or to carefully explore your options as you prepare for transfer to a four-year university, we are here for you. As an LCC Star, you will work with expert faculty in state-of-the-art facilities, and will have access to wraparound support services that help you hurdle every obstacle to your success.

As you begin your journey with us, know that LCC is committed to values of respect, integrity, community, and excellence. Those values are even more important to us during this moment in history. Please know we make decisions regarding class scheduling with student and employee safety at the forefront of our mind. We also understand our role in providing technology training and resources to ensure distance learning can still promote equity and equality for our students. Further, we are committed to excellence in everything that we do, and we work to continuously improve.

I invite you to explore this catalog to learn more about your educational options. From aviation technology to theatre to dental hygiene, we are sure to offer something that will enrich your life and help you support yourself and your family.

I also want to highlight a few of our excellent services available to all students. First, please take advantage of your Academic Success Coach. This is an individual whose sole mission is your success. They will work with you one-on-one to understand your needs and concerns, and can help you navigate the college experience. Further, LCC offers free tutoring, academic advising, counseling, financial aid assistance, and more to all students. We are here for you!

I am thrilled to have you as part of our Stars community.

Sincerely,

Sally Welch  
Provost

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## Disclaimers

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.

The following individuals have been designated to handle inquiries regarding the non-discrimination 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; Sarah Velez, Human Resource Manager/Title IX Coordinator, Administration Building, 610 N. Capitol Ave. Lansing, MI 48933, 517-483-1874; Christine Thompson, Student Title IX Coordinator, Gannon Building, 411 N. Grand Ave. Lansing, MI 48933, 517-483-1261.

Lansing Community College is accredited by the Higher Learning Commission. The commission can be contacted at [hlcommission.org](http://hlcommission.org) or 800-621-7440. Its mailing address is 230 S. LaSalle St., Suite 7-500, Chicago, IL 60604. The Main 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](http://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 the instructors’ names in the semester 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 Catalog, which provides complete information on courses as well as college regulations and more details on the academic calendar and procedures.

# Main Campus Map



## Downtown Campus

- 1** Gannon Building (GB)
- 2** Academic and Office Facility (AOF)
- 3** Huron Building (HB)
- 4** Washington Court Place (WCP)
- 5** University Center (UC)
- Abel B. Sykes, Jr. Technology and Learning Center (TLC)
- 6** Arts and Sciences (A&S)
- 8** Mackinaw Building (MB)
- 9** Dart Auditorium (DRT)
- 10** LCC Outside Amphitheater
- 11** Michigan Veteran's Memorial
- 12** Shigematsu Memorial Garden
- 13** Herrmann House (HH)
- 14** Rogers-Carrier House (RCH)
- 15** Health and Human Services Building (HHS)
- 16** Early Learning Children's Community (ELCC)
- 17** Paula D. Cunningham Administration Building (ADM) (Includes Board Room)
- 18** 515 North Capitol
- 19** 505 North Capitol

**Student Parking**  
**S1, S2, S3, S7, S15, S16, S22, S23, P** (Gannon Ramp)  
**S26, S29** ♿ Accessible Parking

**Employee Parking**  
**E6, E7, E12, E17, E18, E27, E28**  
**E11** Child Care Parking Only  
**E13** Special Permit Parking

**Visitor Parking**  
**P** Gannon Ramp

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

## Other Campus Maps



**Main Campus**



**West Campus (WCB)**



**LCC East (EAST)**



**Livingston County Center (LIVCEN)**

Visit the [LCC Locations](#) webpage for more information

# Lansing Community College Administration & Board

## BOARD OF TRUSTEES

Lawrence Hidalgo, Jr., Chair  
Ryan Buck, Vice Chair  
Angela L. Matthews, Secretary  
Larry Meyer, Treasurer  
Andrew P. Abood, Trustee  
Robert E. Proctor, Trustee  
Samantha Vaive, Trustee

## PRESIDENT

Steve Robinson

## PROVOST AND SENIOR VP OF ACADEMIC AFFAIRS

Sally Welch

## INTERIM SENIOR VP OF BUSINESS OPERATIONS

Seleana Samuel

## ASSOCIATE VP, EXTERNAL AFFAIRS & DEVELOPMENT

Toni Glasscoe

## CHIEF FINANCIAL OFFICER

Donald Wilske

## CHIEF INFORMATION OFFICER

Kevin Bubb

## CHIEF DIVERSITY OFFICER

Tonya Bailey

## DEAN, ARTS & SCIENCES

Andrea Hoagland

## DEAN, COMMUNITY EDUCATION AND WORKFORCE

### DEVELOPMENT

Baldomero Garcia

## DEAN, HEALTH & HUMAN SERVICES

Margherita P. Clark

## 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 A. Mitchell

# Academic Calendar

## Fall 2020 Academic Calendar

### Fall Semester 2020 – Registration begins May 18, 2020

Length of Course	Dates
Full Semester (16 Weeks)	August 20 – December 14, 2020
First 8 Weeks	August 20 – October 14, 2020
First 12 Weeks	August 20 – November 11, 2020
Last 15 Weeks	August 27 – December 14, 2020
Last 14 Weeks	September 3 – December 14, 2020
Last 12 Weeks	September 17 – December 13, 2020
Last 8 Weeks	October 15 – December 14, 2020

Pre-Registration Tasks	Registration Schedule		
	Number of CREDITS earned as of Spring 2020	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, May 18
	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
Web registration begins - For more details visit our <a href="#">Registration</a> page.	Monday, May 18, 2020
Orientation available online, required for new students - For more details visit our <a href="#">Orientation</a> page.	Monday, May 18, 2020
Priority Financial Aid FAFSA file date - For more details visit our <a href="#">Financial Aid</a> page.	Wednesday, July 1, 2020
Priority Financial Aid document submit date - For more details visit our <a href="#">Financial Aid</a> page.	Wednesday, July 15, 2020
Financial Aid book vouchers begin – For more details visit our <a href="#">Financial Aid Disbursements</a> page.	Monday, August 10, 2020
Financial Aid supply advances begin – For more details visit our <a href="#">Financial Aid Disbursements</a> page.	Monday, August 10, 2020
Semester Begins	Thursday, August 20, 2020
End 100% refund tuition and fees - Full semester and first 8 week and 12 week only - <a href="#">See for all teaching periods.</a>	Wednesday, August 26, 2020
End 50% refund, tuition & student support fee only - Full semester and first 8 week and 12 week only - <a href="#">See for all teaching periods.</a>	Wednesday, September 2, 2020
Labor Day – College closed	Monday, September 7, 2020
Financial Aid <a href="#">Refunds</a> for <a href="#">Grants</a> , <a href="#">Scholarships</a> , and first half of loans begin	Wednesday, September 23, 2020
Last day to <a href="#">change residency</a>	Wednesday, September 23, 2020
Last day to <a href="#">change program of study</a>	Wednesday, September 23, 2020

Event	Date
Financial Aid <a href="#">refunds</a> for second half of loans begin	Monday, October 26, 2020
Last day to <a href="#">submit Associate Degree/Certificate</a> applications for Fall semester	Sunday, November 15, 2020
Thanksgiving - College Closed	Thursday, November 26 through Sunday, November 29, 2020
Semester Ends	Monday, December 14, 2020
End of semester grades posted and available for view	Thursday, December 17, 2020

#### Fall 2020 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	[8/20-12/14]	8/26	9/2	9/2	9/2	11/30
First 8 weeks	[8/20-10/14]	8/26	9/2	9/2	9/2	10/7
Last 8 weeks	[10/15-12/14]	10/21	10/28	10/28	10/28	12/7
First 12 weeks	[8/20-11/11]	8/26	9/2	9/2	9/2	11/1
Last 12 weeks	[9/17-12/13]	9/23	9/30	9/30	9/30	12/2
Last 14 weeks	[9/3-12/14]	9/9	9/16	9/16	9/16	12/2
Last 15 weeks	[8/27-12/14]	9/2	9/9	9/9	9/9	12/1
<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 learning 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 [Fall 2020 Academic Calendar](#).



## Spring 2021 Academic Calendar

### Semester 2021 – Registration begins October 5, 2020

Length of Course	Dates
Full Semester (16 Weeks)	January 11 - May 10, 2021
First 8 Weeks	January 11 - March 15, 2021
First 12 Weeks	January 11 - April 12, 2021
Last 15 Weeks	January 19 - May 10, 2021
Last 14 Weeks	January 26 - May 10, 2021
Last 12 Weeks	February 9 - May 10, 2021
Last 8 Weeks	March 16 - May 10, 2021

Pre-Registration Tasks	Registration Schedule			
	Number of CREDITS earned as of Summer 2020	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 5, 2020	
	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 6, 2020	

Event	Date
Web registration begins - For details visit our <a href="#">Registration</a> page.	Monday, October 5, 2020
Orientation available online, required for new students - For more details visit our <a href="#">Orientation</a> page.	Monday, October 5, 2020
Priority Financial Aid FAFSA file date - For more details visit our <a href="#">Financial Aid</a> page.	Tuesday, December 1, 2020
Priority Financial Aid document submit date - For details visit our <a href="#">Financial Aid</a> page.	Tuesday, December 15, 2020
Financial Aid book vouchers begin - For more details visit our <a href="#">Financial Aid Disbursements</a> page.	Thursday, December 10, 2020
Financial Aid supply advances begin - For more details visit our <a href="#">Financial Aid Disbursements</a> page.	Friday, December 11, 2020
Semester Begins	Monday, January 11, 2021
End 100% refund tuition and fees - Full semester and first 8 week and 12 week only - <a href="#">See for all teaching periods</a> .	Sunday, January 17, 2021
Martin Luther King Jr Day - College Closed	Monday, January 18, 2021
End 50% refund, tuition & student support fee only - Full semester and first 8 week and 12 week only - <a href="#">See for all teaching periods</a> .	Sunday, January 24, 2021
Financial Aid <a href="#">Refunds</a> for <a href="#">Grants</a> , <a href="#">Scholarships</a> , and first half of loans begin	Wednesday, February 3, 2021
Last Day to <a href="#">change residency</a>	Sunday, February 14, 2021
Last Day to <a href="#">change program of study</a>	Sunday, February 14, 2021
Spring Break - No Classes	Monday, March 8 through Sunday, March 14, 2021

Event	Date
Last day to <a href="#">submit Associate Degree/Certificate</a> applications for Spring semester	Monday, March 15, 2021
Financial Aid <a href="#">refunds</a> for second half of loans begin	Thursday, March 25, 2021
Semester Ends	Monday, May 10, 2021
End of semester grades posted and available for view	Thursday, May 13, 2021
<a href="#">Commencement</a> - Breslin Student Events Center, MSU Campus, 7:00 p.m.	Thursday, May 13, 2021

Spring 2021 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>	<b>[start - end]</b>					
Full Semester	[1/11-5/10]	1/17	1/24	1/24	1/24	4/26
First 8 weeks	[1/11-3/15]	1/17	1/24	1/24	1/24	3/8
Last 8 weeks	[3/16-5/10]	3/22	3/29	3/29	3/29	5/4
First 12 weeks	[1/11-4/12]	1/17	1/24	1/24	1/24	4/1
Last 12 weeks	[2/9-5/10]	2/15	2/22	2/22	2/22	4/30
Last 14 weeks	[1/26-5/10]	2/1	2/8	2/8	2/8	4/29
Last 15 weeks	[1/19-5/10]	1/25	2/1	2/1	2/1	4/28
<b>Variable-Start Courses</b>						
Community and Continuing Education	[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>
(Non-Credit Courses)						
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 2021 Academic Calendar](#).

## Summer 2021 Academic Calendar

### Summer Semester 2021 – Registration begins March 29, 2021

Length of Course	Dates
Full Semester (12 Weeks)	May 17 – August 9, 2021
First 6 Weeks	May 17 – June 28, 2021
8 Weeks	June 5 – August 2, 2021
Second 6 Weeks	June 29 - August 9, 2021

Pre-Registration Tasks	Number of CREDITS earned as of Summer 2020	Register during or after:	Date
30 or more	10 - 12 noon		
12 or more	12 - 2 p.m.		
1 or more	2 - 4 p.m.		
Current & Returning Students	4 p.m.		
	Register after:		
	*New students	After 8 a.m.	Tuesday, March 30, 2021

Event	Date
Web registration begins - For details visit our <a href="#">Registration</a> page.	Monday, March 29, 2021
Orientation available online, required for new students - For more details visit our <a href="#">Orientation</a> page.	Monday, March 29, 2021
Priority Financial Aid FAFSA file date - For more details visit our <a href="#">Financial Aid</a> page.	Thursday, April 1, 2021
Priority Financial Aid document submit date - For more details visit our <a href="#">Financial Aid</a> page.	Thursday, April 15, 2021
Financial Aid book vouchers begin - For more details visit our <a href="#">Financial Aid Disbursements</a> page.	Thursday, May 6, 2021
Financial Aid supply advances begin - For more details visit our <a href="#">Financial Aid Disbursements</a> page.	Friday, May 7, 2021
Semester Begins	Monday, May 17, 2021
End 100% refund tuition and fees - Full semester and first 6 weeks only - <a href="#">See for all teaching periods</a> .	Sunday, May 23, 2021
Memorial Day - College closed	Saturday, May 29 through Monday, May 31, 2021
End 50% refund, tuition & student support fee only - Full semester and first 6 weeks only - <a href="#">See for all teaching periods</a> .	Sunday, May 30, 2021
Financial Aid <a href="#">Refunds</a> for <a href="#">Grants</a> , <a href="#">Scholarships</a> , and first half of loans begin	Thursday, June 24, 2021
Last day to <a href="#">change residency</a>	Thursday, June 24, 2021
Independence Day - College closed	Saturday, July 3 through Monday, July 5, 2021

Event	Date
Financial Aid <a href="#">refunds</a> for second half of loans begin	Thursday, July 8, 2021
Last day to <a href="#">change program of study</a>	Thursday, July 15, 2021
Last day to <a href="#">submit Associate Degree/Certificate</a> applications for Summer semester	Thursday, July 15, 2021
Semester Ends	Monday, August 9, 2021
End of semester grades posted and available for view	Thursday, August 12, 2021

Summer 2021 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>	<b>[start - end]</b>					
Full Semester	[5/17-8/9]	5/23	5/30	5/30	5/30	7/26
First 6 weeks	[5/17-6/28]	5/23	5/30	5/30	5/30	6/23
8 weeks	[6/5-8/2]	6/11	6/18	6/18	6/18	7/26
Last 6 weeks	[6/29-8/9]	7/5	7/12	7/12	7/12	8/4
<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 contract start date	Per learning contract	Day prior to the learning contract start date	Day prior to the leaning contract start date	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>					
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 [Summer 2021 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, founded in 1957, is one of the largest community colleges in Michigan, serving more than 23,000 students across a six-county area each year. LCC offers courses in general education for those interested in transferring to a four-year institution, career and workforce development, developmental education and personal enrichment. To meet the professional development and training needs of regional employees, the college offers customized programs for credit, non-credit and continuing education. The University Center at LCC offers students the opportunity to earn bachelor's and master's degrees from five partner universities on the downtown LCC campus. For more information, visit [lcc.edu](http://lcc.edu).

## [ACCREDITATION](#)

Lansing Community College is accredited by the Higher Learning Commission (HLC), a regional accreditation agency that accredits degree-granting institutions of higher education located in the 19-state North Central region of the United States. Regional 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. Elected members retain positions for 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	1/1/22	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> 1313 L St. NW, Suite 500, Washington, D.C. 20005	review pending	Accredited with Conditions
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 6/30/2020	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 09/2021	Certified
Dental Hygiene	<a href="#">Commission on Dental Accreditation (CODA)</a> 211 East Chicago Ave. Chicago, IL 60611	2024	Accredited (Approval without Reporting Requirements)
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)</a>	07/2021	Approved

Program Area	Accrediting Agency	Date of Next Review	Status
	<a href="#">Bureau of EMS, Trauma, &amp; Preparedness (BETP)</a> <a href="#">Division of EMS and Trauma</a> P.O. Box 30207 Lansing, MI 48909-0207		
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 9/30/2020	Approved Training
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

Program Area	Accrediting Agency	Date of Next Review	Status
	<a href="#">Accreditation Commission for Education in Nursing (ACEN)</a> 3343 Peachtree Road NE, Suite 850 Atlanta, Georgia 30326	2026	Accredited
Paralegal	<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
Police Academy	<a href="#">Michigan Commission on Law Enforcement Standards (MCOLES)</a> 927 Centennial Way Lansing, Michigan 48909	Annual Report 12/31/19	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	12/1/20	Accredited
Surgical Technology	<a href="#">Commission on Accreditation of Allied Health Education Programs (CAAHEP)</a> 25400 US Highway 19 North Suite 158 Clearwater, FL 33763	review pending	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.

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 a "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 Behavior 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 track details about behavior concerns noted on campus. The team links students of concern to appropriate medical and counseling 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 prohibits sexual harassment and sexual discrimination in its employment and educational programs. Students, employees, and visitors are encouraged to report any allegations of sexual misconduct through the links listed above.

The College's Board of Trustees has a policy that details expectations of students, employees, and visitors. The policy is called Prohibited Sex or Gender Based Discrimination, Harassment, and Sexual Misconduct, and can be found on the LCC [Title IX Resources - Sexual Misconduct](#) page.

Christine Thompson	Sarah Velez	JR Beauboeuf
Student Title IX Coordinator	Human Resource Manager/Title IX Coordinator	Director of Risk Management & Equal Opportunity Officer
Gannon Building 411 N. Grand Ave. Lansing, MI 48933 517-483-1261	Administration Building 610 N. Capitol Ave. Lansing, MI 48933 517-483-1874	309 N. Washington Square Lansing, MI 48933 517-483-1730

## 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 Resources](#) webpage.

The College prohibits retaliation or reprisals against any individual because she/he has 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

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

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

Sarah Velez  
Human Resource Manager/Title IX Coordinator  
Administration Building  
610 N. Capitol Ave.  
Lansing, MI 48933  
517-483-1874

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 by the Higher Education Opportunity Act of 2008 (HEOA), 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

If any questions or would like 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 website](#). 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; and apply from the time of admission and continue as long as the student remains enrolled at the College. They will also be 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 other students, including themselves.

### Access to College Buildings

Access to College buildings during normal hours are Monday through Thursday, 7:00 AM to 10:30 PM, Fridays from 7:00 AM to 5:30 PM, and Saturday and Sunday hours vary to class schedules.

\*Due to the current pandemic, there is no public access to the LCC facilities. Access to facilities are only authorized for approved instructional programs under further notice. Emergency access can be obtained by contacting Public Safety.

Access to College buildings after normal hours of operation is restricted. Contact Police, Public Safety and Parking at (517)483-1800 with questions.

### Animals

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

### Cell Phones

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

## Children on Campus

Unattended 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.

## Dress

Students are expected to dress in an appropriate manner. Students should dress keeping in mind the activity in which they are engaged in while on College property, when attending College-sponsored events, or while pursuing an academic program.

## Drugs and Alcohol

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

The College's Drug and Alcohol policy prohibits the use, possession, purchase, sale, dispensation, distribution, or manufacture of, being impaired by certain substances. The policy applies to all students.

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

## Examinations

Students are required to take examinations at the appointed time and place. Generally, examinations are given during the regularly scheduled class period with a final exam during the last week of the semester. Students should direct questions regarding the date and time of their examinations to their individual instructors.

## 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.

## Language

On LCC Campus students should refrain from using profanity or language that is distasteful, offensive or hateful.

## 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](#) 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. Students must possess a current College StarCard to access computer labs.

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 face both civil and criminal liability from the College, from law enforcement officials or from individuals whose rights are harmed by the violation. See the [Acceptable Use Policy](#) 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, academic coaching and support throughout their time at Lansing Community College. Academic Success Coaches believe in working with students to help them identify and utilize their strengths while empowering them to succeed at LCC and accomplish their academic goals. For more information please visit the [Academic Success Coach website](#) or contact them via [email](#).

#### 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 help plan an academic journey at Lansing Community College. Our advisors provide guidance and clarity on program details and help navigate through a program efficiently, whether planned to achieve a degree or certificate at LCC, or if planning 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.

### Admissions

Lansing Community College is an open admissions college. Visit the Admissions webpage for information on the types of admissions available. 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.

### Arts & Sciences Division

The Arts & Sciences Division offers courses and programs based on traditional and contemporary values in a climate that fosters respect for learning. Our goal is to equip students to compete successfully in junior and senior level courses at other colleges and universities, as

well as actively supporting efforts that have a direct impact on the immediate workforce needs of our local area and the State of Michigan.

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. A&S offerings include Math, Science, English, Humanities, Social Sciences, Business, Communication, and the Arts courses

## Athletics

The Lansing Community College (LCC) Athletic Department supports offering 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 (9) 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 (9) 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

The Lansing Community College community spans six locations in the mid-Michigan area. Each provides learning spaces and staff dedicated to student's academic success and positive college experience.

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.

### Main 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, as well as the Michigan Technical Education Center (M-TEC) and Technical Training Center.

The 290,536-square-foot facility features the [Center for Manufacturing Excellence](#), Mid-Michigan Police Academy, Regional Fire Training Center 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.

### Livingston County Center

1600 Pinckney 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.

### Aviation Maintenance

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.

### Center for Workforce Transition (CWT) 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. CWT 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, please contact 517-492-5580 or via [email](#).

### 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.

### 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, please contact 517- 492-5580.

### Career & Employment Services

Career & Employment Services 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!

### 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 by phone at 517 483-1199 or by [email](#).

### Classroom and Laboratory Visitor

A classroom or laboratory visitor is any authorized person who is not enrolled at the College.



## Computer Labs

### Main Campus

- Fall 2020  
21 student-use computers will be available on the 3rd floor of TLC (TLC 321).
- Spring 2021 – Summer 2021  
60 student-use computers will be available on the 2nd floor of TLC (TLC 200).  
Currently TLC 200 is the library but will be adding additional resources such as a help zone, writing studio, study rooms, and a “new” technology area.

### LCC East

10 PC's and 1 MAC are available for student use with 1 printer.

### Livingston County Center

24 PC's are available for student use with 1 printer.

### West Campus

Currently 18 student-use computers are available in M123. Future updates are to include a mini help zone, additional other student activities/functions, and AV/events support area as well.

## Community Education & Workforce Development 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 contact via [email](#).

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

LCC's programs provide access to educational opportunities that connect LCC's strengths with 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 classes to students in 2nd through 12th grade. For more information please contact by telephone 517- 483-1415 or by [email](#).

### 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. To schedule an appointment please call 517-483-1924 or [schedule an appointment online](#).

#### Global Student Services

Global Student Services staff are here to help International Students navigate the admission and registration process, including issuance of Form I-20 documents. The staff is also here to support students whose first language is not English. 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 a wonderful 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, 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. They work to improve outcomes for students by tapping into their full potential and shedding new light on difficult life situations. For more information, go to the [Fostering Stars](#) webpage, visit the StarZone in the Gannon Building or contact them by phone at 517 483-1924.

#### [Center for Student Access \(Formerly Disability Services\)](#)

The Center for Student Access (CSA) recognizes disability as an integral component of diversity. 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 a Student Access Consultant to find out how to best use the resources to support success.

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. To that end, 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 517 483-1924 or via [email](#). View the [Center for Student Access](#) webpage.

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

The Office of Student Compliance supports the Mission of the College by responding to and resolving situations in which the behavioral choices of students are negatively impacting other students, including themselves. The Office aims to educate those students on the rights and responsibilities of community membership and to support their success at Lansing Community College. The Office of Student Compliance promote responsibility, encourage honesty, and foster respect for diversity in order to enhance the quality of the College and community environment.

Please refer to the following pages for further information:

- [Student Code of Conduct](#)
- [Title IX](#)
- [Behavior Intervention Team \(BIT\)](#)

Students can visit the Office of Student Compliance in the Gannon Building (GB 1210) or contact them by phone or email at 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. OVMA also offers a dedicated academic advisor, and a large veteran lounge area as a place for veteran students to meet, relax, and work on school work. For more information please call 517- 483-5246 or visit the [Veteran and Military Affairs](#) webpage.

## 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. The Office of Diversity and Inclusion 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 \(CEI\)](#)

The Centre for Engaged Inclusion engages the campus and Lansing area in building an equitable and inclusive community through intellectual exploration and collaboration. The Centre will be the premier space for training, learning, engagement, and exploration of topics in the Advocacy, Belonging, Diversity, Engagement, and Inclusion for all identities and their intersectionality's.

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 visit in the Gannon Building (GB 2204) or contact as at 517 483-1616 or via [email](#).

### [The Caesar Chavez Learning Center \(CCLC\)](#)

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 Coordinator, and student staff service to assist students and provide guidance on how to navigate campus resources and other educational opportunities.

CCLC promotes student academic success and personal empowerment. Students meet to study and to socialize; utilize computers, printers and get internet access; discuss academic and multicultural information; and share multiple perspectives. Visit [the Office for the Center of Diversity and Inclusion](#) webpage.

## Department Directory

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

## eLearning

### Electronically-supported Education Options

**Online\***- motivated, independent learner, 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\*

**An online course is similar to a face-to-face course except that it is delivered via a live stream on specific days 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.

**\*All 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.**

## Emergency Preparedness

The [Emergency Management Department](#), under Administrative Services Division, launched a robust Emergency Preparedness Program in 2019. The preparedness program consists of a college [Emergency Response Guide](#) which was also posted to all campuses and [emergency notifications/ communications information](#).

Building Emergency Response Team (BERT) - The BERT is a group of building employees, including student employees, who become an emergency response force multiplier to help in times of emergency. These teams receive training every 3-4 months in different aspects of emergency response.

Emergency preparedness messages are communicated via newsletters and email updates, including social media on a regular basis, at least monthly.

## English for Speakers of Other Languages (ESOL)

This program will work towards developing the English skills to successfully achieve competency in ESOL for students at the Low Intermediate level (Level 3) or higher. This program will build upon the Beginning ESOL Literacy classes already offered in the community and serve as a bridge into LCC.

This program will also serve 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 Capital Area Michigan Works at 517-492-5580.

## 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 and families seeking resources to finance a post-secondary education by administering comprehensive federal, state, institutional, and private aid programs with a commitment to student success. Students can contact the Financial Aid Office by calling 517- 483-1200, Option 1, or by [email](#).

## Financial Responsibility

Students are expected to remain current on their financial obligations to the College. Students owing money to the College will be subjected to hold on their transcripts and will 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.

## Games and Recreational Activities

Outdoor games and other physical recreational activities may only be played in the recreational or athletic facilities which have been designated for such games. Applications for permission to play such games other than in an area designated for that purpose must be obtained from the Director of Student Life and Leadership when the activity is not connected to a class or as part of a College sponsored activity.

## 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 inoculations.

Additionally, some courses may require students to work with hazardous chemicals and equipment. Students are encouraged to discuss their medical conditions with instructors prior to the start of course or with the Center of Student Access. Discussions about medical conditions of student are confidential.

## Health & Human Services Division

The Health and Human Services Building opened for classes in August 2005. This 141,992 square foot facility is the home for the Health and Human Services Division programs that 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 state-of-the-art equipment, and credentialed faculty in programs that are nationally accredited or meet industry standards. LCC serves the community by offering 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. LCC works with our community partners to provide healthcare apprenticeships and stackable certificates to heighten the credentials of the 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 The Early College, High School Diploma Completion Initiative, 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 us at 517-483-9707.

## High School Dual Enrollment

Dual Enrollment provides an opportunity for qualified high school students to earn college credit while working towards 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. For additional information, please call the Admissions Office or by [email](#). For further information, call 517-483-1200.

## 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 capable of a special challenge in higher education.

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 and then transfer to a four-year institution to pursue a bachelor's degree. For more information, please contact us at 517 483-1061 or via [email](#).

## Identification Cards

All Lansing Community College students are eligible for a StarCard, the college identification card, provided they meet the requirements for issuance. For additional information, go to the [StarCard](#) webpage.

Identification cards must be presented when requested by a College official.

## LCC Foundation

The Lansing Community College Foundation believes that a lack of financial resources should not be an obstacle to education for anyone. Scholarships are offered to students every year. The application period for scholarships is November through January. For more information on scholarships offered through the LCC Foundation visit [Foundation Scholarships](#) webpage or contact us at 517 483-1985 or via [email](#).

## The Learning Commons

The Learning Commons is more than a location; it is an academic support and learning assistance service for all students at LCC.

### [Tutoring](#)

Tutoring is free of charge for LCC students. Professional Tutors are available in all subjects and can work with students for drop-in tutoring and by appointment – on campus or online.

### [Writing Studio](#)

LCC students have a network of writing assistance for any written work, including course work, essay papers, research, and projects. Professional Tutors and Learning Assistants meet students - on campus and online. Professional Tutors in the Writing Studio are also here for academic support for English, ESOL, Reading and Writing.

### [Embedded Academic Support](#)

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

### [Academic Workshops, Supply Drops & 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.



## Academic Resources at the Learning Commons

Below are some of the resources offered 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** – available for Biology, Chemistry, Math and other subjects.
- **Technology** – Laptops, iPads, and calculators for use on-site and off-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 [Learning Commons](#)**

## Contact Us

### [Tutoring Appointment Request form](#)

Phone: (517) 483-1206, [Email](#)

## Locations:

- MAIN CAMPUS
  - Fall 2020: Arts & Sciences (AS) building – Room 1313
  - Spring & Summer 2021: Technology Learning Center (TLC) building 1<sup>st</sup> & 2<sup>nd</sup> Floors
- WEST CAMPUS – Room U245
- TUTORING AND LEARNING ASSISTANCE IS AVAILABLE ON:
  - Online by WebEx and D2L
  - East Campus
  - Livingston Campus
  - Mason Aviation

## Library

At the Library students can check out current course textbooks; electronic devices (laptops, calculators, kindles, etc.); as well as borrow materials from other libraries. There are available spaces and rooms students can reserve for various academic purposes.

For more information, go to [The Library Resources](#) webpage. To contact the Library, please call 517- 483-1657, or for room reservations, contact 517- 483-1654.

## Media Services

Information Technology Services (ITS) offers a wide array of services to support student learning and promote academic goals. ITS provides exceptional solutions to media-related issues throughout the college.

Media Services 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

- **Require self-motivation and some computer skills.** Online courses require students to complete course work with little formal direction from instructors, as well as access to and knowledge of using a desktop or laptop computer and a reliable Internet connection. Note: Students using tablets and/or mobile devices may need access to a desktop or laptop computer in order to complete some assignments or utilize software and applications not supported by tablets and/or mobile devices.
- **Are flexible.** While assignments in a course have due dates, course work can usually be completed any time of the day or night. This allows students to work around personal, work, and family schedules.
- **Are NOT self-paced.** Students must complete course work within the deadlines set by the course instructor including discussions, quizzes, and assignments.
- **May require a trip to campus.** Some online courses may require a student to come to campus to complete an exam or give a presentation. If needed, off-campus proctors can be set up through Testing Services. Additional fees may apply. See the Online Course Testing webpage for more information.
- **Have technology requirements.** Online courses require a high-speed Internet connection (dial up Internet users may experience delays), word processing program, and various computer hardware and software, including web cams and microphones.
- **May require textbooks.** Many online courses require students to purchase a textbook and/or an online access key. Textbook information is available through the Textbooks and Bookstores webpage.

**The Learning Online in D2L Training** takes students through the basics of using D2L, as well as exploring the expectations that come with being an online student. Students are able to self-enroll in the training through D2L at any time. For instructions on how to access the training, please visit the [Learning Online in D2L](#) webpage.

**The eLearning Student Resource Site** contains help pages with written step-by-step and video instructions for using the Course Management System, D2L. The eLearning Student Resource Site allows 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 about D2L**, please visit the [eLearning Student Resource](#) website, contact via email the [eLearning Department](#) (lcc\_elearning@lcc.edu), using Live Chat, or by phone at 517-483-1839.

**For more information about online courses** including course offerings and availability, and general information about online courses, please contact via email the [Academic Advising](#) (eadvising@lcc.edu) or 517-483-1904.

## Payments

The Student Finance office accepts the following payment methods for tuition, fees and services: cash, check, money order, Visa, MasterCard, Discover, and American Express. LCC offers payment plans through TouchNet to help students budget their education expenses. Students are encouraged to enroll early for best payment plan selections. Students who elect payment plan can pay securely with TouchNet or by visiting the Payments Desk in the StarZone, Gannon Building, 2<sup>nd</sup> floor.

## Parking Services

All students have access to free parking in designated areas on campus.

Parking permits are issued to LCC students at the beginning of the semester. 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. LCC Public Safety 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.

## Recruitment & Outreach

The Student Engagement Team often 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, a presentation or to view available orientation sessions, please go to the [Student Engagement & Admissions Team](#) webpage, contact us via [email](#), or call 517-483-1999.

### Orientation

Orientation is required for students attending college for the first time. If a transfer/guest student or 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](#).

## The Registrar's Office

The function of the Registrar's Office includes: maintenance of academic records and transcripts, issuance of certificates and diplomas, degree certification, enrollment and registration, grade collection and recording, fee classification, and transfer credit processing. For more information, please 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 the library, campus computer labs, and the LCC fitness center. For questions contact the Help Desk at 517- 483-5221.

Identification cards must be presented when requested by a College official.

## 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 towards their goals. For assistance please call 517- 483-1162.

## Student Finance

The functions of the Student Finance department include processing tuition payments, administering payment plans, working with 3rd party sponsorships, processing refunds for excess account balances, and issuing 1098T student tax statements. The Student Finance department also assists students in budgeting the cost of their education. 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. To contact Student Life, please call 517- 483-1285 or via [email](#).

## Technical Careers Division

The mission of the Technical Careers Division is to provide students with state-of-the-art education and training programs in Technologies. These programs provide individuals with the opportunity to access and develop the knowledge and skills essential for transition to employment, and the opportunity for life-long training and retraining in a constantly changing job market. 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](#). LCC staff are here to meet testing needs!

## Textbooks

Textbooks, required and recommended, for courses can be viewed on the MBS Online Bookstore. Other options are:

- [Library](#)  
Textbooks for all general education courses and many other courses are available for check out in the Library. The student can check out general education textbooks for two hours or two days, and most other textbooks are available for two-hour, two-day or one-week check outs. What can the student do with a Library Course Reserve book? In addition to reading course reserves in the Library, students can make photocopies or scan pages. The student can sometimes find older editions of the textbook to check out by searching the Library Catalog by title and author. Ask a Librarian if you need help.
- [Local Bookstores](#)  
For more information on textbook orders, contact the [department/program](#).  
[Student Book Store](#)  
421 E. Grand River Ave.  
East Lansing, MI 48823  
(517) 351-4210
- [Online Bookstores](#)
  - [MBS Online Bookstore](#)  
Presents all the options available to students to purchase their textbooks including new with a guaranteed buyback price, if available, used, e-book/digital, rental, and marketplace options.

- [Elsevier Books](#)  
Required for Rad Tech, Massage, Dental Hygiene, Nursing, and most allied health programs

For further information, view the [Textbooks and Bookstores](#) webpage.

### TouchNet

TouchNet is LCC's secure online payment vendor. Student can review account balances, 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.

### TRiO

TRiO is a set of federally funded college opportunity programs that motivate and support students from disadvantaged backgrounds in their pursuit of a college degree. TRiO programs provide academic advice, academic tutoring, mentoring, financial guidance, personal counseling, and other supports necessary for educational access and retention. TRiO programs provide direct support services for students, and relevant training for directors and staff.

For more information, please visit LCC's TRiO services in the Gannon Building (GB 1225) or contact the TRiO office at 517 483-1161 or [email](#), or visit the [TRiO](#) webpage.

### The University Center

The University Center is a partnership between Lansing Community College and five four-year universities and is located on LCC's main 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

The college expects fall course offerings to fit into five types.

**ON** – Online: Traditional, asynchronous online courses.

**ORT – Partial Scheduled Lecture:** An online real time (ORT) class that has some regularly scheduled online meeting day(s) and time(s) along with unscheduled online instruction and activities.

**ORT – Full Scheduled Lecture:** An online real time (ORT) class where all instruction is delivered online during designated meeting day(s) and times.

**OH – Online Hybrid:** A class that has some regularly scheduled classroom instruction along with online coursework and activities. Students will receive face-to-face instruction in the traditional classroom, lab, or worksite, and will also participate in online instruction/learning.

**Face-to-Face:** A traditional, in-person class with on-campus instruction.

A majority of the course offerings will fit in the first three categories.

The fourth and fifth categories will be mostly limited to select courses that require hands-on components, such as welding, aviation, heavy equipment and EMS/paramedic. Limits on the fourth and fifth types of offering are critical to ensure the college community can continue to maintain physical distancing requirements even as face-to-face instruction offerings begin.

If needed due to the changing nature of the pandemic, LCC will adjust the fall schedule accordingly.

### Estimate Tuition Cost

Planning for the cost of higher education is extremely important. Use the tool below to estimate the cost of tuition for this semester.

**Please note:** All fall 2020, spring 2021, and summer 2021 course fees, approved by the LCC Board of Trustees, remain unchanged.

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.

In April 2020, the LCC Board of Trustees did approve permanently eliminating the \$25 online virtual fee. The fee will not be on the student's bill during summer or fall 2020, or anytime thereafter.

### 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 2020](#) – Registration begins Monday, May 18<sup>th</sup>, 2020

[Spring 2021](#) – Registration begins Monday, October 5<sup>th</sup>, 2020

[Summer 2021](#) – Registration begins Monday, March 29<sup>th</sup>, 2021

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 taught 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.

### Add an Additional Class

Online registration is available until 10 minutes prior to when a face-to-face class begins (lecture, lab).

Online registration for online, online/hybrid and classes that state TBA as one of the meeting times is available until midnight (12:00 a.m.) the date the teaching period begins.

- [Fall 2020 Teaching Period](#)
- [Spring 2021 Teaching Period](#)
- [Summer 2021 Teaching Period](#)



Once online registration ends for a course, follow the Late Registration and Schedule Adjustment Guidelines below.

### Late Registration and Scheduling Adjustments

Late registration without any prior registration activity for the current semester is not allowed at Lansing Community College.

Examples of registration activity include:

- A student 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

Schedule adjustments are allowed within the first week of each part of term for students who do have prior registration activity for that semester. Special circumstances may be considered after consultation with the faculty and the Academic Dean. Adding an additional course, switching sections, and being reinstated into a section in which the student was previously registered in are all examples of schedule adjustments.

The drop/add form requires approval from both the faculty and potentially the Academic Dean once the section has started.

### 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

Some courses require basic skills proficiency levels which must be met prior to enrollment. Students are strongly encouraged to arrange for orientation, testing, and advising prior to registration.

## 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.

#### 2020-2021 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 - \$111\*

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/Dimondale	Stockbridge
Dewitt	Lansing	Waverly
East Lansing	Leslie	Webberville
Grand Ledge	Mason	Williamston

#### IN-STATE STUDENTS - \$222\*

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 - \$333\*

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

#### INTERNATIONAL STUDENTS - \$389\*

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 now qualifies for a reduced tuition rate of \$55.50 per billing hour on classes at LCC. (Note: Michigan residents living outside the LCC district qualify for a reduced rate of \$111 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.
- **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).
- **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.

### Veterans In-State Tuition

This policy is adopted in order to comply with Section 3679(c) of title 38, United States Code, including PL 115-251, also known as the Veterans Access, Choice, and Accountability Act of 2014 (Choice Act) which requires the Department of Veteran Affairs to disapprove programs of education for payment of benefits under the Post-9/11 GI Bill (Chapter 33), Montgomery GI Bill-Active Duty (Chapter 30), and Vocational Rehabilitation (Chapter 31) at public institutions of higher learning if the schools charge qualifying veterans and dependents tuition and fees in excess of the in-state rate.

### 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. Students can apply for scholarships at LCC, the State of Michigan, community organizations, and their employer. For the most part, these funds do not need to be repaid. [Scholarships](#) webpage.

#### 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. [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. [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. [Loans](#) webpage.

### 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 2020, Spring 2021, and/or Summer 2021, the student must complete the 2020-2021 FAFSA, which requires 2018 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. 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 awarded to low- and middle-income undergraduate students who have not yet earned a bachelor's or professional degree to promote access to postsecondary education. Students must meet [basic eligibility requirements](#). Grant amounts are based on the student's expected family contribution, or EFC (see [Calculating Need](#)), and [enrollment level](#) with a maximum annual award of \$6,345 in the 2020-2021 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](#)  
Direct Subsidized are loans made to eligible undergraduate students who demonstrate financial need to help cover 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](#)  
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 student's whose parent or guardian was a member of the U.S. armed forces and died as a result of military service performed in Iraq or Afghanistan after the events of 9/11 and 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 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), 50% for half-time (6-8.99 credits), or 0% for less than half-time (0.25 to 5.99 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 Free Application for Federal Student Aid (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), 50% for half-time (6-8.99 credits), or 0% for less than half-time (0.25 to 5.99 credits).

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

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](#)

The Children of Veteran's Tuition Grant (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 Direct Unsubsidized are loans made to eligible undergraduate, graduate, and professional students to help cover educational expenses. The student does not have to demonstrate financial need. 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 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.
- [GEAR-UP Michigan](#)  
The Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP) is a federally funded program designed to provide early intervention services and programs to students in middle school and high school. Michigan GEAR UP (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. 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), 50% for half-time (6-8.99 credits), or 0% for less than half-time (0.25 to 5.99 credits).
- [Michigan Indian Tuition Waiver](#)  
The Michigan Indian Tuition Waiver (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.
- [Police Officer's and Firefighter's Survivor](#)  
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 fire fighters 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 fire fighters 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](#)

The Tuition Incentive Program (TIP) ([hyperlink](#)) is awarded for up to 24 credits per academic year to students enrolled in an Associate Degree or Certificate program that requires at least 30 credits. Students must enroll 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, State, and some Institutional and Private aid programs. In order to be eligible to receive 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), 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>	\$3600	\$6600	\$10600
<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>\$13880</b>	<b>\$16880</b>	<b>\$20880</b>

\*ROOM: For students who live with parents and do not have legal dependents, ROOM costs will be 0.

\*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.

## 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 only used 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:

Enrollment Level	Credits Required for Fall, Spring, and Summer Semesters
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 requiring 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

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>
<b>1st Offense</b>	1 year from date of conviction	2 years from date of conviction
<b>2nd Offense</b>	2 years from date of conviction	Indefinite Period
<b>3+ Offenses</b>	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 [Free Application for Federal Student Aid \(FAFSA\) website](#), or contact the [Financial Aid Office](#).

### Remedial / Developmental Courses

These 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 being considered remedial/developmental, the financial aid package will be based on 8 credits.

Below are courses that LCC considers remedial/developmental:

**Courses LCC Considers Remedial/Developmental**

<b>AASD 104</b>	AASD 105	AASD 110	ENGL 098
<b>ENGL 099</b>	ENRI 105	ENRI 152	ENRI 162
<b>MATH 097</b>	MATH 105	MATH 106	MATH 107
<b>MATH 109</b>	MATH 112	MATH 114	READ 108
<b>READ 114</b>	READ 116	READ 150	READ 160
<b>READ 165</b>	READ 170	READ 175	SPEL 150
<b>VCBL 150</b>	WRIT 108	WRIT 110	WRIT 117

### Repeated Courses

Are defined as courses that the student enrolls for and attempts more than once. Federal regulations limit the number of times a student may repeat a course while receiving financial aid for that course. This limit applies even if the student did not receive financial aid for earlier

enrollments in the course. If a student retakes a course that is not eligible for financial aid, it will not be counted as credit when determining federal financial aid eligibility (such as the Federal Pell Grant and Federal Student Loans). Financial Aid is recalculated by excluding the credits for the repeated course. Note: Students must also adhere to the [College's Repeat Enrollment Policy](#).

- A student may receive financial aid to repeat a previously passed course one additional time.
- A student may receive financial aid when repeating a previously failed course (0.0 or Z), regardless of the number of times the course was attempted and failed.
- A student who is taking a course that requires the student to enroll in for multiple times to meet degree requirements may receive financial aid for these courses. Visit the [List of Repeatable Courses](#) to learn more.

### Return of Title IV Funds (R2T4)

Federal regulations require schools to perform a Return of Title IV Funds (R2T4) calculation for Title IV grant and/or loan recipients within thirty days of the determination of withdrawal if one of the following occurs within the student's payment period:

Event	Determination of Withdrawal
<b>Student completely withdraws from all courses</b>	Date student withdrew from final course
<b>Student withdraws or drops from a course and the student's remaining courses have not yet begun</b>	Date student withdrew or dropped from last active course
<b>Student fails to pass or earn credit in at least one course</b>	Date grade(s) post showing student failed to pass or earn credit in at least one course. The instructor provides the last date of attendance when the grade for the course is submitted.

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 owe the unearned aid to the federal government. LCC will return the institutions 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 is returned in the following order:

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

\*Withdrawal Date

- Official Withdrawal Date
  - When a student withdraws from all courses or withdraws/drops from a course and the student's remaining courses have not yet begun
  - The official withdrawal date used in the R2T4 calculation is the date the student began the withdrawal process
- Unofficial Withdrawal Date
  - When a student fails to pass or earn credit in at least one course that the student remaining registered in. The instructor reports the last date of attendance 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 attendance.

#### 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 in the semester. 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.  
Semester 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 in the semester)  
The earned Title IV financial aid = \$2710 (54.2% of total aid earned x \$5000 awarded)



## Rights and Responsibilities of the Financial Aid Recipient

As a student financial aid consumer, the student has the right to:

- Information about financial aid application procedures, cost of attendance, aid available, and renewal requirements as well as information about LCC's academic programs and policies.
- Confidential protection of financial aid records. The contents of the student's financial aid record are maintained in accordance with the Family Educational Rights and Privacy Act.
- Request a review of decisions made by LCC's Financial Aid Office. A letter discussing the situation in detail and the decision the student wishes to have reviewed should be submitted in writing to the Financial Aid Office via [email](#).

The student has the responsibility to:

- Complete applications and requested information accurately and timely.
- Read and understand all materials sent to the student from the Financial Aid Office and other financial aid agencies. Keep copies of all forms and materials submitted.
- Know and comply with the rules governing aid programs.
- 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 do 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 Policy. 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 if 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 (0.0 and Fail), 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 and 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. 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 class 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 class 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.

### 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
  - 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 Policies, Procedures, and Regulations

### 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 students with disabilities. The Center for Student Access reviews requests for reasonable accommodations.

For additional information contact:

Center for Student Access  
Gannon Building – [StarZone](#)  
517 483-1924  
[Email](mailto:lcc-accessibility@lcc.edu) (lcc-accessibility@lcc.edu)

Lansing Community College is also committed to providing and maintaining a barrier-free environment so that individuals with disabilities can fully access employment, programs, services, and all activities of the College.

The full [Americans with Disabilities Act, Reasonable Accommodations, and Section 504 of the Rehabilitation Act/Michigan’s Persons with Disabilities Civil Rights Act policy](#) is on the LCC Board Policy page, Section 4.000 – Human Resources.

### Admission to the College

Determination and judgment of an individual’s preparation and readiness to benefit from a course or program at Lansing Community College is the responsibility of the college’s professional personnel.

### 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.

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

### International Admissions

#### M1 and F1

For individuals in temporary, non-resident status interested in pursuing a full-time course of study at LCC. This includes students interested in transferring to LCC from another US institution and international students applying to the [English for Speakers of Other Languages Program](#).

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

### [Other Visa not F-1/M-1](#)

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](#)

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 contact the StarZone at 517-483-1957 (toll-free 800-644-4522)

## [General Education Requirements](#)

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, LCC 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.

## [General Rules and Guidelines](#)

Lansing Community College 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 encourages teaching and learning in a positive atmosphere.

## Graduation

### Graduation Requirements, Certificates & Degrees

The information below includes the requirements needed to be awarded a certificate or degree, including General Education requirements, and the application process. In addition, information is provided on the process to request an accommodation for students with disabilities.

### Graduation Honors

Those students who maintain a 3.75 or higher grade point average will be graduated Summa Cum Laude (with highest honors); those who maintain a 3.50-3.74 grade point average will be graduated Magna Cum Laude (with high honors); those with a 3.25-3.49 will be graduated Cum Laude (with honors). Students must complete 40 semester credit hours of work at Lansing Community College to qualify for honors.

## Guest Students

A guest student primarily studies at another college or university (referred to as the home institution) who wishes to take a limited number of courses at 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 towards 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 Diploma Completion Initiative](#), [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 us at 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.
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 LCC credit for the course. (A comprehensive exam is an exam for which the student completes an application, pays the tuition for the course, and receives the grade earned on the exam on his or her transcript. See Credit by Examination procedure.)
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 (TLC 104). Core Area Proficiency Examinations may only be taken once to satisfy the 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) 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 Previously Acquired Knowledge and Learning Experience procedure.



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 Michigan Transfer Agreement webpage 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 LCC credit for the course. (A comprehensive exam is an exam for which the student completes an application, pays the tuition for the course, and receives the grade earned on the exam on his or her transcript. See Credit by Examination procedure.)
3. Present evidence of completed MTA from an accredited college or university.
4. Present evidence of an earned bachelor's degree (or higher) 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). Other areas of prior learning - for example, College Level Examination Program (CLEP), International Baccalaureate (IB), and DANTES Subject Standardized Tests (DSST) - 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: 3/26/20

### How to Apply for an Associate's or Certificate Degree

Prior to submitting an application for a degree or certificate, students should consult with an advisor to review progress toward completing requirements. 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 requirements. See Institutional Requirements for Associate Degrees procedure.) 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 an Application for Degree and Certificates. This application is available at the Registrar's Office and at the Graduation webpage. If substitutions and/or waivers have been approved, a Course Substitution and Waiver Authorization form must be attached to the application when submitted or the application will be denied.

2. Attach a copy of the curricular guide (program of study) for the degree being sought. a. Note: Students may not follow a curricular guide that predates their first semester of enrollment. The requirements must be met by the semester the curricular guide expires.
3. Submit the application and the curricular guide to the Registrar's Office. If applicable, attach a Course Substitution and Waiver Authorization form.
4. If the Registrar's Office determines that there are requirements NOT met, the student will receive written notification indicating the application has been denied.
5. If all the requirements are met, the student will receive notification via LCC email indicating that the degree has been approved.
6. Once awarded, the LCC transcript will show the degree earned.
7. Diplomas are mailed to students during the semester after degrees have been awarded.

### **Institutional Requirements for Associate Degrees- Updated 04/07/20**

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 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).
2. Maintain a cumulative grade point average of 2.0 or above.
3. Earn toward the curriculum at least 15 semester credits in attendance at Lansing Community College.
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. For 2016 curricula onward, 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
7. 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.

## 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 in attendance at Lansing Community College. 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. For 2016 curricula onward, 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 seeking a Certificate of Achievement or Certificate of Completion may not follow curricular guides/pathways which predate their first semester of enrollment or are expired.

## 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.

ARR, Registrar.

## Incoming Transfer Credits

The information below describes alternative methods to obtain credit toward a degree or certificate, including transfer credit, credit for licensure/certification, and credits earned during military service.

### 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 Institutions

Current students requesting credit for credits earned at foreign institutions will need to submit their international transcripts to a [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.

### 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

Requests for awarding General Credits are allowable only for the following purposes:

- i. General Credits that can count only toward the General Associate degree (Requested by general advisors)
- ii. General Credits that will be substituted for specific program requirements (Requested by program advisors)
- iii. General Credits that will be substituted for general education requirements (Requested by Academic Affairs)

Requests for awarding General Credits must be made electronically (LCC email, Skype, etc.) and must specify the following:

- i. The student's program, including curricular year
- ii. The requirement(s) the General Credits are intended to satisfy (For programs other than the General Associate degree, a substitution form still will be needed as well.)
- iii. The specific course(s) to be used from the student's incoming official transcript

In addition, please note the following provisos:

- i. General Credits must be from a regionally accredited institution and must be college-level (non-developmental).
- ii. General Credits can be awarded for a maximum of one course per subject per transcript.
- iii. Except for programs specifically requiring General Credits (AAS Agricultural Technology, AAS Veterinary Technology, etc.), a maximum of 12 General Credits may be awarded per transcript. Requests for higher numbers will require approval from Academic Affairs during processing.
- iv. **Note:** Due to curricular, Financial Aid, and Veterans implications, the Registrar's Office during the initial evaluation of incoming transcripts will not award any General Credits (non-equivalent 000) for programs that do not specifically require General Credits. Award of General Credits will continue for programs such as AAS Agricultural Technology, AAS Veterinary Technology, and the general associate degree, etc., which require General Credits.

Students wishing to request general credits must meet with an Academic Advisor.

## 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 he or she intends to enroll. Transfer guides are not LCC degree guides. In order to achieve maximum transferability of courses, students should consult with an academic advisor. (See [Transfer Opportunities webpage for more information about transfer programs.](#))

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

General Education exceptions will be granted only as a result of verifiable college error, E.g. inappropriate advising inaccurate printed materials. A student who wishes to formally appeal a determination that the General Education requirement for an Associate degree has not been met should appeal initially to the Division offering the curriculum. The Dean should apply the following parameters in determining an exception to current policy is warranted:

1. 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.
2. The College does not waive a General Education requirement. In cases described in #1 above, substitutions are allowed only after consultation with the Dean of the department offering the General Education course for which a substitution will be made.

If the Dean determines that an exception is warranted, a recommendation must be sent to the Academic Affairs Office. The recommendation must include justification for the recommendation and any relevant documentation. The recommendation will be reviewed, and if any concerns arise, the matter will be further discussed with the Dean. The Academic Affairs Office will inform the student, Registrar, and the Dean 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.

## Regulation for 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) from an accredited college or university may be awarded an associate degree at Lansing Community College subject to the following requirements

1. For each associate degree, a minimum of 10 semester credit hours must be completed at Lansing Community College in the division in which the associate degree is sought, or on the curricular guide. The Lansing Community College cumulative grade point average must be a 2.0 or above.

2. All requirements for an associate degree in arts, applied arts, science, applied science, business, fine arts, or general must be met.
3. The College's General Education requirements are satisfied by virtue of the student earning the bachelor's degree.
4. For 2016 curricula onward, 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
5. Exceptions to the above should be appealed to the Academic Affairs Office.

### Student Code of Conduct

The Office of Student Compliance (OSC) at Lansing Community College exists to enforce the Student General Rules and Guidelines and Student Code of Conduct. Students attending LCC must abide by these regulations.

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

### Student Due Process

Lansing Community College understands students are entitled to notice of the charges against them and the opportunity to present their side of the story. Students have constitutional due process rights that LCC will not violate. The College is constantly aware of the joint responsibilities, shared by the student body and the College, to uphold the principles of "due process" in all disciplinary action.

### Student Transcripts

The Registrar's Office maintains the permanent official transcript of every student who attends the College. The transcript is a copy of the student's academic record and contains the signature of the Registrar. The transcript includes courses waived, courses attempted and completed, courses and credits transferred, credits awarded for experiential learning, credit hours, GPA points, Lansing Community College grade point average, current program and major, associate degrees, certificates of achievement, and certificates of completion awarded at the College.

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

In order to ensure that graduates from Lansing Community College are academically well rounded, students will not be 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. Under no circumstances will a student be allowed to use the same course more than once for credit toward the General Associate Degree.



## Student Academic Information

### Academic Standing

Students must maintain at least a 2.0 cumulative Grade Point Average (GPA) at Lansing Community College to remain in Good Standing, which indicates satisfactory academic progress. 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 classes. In addition, students on a Probationary standing may be required to meet with a counselor or 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.

Note: Only course work completed at LCC is considered for determination of academic standing. The academic standing is determined at the end of each semester (Fall, Spring, Summer).

#### Summary of Academic Standing Policy

- Good Standing: Cumulative Grade Point Average (GPA) 2.0 or above
- Probation 1: Cumulative GPA below 2.0; suggested that the student meet with a counselor or Academic Success Coach.
- Probation 2: Continued cumulative GPA below 2.0; registration limited to 12 or fewer credits for Fall and Spring Semesters and six or fewer for Summer Session, and student is required to meet with a counselor or Academic Success Coach.
- Probation 3: Continued cumulative GPA below 2.0; student not eligible to register unless authorized by a counselor or Academic Success Coach during a meeting to plan his or her academic success and sign a Success Contract. Satisfactory completion of this plan as well as semester-by-semester subsequent plans will allow further enrollment until a satisfactory cumulative GPA places the student in good standing.

### Auditing Courses

LCC recognizes that there may be instances where a student may not require a numerical grade for an academic course. An "X" (audit) grade is given when a student chooses to audit a course. No credit is granted, but enrollment is reflected on the student's academic record. A student who registers as an auditor attends class regularly but does not take the final examination, does not receive an achievement grade, and does not receive credit for a course.

Students must meet all prerequisites required for the course regardless of their intent to take the course for credit or to audit the course.

Audited courses cannot be applied toward a degree or certificate and cannot be used to meet prerequisites.

The student can choose to audit the course at the time of registration. The college also allows students to change from credit to audit or from audit to credit by the end of the second week of classes (or other equivalent dates as specified for variable length courses)

Changes from credit to audit through the end of the second week for 16-week courses (and other equivalent dates as specified for variable length courses) do not require instructor approval.

### Computing Grade Point Average

A student's grade point average 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
0.0	0.0

“00A,” “FA,” “I,” “NR,” “NS,” “P,” “TR,” “TRL,” “TRP,” “W,” “X,” and “Z” 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).

### Course Participation

Students are expected to participate in all sessions of each course in which they are enrolled.

When a student cannot attend class due to illness or other extenuating reasons, it is the responsibility of the student to contact the class instructor regarding the absence and to discuss alternative regarding any required assignments.

### Extra Credit Policy

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 Official College Syllabus whether extra credit may be offered.

## Grades and Grading

College Grading Standards	Recommended Guidelines for Student Grades
4.0 --- Excellent	4.0 --- 91 – 100%
3.5 --- -----	3.5 --- 86 – 90%
3.0 --- Good	3.0 --- 81 – 85%
2.5 --- -----	2.5 --- 76 – 80%
2.0 --- Satisfactory	2.0 --- 71 – 75%
1.5 --- -----	1.5 --- 66 – 70%
1.0 --- Poor	1.0 --- 60 – 65%
0.0 --- -----	0.0 --- 0 – 59%

### 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.

### Incomplete Grades

An "I" (incomplete) will not be counted toward the establishment of an earned grade point average (GPA) or toward graduation from Lansing Community College. An instructor may approve a student-initiated request for an incomplete if only a small portion of the work remains (for example, only 20% of the work remains) and a compelling reason for the request exists.

After the instructor issues an "I" grade, a written "I" grade form will be provided to the student and the instructor's supervisor. The form will indicate what work needs to be submitted, the grade that will be assigned if no further work is completed, and the deadline for completion of the work.

All incompletes must be made up by the end of the next regular semester (summer semester is excluded) or earlier if an earlier date is established by the instructor or department. An extension may be granted if requested in writing by the student and approved in writing by the instructor and department by the last day of the deadline; otherwise, the "I" grade will be converted to the grade specified if no further work is completed.

*Note: A student may not register for the same course until the "I" grade is resolved.*

## Pass/Fail Grading (P-Z)

The pass (P) / fail (Z) grading system has been established as a departmental option. This system is reserved for special course offerings where a pass/fail grading system is most appropriate for the goals and objectives of the course.

1. Course prerequisites and other criteria for enrolling in courses offered on the P-Z grading system shall be determined by the department offering the course.
2. Courses using the P-Z grading system will be published as being graded on the P-Z grading system, and the course syllabus shall be explicit regarding this fact.
3. Courses graded on the P-Z system may be counted toward an associate degree or certificate based on approval of the appropriate dean. A maximum of 10 percent of the total credits required for a degree or certificate may be acquired on the P-Z system. With departmental approval, the limitation on the use of P-Z course credits for an LCC degree or certificate may be waived when incoming PZ credits are directly related to the degree or certificate in a course of study.

Grading procedure of the pass/fail system is as follows:

1. Grades on the P-Z system are not included in computing the semester or cumulative grade average.
2. The grades granted on the P-Z system are determined with definitions of "P" and "Z" as follows:
  - a. P (pass) represents a level of performance equivalent to a regular number grade of 2.0 or above on a 4.0 system; credit is granted.
  - b. Z (fail) represents a level of performance less than a 2.0 on a 4.0 system; no credit is granted.

All courses attempted on the P-Z grading system will appear on the student's academic record. Policies pertaining to the issuing of "W" and "I" grades also apply to courses graded on the P-Z system (see Grading System).

## Repeating a Course

Repeated courses are defined as courses that the student enrolls in and attempts more than once. When a student repeats a course for a higher grade, the student's academic record and transcript will reflect every grade received for the course. However, only the highest grade is used in computing the LCC cumulative GPA and credits earned.

In cases where a student has an LCC course grade of 0.0, 1.0, 1.5, or 2.0 and then transfers in an equivalent course and is issued a TR or TRP grade, the LCC course will be excluded from computing the LCC cumulative GPA and credits earned. However, the other institution's course grade will not be used in calculating the LCC cumulative GPA.

When a student receives a grade of less than 2.0, "W", or "Z" for a course reported on the transcript and remains academically eligible to continue taking classes, the student may not enroll in the same course again without a permission form signed by an academic success

coordinator. This intervention will help identify barriers to the student's academic success at the college. If the student receives a grade of less than a 2.0, "W", or "Z" after the subsequent attempt(s) at taking the course, the student may not enroll again without another permission form signed by an academic success coordinator.

#### For Students Receiving Financial Aid:

Federal regulations limit the number of times a student may repeat a course while receiving financial aid for that course. This limit applies even if the student did not receive financial aid for earlier enrollments in the course.

- 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 (0.0 or Z), regardless of the number of times the course was attempted and failed.
- A student who is taking a course that requires the student to enroll in for multiple times to meet degree requirements may receive financial aid for these courses. (repeatable course list)

If a student chooses to retake a course that does not meet the above criteria, the credits for the course will not count when determining federal financial aid eligibility (such as the Federal Pell Grant and Federal Student Loans); therefore, financial aid will be recalculated to exclude these credits. Also, financial aid must count every repeated course when determining credits attempted and earned.

Students in Selective Admissions Programs should contact the program for repeat policies specific to each program.

### Veteran and Active Military Student Course Withdrawal

Before withdrawing from a course, a student is strongly encouraged to discuss her/his situation with her/his instructor to see if other options exist. A student should withdraw from a course only as a last resort and only for a substantial reason. For example, she or he might be facing a severe work or life crisis or might be having consistent, irremediable learning-related challenges in the course. Whatever the reason, before withdrawing from a course the student is strongly encouraged to discuss his or her situation with the instructor and/or academic advisor to see if any other remedies (other than course withdrawal) might be available. Ultimately, if a student finds it necessary to withdraw from a course or from courses, he or she must follow the procedure specified by the college.

#### A. Withdrawal Due to Extended Military Obligation

Upon presentation to the college of deployment or extended training orders, students who are on military status and must withdraw from a course or from courses shall receive a 100% refund of tuition and course fees based on the form of payment method used by the student (cash, scholarship, tuition assistance, and the like). Students who

experience a military withdrawal will not have the course or courses listed on their academic transcript.

Students who are on military status and who are receiving financial aid should be aware that withdrawing from a course or courses could impact their financial aid status. They are therefore strongly encouraged to consult with the LCC Financial Aid office as well as the LCC Veteran and Military Affairs office. Students who are on military status and receiving veteran benefits should be aware of the following:

- a. LCC will be responsible for sending the refunded payment to the VA on behalf of the student for Chapter 33 Post 9/11 benefits.
- b. Basic Allowance for Housing (BAH) payments for Chapter 33 Post 9/11 will be stopped as of the drop date for all dropped courses, and the student will be responsible for repaying the VA all BAH associated with the dropped courses from the beginning of the semester, or submitting Mitigating Circumstances to the VA.
- c. Chapter 30 Montgomery GI Bill students will be responsible for repaying a portion or all funds provided to them by the VA, or submitting Mitigating Circumstances to the VA. Students will receive a 100% refund for tuition and course fees from LCC for the dropped course(s).
- d. Chapter 1606 Selected Reserve GI Bill students will be responsible for repaying a portion or all funds provided to them by the VA, or submitting Mitigating Circumstances to the VA. Students will receive a 100% refund for tuition and course fees from LCC for the dropped course(s).

**B. Federal Tuition Assistance (FTA) Funding Return**

Per Department of Defense policy, any FTA funds associated with a dropped or withdrawn course, must be returned to the Department of Defense. These funds will be returned by LCC to the Department of Defense based on the following proration tables:

**8 Week Courses:**

<b>Drop/Withdraw</b>	<b>Amount Returned</b>
<b>Before or During Week 1</b>	100%
<b>During Week 2</b>	75%
<b>During Weeks 3 – 4</b>	50%
<b>During Week 5</b>	40%
<b>During Weeks 6 – 8</b>	None

**16 Week Courses:**

<b>Drop/Withdraw</b>	<b>Amount Returned</b>
<b>Before or During Weeks 1 – 2</b>	100%
<b>During Weeks 3 – 4</b>	75%
<b>During Weeks 5 – 8</b>	50%
<b>During Weeks 9 – 10</b>	40%
<b>During Weeks 11 – 16</b>	None

LCC will submit returns to the Department of Defense within 30 days of the course(s) being dropped or withdrawn from.

If a student withdraws from a course(s) due to a military obligation such as deployment or extended training, the FTA funds will be returned to the Department of Defense and the student will receive a 100% refund of all tuition and course fees from LCC for the Page 3 of 3 dropped course(s). Military orders must be submitted to the Office of Veteran and Military Affairs.

### Withdrawal (W)

A "W" (withdrawal) indicates a withdrawal from a course. If a request for withdrawal from a semester-length class is received by the Registrar's Office prior to the end of the second week of the semester (or other equivalent dates as specified for variable length courses), no grade will be recorded on the student's academic record.

For withdrawals after the second week and before the end of the eighth week of the semester (or other equivalent dates as specified for variable length courses), the student will receive a W as the record of the course. For withdrawals after the eighth week of the semester (or other equivalent dates as specified for variable length courses), a W is given only if the student has done passing work (1.0 or higher).

To see calendar of withdrawal dates and refunds, go to:

[Fall 2020](#)

[Spring 2021](#)

[Summer 2021](#)

If the student has not done passing work, he or she will receive a 0.0. A student may request to withdraw from a class with instructor's approval until the end of the fourteenth week of the semester (or other equivalent dates as specified for variable length courses).

## Student Appeals and Complaints

Lansing Community College is devoted to the student's success and is here to support with any complaints, concerns or problems the student may encounter. The College tracks, monitors and evaluates student complaints and appeals in order to make institutional improvements to better serve.

An appeal is defined as a request to review a previous decision and/or the process used in reaching the decision. The process will depend on the type of appeal involved. In all cases, students are required to state their appeal in writing at the time they begin the appeal process. A complaint is any concern that LCC has violated a law, policy or incorrectly applied an established process.

Complaints or appeals may be academic or non-academic in nature and do not supersede or replace misconduct or grievance procedures already in place.

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

1. Approach their faculty member, StarZone, any service areas located on all campuses, 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.

**Appeals and complaints that have gone through the entire line of appeal as outlined in their respective procedures are considered final and binding on all parties involved.**

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

Main Campus: 411 N. Grand Ave., Lansing, MI 48933

West Campus: 5708 Cornerstone Drive, Lansing, MI 48917

To review the full list of different types of appeals and complaints, go to the [LCC Student Appeals & Complaints](#) webpage.



## Academic Amnesty

Lansing Community College recognizes students are unsuccessful academically for a variety of reasons. Those students may return years later finding their low GPA is a barrier to fields they might otherwise be ready to enter. LCC has an Academic Amnesty Policy in order to allow such students a second chance. This “forgiveness” will eradicate 0.0s from the student’s GPA under carefully controlled conditions.

## Administrative Appeals

Due to mitigating circumstances outside of the student's control that results in negative outcomes on their academic or financial record, LCC students may submit an administrative appeal to request an exception to college policy regarding refund deadlines.

## Cancelling Course Sections

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

- non-refundable course fees are subject to refund only after verification of services/materials not received by student
- registrations fees are not refundable Board Policy

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

## Course Participation Verification Policy

Lansing Community College (LCC) is not an attendance-taking institution. LCC has a process to determine and confirm each student starts each course within the semester. LCC’s academic calendar consists of two 16-week semesters (fall and spring) and one 12-week summer semester.

## Course Withdrawal Procedure

Although the College is committed to helping students be successful in their courses and remain on track to complete their educational goals, on occasion it might be in the best interest of the student and/or the College community that a student withdraw from or be withdrawn from a course or from courses prior to the end of the course(s). To view the Procedure, please [click here](#).

## Final Grade Appeals

If a student disagrees with their final grade in a course and provides students with the opportunity to file a Final Grade Appeal in those instances.

## General Student Complaints

To find assistance in resolving matters that are non-academic in nature.

## Grade Changes

Students may petition an instructor for a grade change of a final grade in a course.

**2020-2021 Degree and Certificate Program Pathways**  
 (Please refer to the [2020-2021 Program Pathways webpage](#) for possible updates)

<b>Curriculum Title</b>	<b>Code</b>	<b>Degree</b>
<a href="#">Accounting</a>	0162	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
<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

**2020-2021 Degree and Certificate Program Pathways**  
 (Please refer to the [2020-2021 Program Pathways webpage](#) for possible updates)

<b>Curriculum Title</b>	<b>Code</b>	<b>Degree</b>
<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 Administration</a>	0243	AB
<a href="#">Business Transfer Studies</a>	1622	AA
<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

**2020-2021 Degree and Certificate Program Pathways**  
 (Please refer to the [2020-2021 Program Pathways webpage](#) for possible updates)

<b>Curriculum Title</b>	<b>Code</b>	<b>Degree</b>
<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
<a href="#">Computer Networking and Cybersecurity</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

**2020-2021 Degree and Certificate Program Pathways**  
 (Please refer to the [2020-2021 Program Pathways webpage](#) for possible updates)

<b>Curriculum Title</b>	<b>Code</b>	<b>Degree</b>
<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
<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="#">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
<a href="#">Electrical Machine Controls</a>	0966	CC
<a href="#">Electrical Technology</a>	0134	AAS

**2020-2021 Degree and Certificate Program Pathways**  
 (Please refer to the [2020-2021 Program Pathways webpage](#) for possible updates)

<b>Curriculum Title</b>	<b>Code</b>	<b>Degree</b>
<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="#">Entrepreneurial Studies</a>	1805	CC
<a href="#">Environmental Technology</a>	0793	AAS
<a href="#">Field Sales and Marketing</a>	0190	AB
<a href="#">Financial Institutions</a>	0103	AB
<a href="#">Financial Institutions</a>	0151	CC
<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>	0749	AA
<a href="#">Geospatial Science</a>	0834	CA

**2020-2021 Degree and Certificate Program Pathways**  
 (Please refer to the [2020-2021 Program Pathways webpage](#) for possible updates)

<b>Curriculum Title</b>	<b>Code</b>	<b>Degree</b>
<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 Services</a>	0915	AAS
<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="#">Interdisciplinary Humanities</a>	0119	AA



**2020-2021 Degree and Certificate Program Pathways**  
 (Please refer to the [2020-2021 Program Pathways webpage](#) for possible updates)

<b>Curriculum Title</b>	<b>Code</b>	<b>Degree</b>
<a href="#">International Business</a>	0240	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
<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="#">Manufacturing Engineering Technology</a>	1359	AAS
<a href="#">Marketing</a>	0204	AB
<a href="#">Marketing</a>	0225	CA
<a href="#">Massage Therapy</a>	1255	CA
<a href="#">Mathematics</a>	1620	AS
<a href="#">Mechanical Systems</a>	0173	AAS
<a href="#">Mechanical Systems</a>	0147	CA

**2020-2021 Degree and Certificate Program Pathways**  
 (Please refer to the [2020-2021 Program Pathways webpage](#) for possible updates)

<b>Curriculum Title</b>	<b>Code</b>	<b>Degree</b>
<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>	1477	AA
<a href="#">Music Industry</a>	1807	AAA
<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="#">Paralegal</a>	0101	AB
<a href="#">Paralegal Post-Bachelor</a>	0744	CA
<a href="#">Paramedic</a>	0272	CA
<a href="#">Patient Care Technician</a>	1784	CC
<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

**2020-2021 Degree and Certificate Program Pathways**  
 (Please refer to the [2020-2021 Program Pathways webpage](#) for possible updates)

Curriculum Title	Code	Degree
<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="#">Sign Language Interpreter</a>	0282	AAA
<a href="#">Sign Language Interpreter</a>	0187	CA
<a href="#">Social Science</a>	0121	AA
<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

**2020-2021 Degree and Certificate Program Pathways**  
 (Please refer to the [2020-2021 Program Pathways webpage](#) for possible updates)

<b>Curriculum Title</b>	<b>Code</b>	<b>Degree</b>
<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="#">Ultrasound: Diagnostic Medical Sonography</a>	0790	AAS
<a href="#">Vascular Technology</a>	1604	CC
<a href="#">Veterinary Technology</a>	0287	AAS
<a href="#">Web Site Developer</a>	0843	CC
<a href="#">Welding Technology</a>	0186	AAS
<a href="#">Welding Technology</a>	0156	CA
<a href="#">Welding Technology</a>	1356	CC



## Accounting A.B.

Curriculum Code: 0162

Effective: Fall 2020 – Summer 2025

### Description

Graduates of this degree 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 the paraprofessional works 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 colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

### Contact Information

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.

### General Education – Applied Degrees, Recommended Choices

(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  
CHEM 135, Chemistry in Society, 4 credits / 5 billing hours  
ISCI 131, Integrated Physical Science, 4 credits / 6 billing hours

## 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 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 260	Accounting Systems	4 / 4
LEGL 215	Business Law – Basic Principles	3 / 3

## Program of Study Required Courses, Limited Choices –*Select three or more courses for a minimum of nine 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 Prevention	3 / 3
BUSN 118	Introduction to Business	3 / 3
CITA 126	Microsoft Excel	3 / 3
CITA 226	Microsoft Excel-Advanced	3 / 3
ECON 201	Principles of Economics-Micro	4 / 4
ECON 202	Principles of Economics-Macro	4 / 4
LEGL 219	Adv Busn Law for Acct Majors	4 / 4

## Total Credit Hours

61-65 credits / 62-67 billing hours

## Recommended Course Sequence

Semester I	Semester II
English Composition or Applied English English (second course)/Communications or Applied Communications Mathematics or Applied Mathematics ACCG 210 LEGL 215	Natural Sciences Lab or Applied Science and Technology Lab ACCG 160 ACCG 161 ACCG 211 ACCG 240
Semester III	Semester IV
Humanities and Fine Arts or Social Sciences or Applied Social Sciences ACCG 220 ACCG 230 Limited Choice	ACCG 221 ACCG 260 Limited Choice Limited Choice



## Accounting C.A.

Curriculum Code: 0714

Effective: Effective: Fall 2020 – Summer 2025

### Description

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 receivable clerk, and accounts payable 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.

### Contact Information

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

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 120	Dynamics of Communication	3 / 3
COMM 130	Fundamentals Public Speaking	3 / 3

### 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

### 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

## Total Credit Hours

32-34 credits / 32-34 billing hours

## Recommended Course Sequence

Semester I	Semester II
ACCG 210 CITA 126 Limited Choice - Composition	ACCG 160 ACCG 161 ACCG 211 Limited Choice - Communication

Semester III
ACCG 240 ACCG 260 Limited Choice





## **Accounting - CPA Exam Preparation A.B.**

Curriculum Code: 0255

Effective: Fall 2020 – Summer 2025

### **Description**

This degree focuses on learning the material necessary to pass the Uniform Certified Public Accountant (C.P.A.) Examination. The educational requirements to sit for the C.P.A. exam include a minimum of a Bachelor Degree with 150 credit hours or an MBA. For details, see Additional Information below. Virtually all jobs in accounting and auditing are available to the C.P.A. The main job a C.P.A. is eligible to do that other accountants cannot is that of external auditor, which involves expressing an independent opinion on financial statements prepared by others. Some public accounting experience is required prior to certification in some states. The student is advised to review the requirements for certification as defined by the State Board of Accountancy. In addition, students should contact the Board of Accountancy, State of Michigan, Consumer and Industry Services to receive an authoritative list of requirements to sit for the C.P.A. exam.

### **Additional Information**

Before starting this program, students are required to meet with a faculty advisor. Though this program provides all of the accounting classes necessary to meet the requirements to become certified in the State of Michigan, the program does not include all of the requirements. Students should meet with a faculty advisor to determine if additional classes need to be taken to meet all of the requirements to become certified.

In order to receive a CPA Certificate, you must have 150 total semester hours of college credit and a bachelor's degree with a concentration in accounting. The educational requirement may be met in one of the following ways:

Method 1: Earn a master's degree in accounting or business administration with 12 semester hours of graduate level accounting courses (not to include information systems or tax courses).

Method 2: Complete a Bachelor degree with a minimum of 150 credits including 30 semester hours of accounting courses. Only 6 semester hours may be in taxation. 39 additional semester hours are required, with 3-12 semester hours in at least five of the following subject areas.

- Economics
- Business Law
- Ethics
- Finance
- Marketing
- Management
- Statistics
- Taxation
- Business Policy

Courses taken at a 2-year or community college are acceptable.

## Contact Information

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.

## General Education – Applied Degrees, Recommended Choices

(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

**Total Credit Hours**

65-66 credits / 66-67 billing hours

**Recommended Course Sequence**

Semester I	Semester II
English Composition or Applied English English (second course)/Communications or Applied Communications Mathematics or Applied Mathematics ACCG 210 LEGL 215	Natural Sciences Labor or Applied Science and Technology Lab ACCG 211 ACCG 240 LEGL 219

Semester III	Semester IV
Humanities and Fine Arts or Social Sciences or Applied Social Sciences ACCG 220 ACCG 241 ACCG 260	ACCG 221 ACCG 230 ACCG 271 ACCG 290 Limited Choice



## Advanced Management C.A.

Curriculum Code: 0280

Effective: Fall 2020 – Summer 2025

### Description

This is an advanced certificate that is designed to be taken after obtaining an associate or bachelor degree in order to enhance an individual's employment and advancement opportunities. 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 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

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: Assumpt 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, minimum of 3 credits*

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

**Total Credit Hours**

33-35 credits / 33-35 billing hours

**Recommended Course Sequence**

Semester I	Semester II
MGMT 224	MGMT 329
MGMT 304	MGMT 335
MGMT 332	MGMT 337
Limited Choice - Communication	Limited Choice - Organizational Issues
Limited Choice - Management/Leadership	Limited Choice - Business
Limited Choice - Quantitative	



## African-American History A.A.

Curriculum Code: 0137

Effective: Fall 2020 – Summer 2025

### 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).

### 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 517-483-1018, or 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 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
HUMS 215	American Cultural Experience	4 / 4
HUMS 260	Ancient Egypt	4 / 4
RELG 150	Intro to World Religions	4 / 4
SOCL 185	Intro African-American Studies	3 / 3
SOCL 260	Race and Ethnicity	3 / 3

### Total Credit Hours

60 credits / 61 billing hours

### Recommended Course Sequence

Semester I	Semester II
MTA English Composition MTA Mathematics MTA Natural Science HIST 211	MTA English Comp (2nd course) or Communications MTA Natural Science ENGL 260 HIST 150

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



## Agricultural Technology A.A.S.

Curriculum Code: 1451

Effective: Fall 2020 – Summer 2025

### 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.

### 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. 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 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 Choices

(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) or 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  
COMM 240, Interpersonal Communication, 3 credits / 3 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  
 HUMS 213, World Civilizations to 1600, 4 credits / 4 billing hours  
 HUMS 214, World Civilizations from 1600, 4 credits / 4 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  
 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 Lab or Applied Sciences or Technology Lab – *Select one*  
 BIOL 127, Cell Biology, 4 credits / 6 billing hours  
 CHEM 151 and 161, General Chemistry Lecture/Lab I, 5 credits / 7 billing hours

### MSU Agricultural Technology Courses

48 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 to satisfy the General Education Core Areas.

### Total Credit Hours

67-68 credits / 21-22 billing hours

### Recommended Course Sequence

Semester I	Semester II
Agricultural Technology courses from MSU	Agricultural Technology courses from MSU

Semester III	Semester IV
Agricultural Technology courses from MSU	English Composition or Applied English English Composition (second course) or Communications or Applied Communications Humanities and Fine Arts or Social Sciences or Applied Social Sciences Mathematics or Applied Mathematics Natural Sciences Lab or Applied Sciences or Technology Lab



## Airframe Maintenance Technology A.A.S.

Curriculum Code: 0757

Effective: Fall 2020 – Summer 2025

### 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.

### Contact Information

Contact the Aviation Technology Program at the Mason-Jewett Field, 655 Aviation Drive, Mason, telephone number 517-483-1406.

### General Education - Applied Degree, 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 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

## Total Credit Hours

75-77 credits / 98-101 billing hours

## Recommended Course Sequence

Semester I (Fall)	Semester II (Spring)
AVGM 111	AVAF 125
AVGM 112	AVAF 126
AVGM 113	AVAF 140
AVGM 114	AVAF 208
	AVAF 211

Semester III (Summer)	Semester IV (Fall)
AVAF 127	AVAF 209
AVAF 134	AVAF 210
AVAF 212	AVAF 246
	AVEL 202

Semester V (Spring)
Gen Ed – English Composition
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



## Airframe Maintenance Technology C.A.

Curriculum Code: 1036

Effective: Fall 2020 – Summer 2025

### 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, 655 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

### Total Credit Hours

39 credits / 55 billing hours

## Recommended Course Sequence

Semester I (Spring)	Semester II (Summer)
AVAF 125 AVAF 126 AVAF 140 AVAF 208 AVAF 211	AVAF 127 AVAF 134 AVAF 212

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



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

Curriculum Code: 1814

Effective: Fall 2020 – Summer 2025

### **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.

### **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 [2020-2021 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 Previously Acquired Knowledge and 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 Choices

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

- English Composition – *Select one*
- English Composition (second course)/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*
- 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.

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 – Allied Health and Related Professions

*Select a minimum of 6 credits. There is a 4 credit maximum for PFFT/PFWT courses. If more than 24 credits are earned by the completion of a health certificate pathway included in Option B, the extra credits earned by completion of pathway courses may be used to meet this requirement.*

Course Code	Course Title	Credit / Billing Hours
CHSE 100	Intro to Health Professions	3 / 3
CHSE 114	Pathophysiology-Allied Health	3 / 3
CHSE 117	Health Law and Ethics	2 / 2
EMTA 100	Emergency Medical Responder	4 / 6
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
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
PFWT 123	Weight Training I	2 / 3
SURG 103	Surgical Asepsis	2 / 2

**Program of Study Required Courses – Select Option A, Option B, or a combination of courses from each option.**

**Option A – Selective Admission - Select 0 – 34 credits in one or more pre-programs.**

Selective Admission Pre-Programs	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
P007 – <a href="#">Pre-Paramedic</a>	4 – 8 / 6 – 11
P008 – <a href="#">Pre-Radiologic Technology</a>	14 / 20
P009 – <a href="#">Pre-Surgical Technology</a>	30 – 32 / 33 – 36

**Option B – Health Certificates and Health Related Courses - Select a minimum of 24 credits. One or more certificate pathways may be completed. If more than 24 credits are earned by the completion of a health certificate pathway included in Option B, the extra credits earned by completion of pathway courses may be applied to the Program of Study Required Courses – Allied Health and Related Professional requirement.**

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 108	Long-Term Care Nurse Aide	4 / 6.5	1025 – Long-Term Care Nurse Aide C.C. 1784 – Patient Care Technician C.C.
CHSE 120	Medical Terminology	4 / 4	1017 – Sterile Processing Technician 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.
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 145	Sterile Processing Tech I	5 / 7	1017 – Sterile Processing Technician C.C.



Course Code	Course Title	Credit / Billing Hours	Certificate Pathway
CHSE 148	Sterile Processing Externship	3 / 3	1017 – Sterile Processing 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 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.
MASG 131	Therapeutic Massage I	4.5 / 4.5	1255 – Massage Therapy C.A.
MASG 132A	Body Systems for Massage I	1.5 / 2	1255 – Massage Therapy C.A.
MASG 132B	Body Systems for Massage II	1.5 / 2	1255 – Massage Therapy C.A.
MASG 137	Medical Elements of Massage	2 / 2	1255 – Massage Therapy C.A.
MASG 139A	Medical Conditions Massage I	1 / 1	1255 – Massage Therapy C.A.
MASG 139B	Medical Conditions Massage II	1 / 1	1255 – Massage Therapy C.A.
MASG 141	Massage Clinic I	1.5 / 2.5	1255 – Massage Therapy C.A.
MASG 151A	Research Literacy	1 / 1	1255 – Massage Therapy C.A.
MASG 151B	Event Massage	1 / 1	1255 – Massage Therapy C.A.
MASG 151C	Maternal/Infant Massage	1 / 1	1255 – Massage Therapy C.A.
MASG 151D	Special Populations	1 / 1	1255 – Massage Therapy C.A.
MASG 231	Massage II	4.5 / 4.5	1255 – Massage Therapy C.A.
MASG 232	Massage III	4.5 / 4.5	1255 – Massage Therapy C.A.
MASG 235	Licensing Exam Prep	1 / 1	1255 – Massage Therapy C.A.
MASG 241	Massage Clinic II	1.5 / 2.5	1255 – Massage Therapy C.A.
MASG 242	Massage Clinic III	1.75 / 3	1255 – Massage Therapy C.A.
MASG 251A	Polarity Therapy	1 / 1	1255 – Massage Therapy C.A.
MASG 251B	Reflexology	1 / 1	1255 – Massage Therapy C.A.
MASG 251C	Asian Body Therapy	1 / 1	1255 – Massage Therapy C.A.
MASG 251D	Positional Release	1 / 1	1255 – Massage Therapy C.A.
MASG 254	Busn App for Massage	2 / 2	1255 – Massage Therapy C.A.
MASG 256	Clinical Assess for Massage	1 / 1	1255 – Massage Therapy C.A.

Course Code	Course Title	Credit / Billing Hours	Certificate Pathway
MEDA 116	Intro: MA Clinical & Adm Skills	6 / 8	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	5 / 7	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 Practice Immersion	3 / 3	1811 - Medical Assistant C.A.
NCHE 102	AHA BLS Provider CPR	0 / 0 Flat-rated, not covered by financial aid	
PFFT 104	Massage Fitness Lab	1 / 2	1255 – Massage Therapy C.A.
PFHW 123	Human Nutrition	3 / 3	1704 – Group Fitness Instructor C.C.
PFHW 163	Healthy Lifestyles	2 / 3	1255 – Massage Therapy C.A.
PFHW 181	Stress Management	1 / 1	1255 – Massage Therapy C.A. 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.

*The courses that make up the following health certificate pathways are all part of Option B.*

Certificate Pathways	Credit / Billing Hours
<a href="#">1010 – Phlebotomy Technician C.C.</a>	6 / 7
<a href="#">1017 - Sterile Processing Technician C.C.</a>	12 / 14
<a href="#">1024 – Pharmacy Technician C.C.</a>	7 / 7
<a href="#">1025 – Long-Term Care Nurse Aide C.C.</a>	4 / 6.5
<a href="#">1255 – Massage Therapy CA</a>	40.25 / 46.5
<a href="#">1442 – EKG Technician C.C.</a>	7.5 / 8
<a href="#">1488 – Medical Insurance Billing and Coding C.C.</a>	22 / 22
<a href="#">1704 – Group Fitness Instructor C.C.</a>	27-32 / 34-40
<a href="#">1784 – Patient Care Technician C.C.</a>	10 / 15.75
<a href="#">1811 – Medical Assistant C.A.</a>	31 / 38
<a href="#">1817 – Basic Emergency Medical Technician C.C.</a>	16 / 20

## **General Education - MTA Courses, Recommended Choices** - *Select 0 – 30 credits*

(For the full list of options, see [General Education](#). Any MTA courses may be selected in consultation with a Health Careers advisor based on academic goals for transfer.)

- 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
- Humanities and Fine Arts – *Select no more than two, each from a different discipline*  
ARTS 102, Design & Communication, 3 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 213, World Civilizations to 1600, 4 credits / 4 billing hours  
HUMS 214, World Civilizations from 1600, 4 credits / 4 billing hours  
THEA 110, Introduction to Theatre, 3 credits / 3 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 no more than two, each from a different discipline, one must be a lab course*  
BIOL 121, Biol Foundation for Physiology, 4 credits / 6 billing hours  
BIOL 145, Intro Anatomy and Physiology, 4 credits / 6 billing hours  
BIOL 201, Human Anatomy, 4 credits / 6 billing hours  
BIOL 202, Human Physiology, 4 credits / 5 billing hours  
BIOL 203, Microbiology, 3 credits / 3 billing hours  
BIOL 204, Microbiology Lab, 1 credit / 3 billing hours  
CHEM 125, Basic Chemistry, 4 credits / 4 billing hours  
CHEM 151, General Chemistry Lecture I, 4 credits / 4 billing hours  
CHEM 161, General Chemistry Lab I, 1 credit / 3 billing hours  
PHYS 120, The Art of Physics, 4 credits / 5 billing hours  
PHYS 200, Intro to Applied Physics, 4 credits / 5 billing hours
- Social Science – *Select no more than 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  
PSYC 205, Human Growth and Development, 3 credits / 3 billing hours  
SOCL 120, Introduction to Sociology, 4 credits / 4 billing hours

### **Total Minimum 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, 2021

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 Choices – Minimum 14 credits

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

- English Composition – *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*  
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



## American Studies A.A.

Curriculum Code: 0142

Effective: Fall 2020 – Summer 2025

### 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).

### 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 517-483-1018, or 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 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
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 213	World Civilizations to 1600	4 / 4
HUMS 214	World Civilizations from 1600	4 / 4
RELG 150	Intro to World Religions	4 / 4
SOCL 260	Race and Ethnicity	3 / 3

### Total Credit Hours

60 credits / 61 billing hours

### Recommended Course Sequence

Semester I	Semester II
MTA English Composition MTA Mathematics MTA Natural Science HIST 211	MTA English Comp (2nd course) or Communications MTA Natural Science ENGL 255 or 256 HUMS 215
Semester III	Semester IV
MTA Social Sciences HIST 212 Electives as needed for total credits	MTA Social Sciences Electives as needed for total credits



## Anthropology A.A.

Curriculum Code: 1621

Effective: Fall 2020 – Summer 2025

### 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).

### 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 517-483-1018, or 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 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 140, Art of Being Human, 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  
PHIL 153, Knowledge and Reality, 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*  
 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 260	Race and Ethnicity	3 / 3

### 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

### 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
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 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
SOCL 120	Introduction to Sociology	4 / 4

### Total Credit Hours

60 credits / 61-64 billing hours

## Recommended Course Sequence

Semester I	Semester II
MTA English Composition MTA Mathematics ANTH 120 Electives as needed for total credits	MTA English Comp (2nd course) or Communications MTA Natural Sciences ANTH 270 Electives as needed for total credits
Semester III	Semester IV
MTA Humanities and Fine Arts ANTH 275 SOCL 260 Electives as needed for total credits	MTA Humanities and Fine Arts MTA Natural Sciences Limited Choice Electives as needed for total credits



## Architecture Technologist A.A.S.

Curriculum Code: 1809

Effective: Fall 2020 – Summer 2025

### 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.

### Additional Information

Students who have already completed ELTE 102, HVAC 102, METS 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 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  
ENGL 127, Business Writing, 3 credits / 3 billing hours
- English Composition (Second Course)/Communications or Applied Communications – *Select one*  
ARTS 102, Design & Communication, 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 240, Interpersonal Communication, 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  
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	Industrial/Construction Safety	2 / 3
DCTM 103	Codes and Specifications	3 / 3

### Total Credit Hours

68-69 credits / 89-90 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".)

<b>Semester I (Fall)</b>	<b>Semester II (Spring)</b>
Gen Ed – English Composition (Second Course)/Communications or Applied Communications ARCH 105 ARCH 110 ARCH 114 DCTM 101	Gen Ed - English Gen Ed – Mathematics or Applied Mathematics ARCH 118 ARCH 146 DCTM 102
<b>Semester III (Summer)</b>	<b>Semester IV (Fall)</b>
Gen Ed – Humanities and Fine Arts or Social Sciences or Applied Social Sciences ARCH 290	Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab ARCH 113 ARCH 218 ARCH 233
<b>Semester V (Spring)</b>	
ARCH 124 ARCH 220 ARCH 243 DCTM 103	



## Architecture Technology A.A.S.

Curriculum Code: 1455

Effective: Fall 2020 – Summer 2025

### 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.

### 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 Degree, Recommended Choices

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

- English Composition – *Select one*  
Program of Study Required Courses will meet this requirement.
- English Composition (Second Course)/Communications or Applied Communications – *Select one*  
ARTS 102, Design & Communication, 3 credits / 4 billing hours
- Humanities and Fine Arts or Social Sciences or Applied Social Sciences – *Select one*  
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, Precalculus II, 4 credits / 4 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

Course Code	Course Title	Credit / Billing Hours
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	Industrial/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

**Total Credit Hours**

63-64 credits / 78-80 billing hours

**Recommended Course Sequence**

Semester I (Fall)	Semester II (Spring)
Gen Ed – English Composition (Second Course)/Communications or Applied Communications ARCH 105 ARCH 110 ARCH 114 Limited Choice	Gen Ed – Mathematics or Applied Mathematics ARCH 107 ARCH 126 DCTM 102

Semester III (Summer)	Semester IV (Fall)
Gen Ed – Humanities and Fine Arts or Social Sciences or Applied Social Sciences ENGL 127	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



## Art Foundation A.A.

Curriculum Code: 1716

Effective: Fall 2020 – Summer 2025

### 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).

### 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 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*  
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

### Total Credit Hours

60 credits / 67 billing hours

### Recommended Course Sequence

Semester I	Semester II
MTA English Composition MTA Mathematics ARTS 102 ARTS 131 Elective	MTA English Comp (2nd course) or Communications MTA Humanities and Fine Arts MTA Social Science ARTS 103 ARTS 132

Semester III	Semester IV
MTA Natural Sciences MTA Social Sciences ARTS 151 ARTS 200	MTA Natural Sciences Electives as needed for total credits





## Art History A.A.

Curriculum Code: 0746

Effective: Fall 2020 – Summer 2025

### 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).

### 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 517-483-1018 or 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 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 – *Select one from a discipline other than HUMS*  
ENGL 240, The Film as Art, 4 credits / 4 billing hours  
PHIL 101, Introduction to Philosophy, 3 credits / 3 billing hours  
PHIL 151, Intro to Logic & Critical Think, 4 credits / 4 billing hours  
PHIL 153, Knowledge and Reality, 4 credits / 4 billing hours  
RELG 150, Intro to World Religions, 4 credits / 4 billing hours  
RELG 212, Judaism, Christianity & Islam, 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 – *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

### 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

**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 200	Introduction to Literature	3 / 3
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
HUMS 213	World Civilizations to 1600	4 / 4
HUMS 214	World Civilizations from 1600	4 / 4
HUMS 216	Contemporary Art	4 / 4
HUMS 260	Ancient Egypt	4 / 4
RELG 211	Asian Religions and Traditions	4 / 4

### Total Credit Hours

60-62 credits / 61-65 billing hours

### Recommended Course Sequence

Semester I	Semester II
MTA English Composition MTA Natural Sciences HUMS 120 Electives as needed for total credits	MTA English Comp (2nd course) or Communications MTA Mathematics HUMS 160 HUMS 211

Semester III	Semester IV
MTA Humanities and Fine Arts MTA Social Sciences HUMS 212 Electives as needed for total credits	MTA Natural Sciences MTA Social Sciences Electives as needed for total credits



## **Automotive Technologies A.A.S.**

Curriculum Code: 1791

Effective: Fall 2020 – Summer 2025

### **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.

### **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 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 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

## Total Credit Hours

72 credits / 99 billing hours

## Recommended Course Sequence

Semester I (Fall)	Semester II (Spring)
Gen Ed – English Composition AUTM 102 AUTM 111 AUTM 141 AUTM 151	AUTM 113 AUTM 131 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)	Semester V (Spring)
Gen Ed – Humanities and Fine Arts or Social Sciences or Applied Social Sciences AUTM 125 AUTM 126 AUTM 180 AUTM 270	Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab AUTM 273 AUTM 275 AUTM 284



## **Automotive Technologies C.A.**

Curriculum Code: 1790

Effective: Fall 2020 – Summer 2025

### **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.

### **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

## Total Credit Hours

41 credits / 61 billing hours

## Recommended Course Sequence

Semester I	Semester II
AUTM 102	AUTM 113
AUTM 111	AUTM 131
AUTM 141	AUTM 161
AUTM 151	AUTM 211

Semester III
AUTM 270
AUTM 273
AUTM 275



## **Automotive Technology: Advanced Electric Drive/Alternative Fuels C.A.**

Curriculum Code: 1792

Effective: Fall 2020 – Summer 2025

### **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.

### **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

## Total Credit Hours

36 credits / 52.5 billing hours

## Recommended Course Sequence

Semester I	Semester II
AUTM 102	AUTM 211
AUTM 111	AUTM 280
AUTM 113	AUTM 282
AUTM 180	

Semester III
AUTM 270
AUTM 284
AUTM 286
AUTM 288



## **Automotive Technology: Brakes and Suspension Systems Specialist C.C.**

Curriculum Code: 1793

Effective: Fall 2020 – Summer 2025

### **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.

### **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

### Total Credit Hours

13 credits / 19 billing hours

### Recommended Course Sequence

Semester I
AUTM 102
AUTM 111
AUTM 141
AUTM 151



## **Automotive Technology: Electrical and HVAC Diagnostic Specialist C.C.**

Curriculum Code: 1794

Effective: Fall 2020 – Summer 2025

### **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.

### **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

### Total Credit Hours

17 credits / 25 billing hours

### Recommended Course Sequence

Semester I	Semester II
AUTM 102 AUTM 111 AUTM 113	AUTM 161 AUTM 211



## **Automotive Technology: Engine and Transmission Overhaul Specialist C.C.**

Curriculum Code: 1795

Effective: Fall 2020 – Summer 2025

### **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.

### **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

### Total Credit Hours

17 credits / 25 billing hours

### Recommended Course Sequence

Semester I	Semester II
AUTM 102 AUTM 111 AUTM 125	AUTM 126 AUTM 131



## **Automotive Technology: Engine Performance and Drivability Specialist C.C.**

Curriculum Code: 1796

Effective: Fall 2020 – Summer 2025

### **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.

### **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

### Total Credit Hours

25 credits / 37 billing hours

### Recommended Course Sequence

Semester I	Semester II
AUTM 102 AUTM 111	AUTM 113 AUTM 211

Semester III
AUTM 270 AUTM 273 AUTM 275



## Basic Aviation Technology C.C.

Curriculum Code: 1037

Effective: Fall 2020 – Summer 2025

### 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, 655 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

### Total Credit Hours

19 credits / 25 billing hours

### Recommended Course Sequence

Semester I (Fall)
AVGM 111
AVGM 112
AVGM 113
AVGM 114



## Basic Emergency Medical Technician C.C.

Curriculum Code: 1817

Effective: Fall 2020 – Summer 2022

### 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.

### Additional Information

To be eligible to receive the Basic Emergency Medical Technician Certificate of Completion and apply for National Registry 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

### Total Credit Hours

16 credits / 20 billing hours

### Required Course Sequence for EMT Daytime Academy

Semester I
EMTA 101
EMTA 102
EMTA 103
EMTA 104
EMTA 112

### Required Course Sequence for EMT Night Academy

Semester I (Fall)	Semester II (Spring)
EMTA 101	EMTA 103
EMTA 102	EMTA 104
	EMTA 112



## Biological Laboratory Techniques C.C.

Curriculum Code: 1608

Effective: Fall 2020 – Summer 2025

### 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.

### 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
ISCI 245	S.T.E.M. Workplace Practices	4 / 6

### Total Credit Hours

25 credits / 37 billing hours

### Recommended Course Sequence

Semester I	Semester II (Fall)
BIOL 127	BIOL 203
CHEM 151	BIOL 204
CHEM 161	BIOL 275
Semester III (Spring)	
BIOL 276	
ISCI 245	



## Biology A.S.

Curriculum Code: 0221

Effective: Fall 2020 – Summer 2025

### 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 broad 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).

### 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 (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 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*  
ENGL 220, Science Fiction, 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 120, Masterpieces of Art & Music, 4 credits / 4 billing hours  
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  
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*  
 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  
 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 121	Precalculus I	4 / 4
MATH 122	Precalculus 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
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

### Total Credit Hours

60 credits / 72 billing hours

## Recommended Course Sequence

Semester I (Fall)	Semester II (Spring)
MTA English Composition CHEM 151 CHEM 161 MATH 121	BIOL 127 CHEM 152 CHEM 162 MATH 122

Semester III (Summer)	Semester IV (Fall)
MTA English Comp (2nd course) or Communications	MTA Humanities and Fine Arts MTA Social Sciences Elective as needed for total credits BIOL 128 CHEM 251

Semester V (Spring)
MTA Humanities and Fine Arts MTA Social Sciences CHEM 252 CHEM 272



## Biotechnology A.A.S.

Curriculum Code: 0212

Effective: Fall 2020 – Summer 2025

### 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.

### 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 Choices

(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)/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 121	Precalculus I	4 / 4
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
CJUS 210	Intro to Forensic Science	3 / 3
PHYS 221	Introductory Physics I	4 / 6
SCIN 287	Science Technology Internship	2-4 / 2-4

### Total Credit Hours

60-63 credits / 78-82 billing hours

## Recommended Course Sequence

Semester I (Fall)	Semester II (Spring)
English Composition CHEM 151 CHEM 161 MATH 121	English Composition (second course)/ Communications or Applied Communications BIOL 127 CHEM 152 CHEM 162 ISCI 245

Semester III (Summer)	Semester IV (Fall)
Humanities and Fine Arts or Social Science or Applied Social Science STAT 215	BIOL 203 BIOL 204 BIOL 275 CHEM 251 CHEM 262

Semester V (Spring)
BIOL 270 BIOL 276 Limited Choice



## Bookkeeping C.C.

Curriculum Code: 1292

Effective: Fall 2020 – Summer 2025

### Description

The Bookkeeping curriculum is designed to provide students with the basic knowledge and skills necessary for entry-level positions in bookkeeping in a variety of business settings. The curriculum is designed to allow students to explore accounting as a potential career pathway and become employable upon completion of two semesters of work. Graduates will be able to perform basic accounting clerical work, under general supervision.

### Contact Information

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

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

### Total Credit Hours

22-23 credits / 22-23 billing hours

### Recommended Course Sequence

Semester I	Semester II
ACCG 100	ACCG 101
CITA 119	ACCG 160
MKTG 119	ACCG 161
Limited Choice	CITA 126



## **Building Construction A.A.S.**

Curriculum Code: 1766

Effective: Fall 2020 – Summer 2025

### **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).

### **Additional Information**

Students who have already completed ELTE 102, HVAC 102, METS 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 Degree, Recommended Choices**

(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)/Communications or Applied Communications – *Select one*  
ARTS 102, Design & Communication, 3 credits / 4 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	Industrial/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

## Total Credit Hours

64-65 credits / 83-85 billing hours

## Recommended Course Sequence

Semester I (Fall)	Semester II (Spring)
Gen Ed – Mathematics or Applied Mathematics BLDT 120 DCTM 100 DCTM 101 DCTM 102	Gen Ed – English Composition BLDT 130 BLDT 150 DCTM 103 HVAC 100

Semester III (Fall)	Semester IV (Spring)
Gen Ed – English Composition (Second Course)/Communications or Applied Communications BLDT 140 DCTM 200 Limited Choice	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)



## Building Construction C.A.

Curriculum Code: 0135

Effective: Fall 2020 – Summer 2025

### 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.

### Additional Information

Students who have completed ELTE 102, HVAC 102, METS 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	Industrial/Construction Safety	2 / 3
DCTM 103	Codes and Specifications	3 / 3
DCTM 200	Construction Management I	4 / 6

### Total Credit Hours

31 credits / 42 billing hours

### Recommended Course Sequence

Semester I - Fall	Semester II - Spring
BLDT 120	BLDT 130
BLDT 140	BLDT 180
DCTM 102	DCTM 100
DCTM 103	DCTM 101
DCTM 200	



## Building Construction C.C.

Curriculum Code: 1714

Effective: Fall 2020 – Summer 2025

### 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.

### Additional Information

Students who have completed ELTE 102, HVAC 102, METS 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	Industrial/Construction Safety	2 / 3

### Total Credit Hours

21 credits / 29 billing hours

### Recommended Course Sequence

Semester I (Fall)	Semester II (Spring)
BLDT 120	BLDT 130
BLDT 140	BLDT 180
DCTM 102	DCTM 100



## Building Maintenance C.A.

Curriculum Code: 1481

Effective: Fall 2020 – Summer 2025

### 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.

### Additional Information

Students who have already completed DCTM 102, ELTE 102, METS 102 or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for HVAC 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 102	Industrial/Construction Safety	2 / 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



**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

**Total Credit Hours**

32-34 credits / 43-45 billing hours

**Recommended Course Sequence**

Semester I	Semester II
DCTM 100	DCTM 101
HVAC 100	HVAC 111
HVAC 102	HVAC 120
HVAC 110	HVAC 130
HVAC 113	Limited Choice
HVAC 115	



## Business Administration A.B.

Curriculum Code: 0243

Effective: Fall 2020 – Summer 2025

Revised: 8/17/20

### Description

This degree, which can be completed entirely online, provides basic instruction in key business areas such as management, marketing, finances, computers and other business-related 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 planning to transfer should see an academic advisor before enrolling in any course.

### Additional Information

Students in this program choose a subspecialty, Accounting/Finance, Entrepreneurial, General Business, Insurance, Management, or Marketing, to determine the courses needed to complete the degree.

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 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.

### General Education – Applied Degrees, Recommended Choices

(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 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 meets 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  
STAT 170, Introduction to Statistics, 4 credits / 4 billing hours

- Natural Sciences 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
ACCG 210	Principles of Financial Accg	4 / 4
BUSN 118	Introduction to Business	3 / 3
BUSN 201	International Business	3 / 3
CITA 110	Intro to Microsoft Office	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
MGMT 225	Principles of Mgmt/Leadership	3 / 3
MKTG 200	Principles of Marketing	3 / 3

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

Course Code	Course Title	Credit / Billing Hours
BUSN 285	Business Admin Internship	3 / 3
MKTG 120	Sales	3 / 3
PSYC 200	Introduction to Psychology	4 / 4

Complete all courses in one of the following subspecialties:

### Accounting/Finance Subspecialty Required Courses

Course Code	Course Title	Credit / Billing Hours
ACCG 161	Accounting with Quickbooks	2 / 2
ACCG 211	Principles of Managerial Accg	4 / 4
BUSN 250	Personal Finance	3 / 3
BUSN 251	Understanding Investments	3 / 3

### Entrepreneurial Subspecialty Courses

Course Code	Course Title	Credit / Billing Hours
ACCG 160	Payroll Systems and Taxes	2 / 2
BUSN 157	Business Feasibility Analysis	2 / 2
BUSN 260	Starting a Business	4 / 4
BUSN 261	Writing a Business Plan	2 / 2

### General Business Subspecialty Courses

Course Code	Course Title	Credit / Billing Hours
ACCG 161	Accounting with Quickbooks	2 / 2
BUSN 157	Business Feasibility Analysis	2 / 2
BUSN 260	Starting a Business	4 / 4

Course Code	Course Title	Credit / Billing Hours
MGMT 150	Managing Customer Relations	3 / 3
MGMT 234	Diversity in the Workplace	3 / 3

### Insurance Subspecialty Required Courses

Course Code	Course Title	Credit / Billing Hours
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

### Management Subspecialty Required Courses

Course Code	Course Title	Credit / Billing Hours
MGMT 223	Supervisory Skills	3 / 3
MGMT 224	Human Resource Management	3 / 3
MGMT 227	Training/Development for Busn	3 / 3
MGMT 228	Organization Behavior	3 / 3

### Marketing Subspecialty Required Courses

Course Code	Course Title	Credit / Billing Hours
MKTG 119	Mktg/Manage Your Profess Image	3 / 3
MKTG 140	Introduction to Advertising	3 / 3
MKTG 210	Marketing on the Internet	3 / 3
MKTG 229	Public Relations	3 / 3

### Total Credit Hours

61-63 credits / 62-65 billing hours

### Recommended Course Sequence

Semester I	Semester II
English Composition or Applied English English (second course)/Communications or Applied Communications BUSN 118 CITA 110 MKTG 200	Mathematics or Applied Mathematics BUSN 201 ECON 201 LEGL 215

Semester III	Semester IV
Natural Sciences Lab or Applied Science and Technology Lab ACCG 210 ECON 202 MGMT 200 MGMT 225	Limited Choice Subspecialty courses



## **Business Transfer Studies A.A.**

Curriculum Code: 1622

Effective: Fall 2020 – Summer 2025

### **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).

### **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 517-483-1522, or 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*  
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 127, Business Writing, 3 credits / 3 billing hours
- Humanities and Fine Arts – *Select two, each from a different discipline*  
HUMS 140, Art of Being Human, 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  
PHIL 153, Knowledge and Reality, 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  
 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*  
 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  
 SOCL 120, Introduction to Sociology, 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
ACCG 211	Principles of Managerial Accg	4 / 4
BUSN 118	Introduction to Business	3 / 3
CITF 110	Intro Computer Info Systems	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 225	Principles of Mgmt/Leadership	3 / 3
MKTG 200	Principles of Marketing	3 / 3

### Total Credit Hours

60-63 credits / 61-67 billing hours

### Recommended Course Sequence

Semester I	Semester II
MTA English Composition MTA Mathematics BUSN 118 CITF 110 ECON 201	MTA English Comp (2nd course) or Communications MTA Natural Sciences MKTG 200 ECON 202
Semester III	Semester IV
MTA Humanities and Fine Arts ACCG 210 LEGL 215 MGMT 225	MTA Humanities and Fine Arts MTA Natural Sciences MTA Social Sciences ACCG 211



## Chemical Technology A.A.S.

Curriculum Code: 0163

Effective: Fall 2020 – Summer 2025

### 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.

### 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 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)/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  
POLS 260, Comparative Political Systems, 3 credits / 3 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 121	Precalculus I	4 / 4
MATH 122	Precalculus II	4 / 4
PHYS 221	Introductory Physics I	4 / 6
STAT 215	Intro to Probability and Stats	4 / 4

### Program of Study Required Courses, Limited Choice– *Select one or two courses, minimum of 4 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

### Total Credit Hours

60-64 credits / 79-81 billing hours



## Recommended Course Sequence

Semester I	Semester II
Gen Ed - English Composition BIOL 127 CHEM 151 CHEM 161 MATH 121	CHEM 152 CHEM 162 ISCI 245 MATH 122 Limited Choice

Semester III	Semester IV
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	CHEM 252 CHEM 272 PHYS 221 Limited Choice, if needed



## Chemistry A.S.

Curriculum Code: 0117

Effective: Fall 2020 – Summer 2025

### 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).

### 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 (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 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 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  
Program of Study Required Courses fulfills this requirement
- Natural Sciences – *Select one from a discipline other than CHEM*  
BIOL 127, Cell Biology, 4 credits / 6 billing hours
- Social Science – *Select two, each from a different discipline*  
ANTH 270, Cultural Anthropology, 3 credits / 3 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
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

**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
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

## Total Credit Hours

60 credits / 73 billing hours

## Recommended Course Sequence

Semester I	Semester II
MTA English Composition	MTA English Comp (2nd course) or Communications
MTA Social Sciences	MTA Humanities and Fine Arts
CHEM 151	CHEM 152
CHEM 161	CHEM 162
MATH 151	MATH 152

Semester III	Semester IV
MTA Natural Sciences	MTA Humanities and Fine Arts
MTA Social Sciences	CHEM 252
CHEM 251	CHEM 272
CHEM 262	Elective as needed for total credits
Elective as needed for total credits	



## **Child Development and Early Education A.A.A.**

Curriculum Code: 1637

Effective: Fall 2020 – Summer 2025

### **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 standards issued by the National Association for the Education of Young Children and the Michigan Early Childhood Core Knowledge and Core Competencies. Students learn to plan and implement high quality, developmentally appropriate programs for all ages of children, infants through school-age, in both centers and family child care homes. Graduates of the associate degree program meet the educational requirements for childcare center program directors as specified by the State of Michigan Child Day Care Center Licensing Regulations. 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.

### **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 childcare program regulations.

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 an Associate's Degree or Certificate in Child Development 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 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)/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  
HUMS 140, Art of Being Human, 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  
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	Early Child Curr/Learn Environ	4 / 4
CHDV 225	Families and Inclusion	4 / 4
CHDV 230	Early Childhood Program Admin	3 / 3
CHDV 284	Early Childhood Practicum	6 / 6
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

**Total Credit Hours**

64-65 credits / 65-69 billing hours

**Recommended Course Sequence**

Semester I (Fall)	Semester II (Spring)
MTA English Composition CHDV 100 CHDV 101 CHDV 111	MTA English Comp (2nd course) or Communications MTA Mathematics CHDV 215 ENGL 208

Semester III (Fall)	Semester IV (Spring)
MTA Humanities and Fine Arts MTA Natural Sciences CHDV 220 CHDV 225 Limited Choice	MTA Natural Sciences CHDV 230 CHDV 284 SOCL 120



## Child Development and Early Education C.A.

Curriculum Code: 0133

Effective: Fall 2020 – Summer 2025

### 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 standards issued by the National Association for the Education of Young Children and the Michigan Early Childhood Core Knowledge and Core Competencies. Courses for the certificate can be applied toward the associate degree. This curriculum requires four semesters to complete, not including summer. Several semesters of daytime field work in early education and child care settings are required.

### 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 program regulations.

Students enrolled in CHDV 284 may be required to complete a TB test for field placement.

To finish an Associate's Degree or Certificate in Child Development 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	Early Child Curr/Learn Environ	4 / 4
CHDV 225	Families and Inclusion	4 / 4
CHDV 230	Early Childhood Program Admin	3 / 3
CHDV 284	Early Childhood Practicum	6 / 6

### Program of Study Required Courses - *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 Choices** - *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

**Total Credit Hours**

38 credits / 38 billing hours

**Recommended Course Sequence**

Semester I (Fall)	Semester II (Spring)
CHDV 100	CHDV 215
CHDV 101	CHDV 230
CHDV 111	ENGL 121 or 131

  

Semester III (Fall)	Semester IV (Spring)
CHDV 220	CHDV 284
CHDV 225	Limited Choice





## Child Development and Early Education C.C.

Curriculum Code: 1815

Effective: Fall 2020 – Summer 2025

### 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. The curriculum is aligned with the standards issued by the National Association for the Education of Young Children and the Michigan Early Childhood Core Knowledge and Core Competencies. Courses for the certificate can be applied toward the associate degree. This curriculum requires two semesters to complete, not including summer. One course of daytime field work in an early education and child care settings is required.

### Additional Information

All CHDV courses must be completed with a minimum 2.5 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 program regulations.

CHDV 111 should be completed in the first semester, as it is a prerequisite for CHDV 230.

### 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 126	Discovery Learning:Inf/Tod Gps	1 / 1
CHDV 129	Caring for Youngest Learners	2 / 2
CHDV 230	Early Childhood Program Admin	3 / 3

### Program of Study Required Courses, Limited Choice – *Select one, minimum of 1 credit*

Course Code	Course Title	Credit / Billing Hours
CHDV 122	Creativity and Play	1 / 1
CHDV 123	Literacy and Play	1 / 1
CHDV 124	Young Investigators: Math/Sci	1 / 1

### Total Credit Hours

18 credits / 18 billing hours

### Recommended Course Sequence

Semester I	Semester II
CHDV 100	CHDV 101
CHDV 111	CHDV 126
CHDV 129	CHDV 230
	Limited Choice



## Cisco Certified Network Associate Certification Preparation (CCNA) C.C.

Curriculum Code: 1469

Effective: Fall 2020 – Summer 2025

### 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 in Business Degree (1453).

### 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 Essentials	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

### Total Credit Hours

18 credits / 18 billing hours

### Recommended Course Sequence

Semester I	Semester II
CITN 220 (First 8 weeks) CITN 225 (Second 8 weeks) CITS 125	CITN 240 (First 8 weeks) Limited Choice



## Civil Technology A.A.S.

Curriculum Code: 0178

Effective: Fall 2020 – Summer 2025

### 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.

### Additional Information

Students who have completed ELTE 102, HVAC 102, METS 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 Choices

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

- English Composition – *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/Social Sciences/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	Industrial/Construction Safety	2 / 3
DCTM 103	Codes and Specifications	3 / 3
GSCI 210	Global Positioning Systems	3 / 4
METS 140	Rigging	3 / 4.5

### Total Credit Hours

62-64 credits / 75.5-77.5 billing hours

### Recommended Course Sequence

Semester I - Fall	Semester II - Spring
CIVL 101 CIVL 120 DCTM 100 DCTM 102 DCTM 103	Gen Ed – English Composition Gen Ed – Mathematics or Applied Mathematics CIVL 110 CIVL 124 CIVL 141
Semester III – Fall	Semester IV - Spring
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	Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab CIVL 135 CIVL 143 CIVL 241
Semester V - Summer	
CIVL 290	



## CNC Machine Technology C.A.

Curriculum Code: 1798

Effective: Fall 2020 – Summer 2025

### 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.

### 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
METS 102	Industrial/Construction Safety	2 / 3

### Total Credit Hours

35 credits / 52 billing hours

### Recommended Course Sequence

Semester I	Semester II
METD 100 METM 108 METM 190 METS 102	METD 130 METM 112 METM 220
Semester III	
METM 150 METM 195 METM 221	



## CNC Machine Technology C.C.

Curriculum Code: 1797

Effective: Fall 2020 – Summer 2025

### Description

This certificate is designed for a person interested in developing his/her skill set in the machinist or tool & 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.

### 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
METS 102	Industrial/Construction Safety	2 / 3

### Total Credit Hours

21 credits / 31 billing hours

### Recommended Course Sequence

Semester I	Semester II
METD 100	METD 130
METM 108	METM 112
METS 102	METM 220



## Communication A.A.

Curriculum Code: 0136

Effective: Fall 2020 – Summer 2025

### 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).

### Additional Information

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

Students wishing to transfer to MSU should enroll in COMM 120. Students wishing to transfer to FSU, UM-Flint, WMU or EMU should enroll in COMM 110. Students wishing to transfer to CMU or GVSU may enroll in COMM 110 or COMM 120 (required 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.

### 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 Communications Program of Study Required Courses will meet this requirement
- Humanities and Fine Arts – *Select two*  
HUMS 140, Art of Being Human, 4 credits / 4 billing hours  
HUMS 160, Mythology, 4 credits / 4 billing hours  
HUMS 215, American Cultural Experience, 4 credits / 4 billing hours  
MUSC 241, Musical Cultures 1750-Present, 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 121, Precalculus I, 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
- Social Sciences – *Select one from a different discipline other than COMM*  
ANTH 270, Cultural Anthropology, 3 credits / 3 billing hours  
ECON 120, Power, Authority and Exchange, 4 credits / 4 billing hours

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
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

### Program of Study Required Courses – *Select one*

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

### Program of Study Required Courses – *Select one*

Course Code	Course Title	Credit / Billing Hours
COMM 260	Nonverbal Communication	3 / 3
COMM 270	Mass Communication	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
ARTS 102	Design & Communication	3 / 4
ARTS 162	Type Communications	3 / 4
CITA 110	Intro to Microsoft Office	3 / 3
CITA 140	Microsoft Outlook	3 / 3
GEOG 200	World Regional Geography	4 / 4
GEOG 202	Geography of North America	3 / 3
HUMS 120	Masterpieces of Art & Music	4 / 4
POLS 120	American Political System	4 / 4

### Total Credit Hours

60 credits / 61-63 billing hours

### Recommended Course Sequence

Semester I	Semester II
MTA English Composition MTA Humanities and Fine Arts MTA Natural Sciences COMM 110 or 120 COMM 130	MTA Mathematics MTA Social Sciences COMM 240 COMM 280 Elective
Semester III	Semester IV
MTA Natural Sciences COMM 200 COMM 260 or 270 Elective	MTA Humanities and Fine Arts Electives – As needed for total credits





## Community Paramedicine C.C.

Curriculum Code: 1819

Effective: Fall 2020 – Summer 2022

### 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.

### 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

### Total Credit Hours

16 credits / 18.5 billing hours

### Recommended Course Sequence

Semester I	Semester II
CPAR 250 CPAR 251 CPAR 252	CPAR 270



## Computed Tomography C.C.

Curriculum Code: 1816

Effective: Fall 2020 – Summer 2021

### 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 Michigan Radiologic and Imaging Science Consortium (MiRIS).

### 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*

### 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 2020)	Semester II (Spring 2021)
CTGT 210 CTGT 215 CTGT 230 CTGT 240	CTGT 220 CTGT 231 CTGT 241



## Computer Automated Design A.A.S.

Curriculum Code: 1801

Effective: Fall 2020 – Summer 2025

### 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.

### 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 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 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

## Total Credit Hours

69 credits / 94.5 billing hours

## Recommended Course Sequence

Semester I	Semester II
Gen Ed – Mathematics or Applied Mathematics	Gen Ed – English Composition
METD 110	METD 111
METD 150	METD 130
METM 100	METD 220
METM 108	METS 115

Semester III	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 221	METD 240
METD 250	METD 265
METM 195	METM 190
METM 220	



## Computer Automated Design C.A.

Curriculum Code: 1800

Effective: Fall 2020 – Summer 2025

### 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.

### 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

### Total Credit Hours

40 credits / 58.5 billing hours

### Recommended Course Sequence

Semester I	Semester II
METD 110	METD 111
METD 150	METD 130
METM 100	METD 220
METM 108	METS 115

Semester III
METM 190
METM 195
METM 220



## Computer Automated Design C.C.

Curriculum Code: 1799

Effective: Fall 2020 – Summer 2025

### 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.

### 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

### Total Credit Hours

22 credits / 31.5 billing hours

### Recommended Course Sequence

Semester I	Semester II
METD 110	METD 111
METD 150	METS 115
METM 100	
METM 108	



## Computer Graphics Animation A.A.A.

Curriculum Code: 0284

Effective: Fall 2020 – Summer 2025

### 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.

### 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 Degree, Recommended Choices

(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

## Total Credit Hours

61 credits / 76 billing hours

## Recommended Course Sequence

Semester I	Semester II
English Composition or Applied English English Composition (second course)/ Communications or Applied Communications	ARTS 103 ARTS 132 ARTS 151 ARTS 173
Mathematics or Applied Mathematics ARTS 102 ARTS 131 ARTS 171	

Semester III	Semester IV
Natural Sciences Lab or Applied Science and Technology Lab DMAC 130	ARTS 164 ARTS 232 ARTS 234

Semester V
ARTS 153 ARTS 226 ARTS 235 HUMS 211 or 212



## Computer Networking and Cybersecurity A.B.

Curriculum Code: 1453

Effective: Fall 2020 – Summer 2025

### 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.

### 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 Degree, Recommended Choices

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

- English Composition – *Select one*  
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*  
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
CITF 240	IT Project Management	3 / 3
CITN 120	Networking Concepts	3 / 3
CITN 220	Introduction to Networks	3 / 3
CITN 225	Switch Route Wireless Essentls	3 / 3
CITN 230	Linux/UNIX Operating System	3 / 3
CITN 240	Ent Networking Sec Automation	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

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

Course Code	Course Title	Credit / Billing Hours
CITD 250	Database Concepts	3 / 3
CITF 120	Operating Systems Concepts	3 / 3
CITN 115	IoT & Automation Fundamentals	5 / 6
CITN 222	Wireless Networking & Security	3 / 3
CITN 244	Securing Networking Devices	3 / 3
CITN 253	Networking with Windows Server	3 / 3
CITN 256	Identity with Windows Server	3 / 3
CITS 230	Computer Virtualization	3 / 3
CITS 285	IT Professional Internship	3 / 3

## Total Credit Hours

66-68 credits /68-71 billing hours

## Recommended Course Sequence

Semester I	Semester II
Gen Ed – Mathematics or Applied Mathematics CITF 110 CITF 140 CITN 120 CITS 125	Gen Ed - English Composition CITN 220 (First 8 weeks) CITN 225 (Second 8 weeks) CITN 250 CITP 110
Semester III	Semester IV
Gen Ed - Natural Sciences Lab or Applied Science and Technology CITF 240 CITN 230 CITN 240 Limited Choice	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 CITN 280 Limited Choice



## Computer Programmer/Analyst A.B.

Curriculum Code: 0113

Effective: Fall 2020 – Summer 2025

### 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 a Certificate of Completion for Computer Programmer/Analyst (0969), Certificate of Achievement for Computer Software Tester (1633), and a Certificate of Achievement for Mobile Application Developer (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.

### 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 Degree, Recommended Choices

(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)/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	2 / 2
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 Choices - 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 Choices - 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
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 Choices - 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

### Total Credit Hours

64-67 credits / 65-69 billing hours

## Recommended Course Sequence

Semester I	Semester II
Gen Ed – Mathematics or Applied Mathematics CITF 110 CITP 110 CITP 130 CITW 150	Gen Ed – English Composition BUSN 118 CITD 120 CITW 160 Limited Choice - Introductory Programming
Semester III	Semester IV
Gen Ed – English Composition (Second Course)/ Communications or Applied Communications CITP 140 CITP 190 Limited Choice - Computer	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



## Computer Programmer/Analyst C.C.

Curriculum Code: 0969

Effective: Fall 2020 – Summer 2025

### Description

This certificate provides a starting point for students interested in pursuing the Computer Programmer/Analyst Associate degree, (0113). It is designed for students who already have basic computer skills.

### 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	2 / 2
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

### Total Credit Hours

19 credits / 19 billing hours

### Recommended Course Sequence

Semester I	Semester II
BUSN 118	CITD 120
CITF 110	CITW 150
CITP 110	Elective



## Computer Science A.S.

Curriculum Code: 0169

Effective: Fall 2020 – Summer 2025

### 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).

### Additional Information

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

PHIL 151 is recommended for 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 required courses.

### Contact Information

Contact the Mathematics and Computer Science Department, Arts and Sciences Building, Room 3203, telephone number 517-483-1073, or the Academic Advising Department, Gannon Building – Star Zone, 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 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 214, World Civilizations from 1600, 4 credits / 4 billing hours  
MUSC 240, Musical Cultures to 1750, 4 credits / 4 billing hours  
MUSC 241, Musical Cultures 1750-Present, 4 credits / 4 billing hours  
PHIL 151, Intro to Logic & Critical Thinking, 4 credits / 4 billing hours  
PHIL 211, Philosophy: Ancient & Medieval, 4 credits / 4 billing hours  
PHIL 212, Philosophy: Modern & Contemporary, 4 credits / 4 billing hours
- Mathematics  
Program of Study Required Courses fulfills this requirement



- 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 151 and 161, General Chemistry I Lecture and Lab, 5 credits / 7 billing hours total  
 GEOL 221, Physical Geology, 4 credits / 6 billing hours  
 PHYS 251, Physics I with Calculus, 5 credits / 7 billing hours
- Social Science – *Select two, each from a different discipline*  
 ECON 120, Power, Authority and Exchange, 4 credits / 4 billing hours  
 GEOG 200, World Regional Geography, 4 credits / 4 billing hours  
 POLS 260, Comparative Political Systems, 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
CPSC 230	Algorithms and Computing w/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 – *Select two*

Course Code	Course Title	Credit / Billing Hours
CPSC 131	Numerical Methods and MATLAB	3 / 4
MATH 254	Intro to Differential Equations	4 / 4
MATH 260	Linear Algebra	4 / 4
STAT 215	Intro to Probability and Stats	4 / 4

### Total Credit Hours

62-66 credits / 67-70 billing hours

### Recommended Course Sequence

Semester I	Semester II
MTA English Composition MTA Humanities and Fine Arts MATH 151 CPSC 230	MTA English Comp (2nd course) or Communications MTA Social Sciences CPSC 231 MATH 152
Semester III	Semester IV
MTA Natural Sciences MTA Social Sciences CPSC 260 MATH 253	MTA Humanities and Fine Arts MTA Natural Sciences Limited Choice Limited Choice



## Computer Security and Controls C.C.

Curriculum Code: 1818

Effective: Fall 2020 – Summer 2025

### 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.

### Additional Information

This certification aligns with and is stackable under the Computer Networking and Cybersecurity A.B. (#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

### Total Credit Hours

25 credits / 25 billing hours

### Recommended Course Sequence

Semester I	Semester II
CITF 110 CITN 120	CITF 120 CITP 110
Semester III	Semester IV
CITD 250 (Fall only) CITN 220	CITF 240 CITN 280



## Computer Software Tester C.A.

Curriculum Code: 1633

Effective: Fall 2020 – Summer 2025

### 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 in Business degree (0113).

### 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

### Total Credit Hours

33 credits / 33 billing hours

## Recommended Course Sequence

Semester I	Semester II
CITF 110	CITF 240
CITP 110	CITF 260
CITP 140	CITP 240
COMM 110	CITW 150
Limited Choice - Writing	Limited Choice - Programming



## Computer Support Specialist A.B.

Curriculum Code: 0713

Effective: Fall 2020 – Summer 2025

### 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).

### 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 Choices

(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)/Communications or Applied Communications –  
Program of Study Required Courses will meet this requirement
- Humanities and Fine Arts and Social Sciences and 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

## Total Credit Hours

64-66 credits / 65-68 billing hours

## Recommended Course Sequence

Semester I	Semester II
Gen Ed – Mathematics or Applied Mathematics CITA 115 CITA 126 CITF 110 CITW 150	Gen Ed – English Composition CITA 119 CITA 133 CITN 120 CITP 110

Semester III	Semester IV
Gen Ed – Humanities and Fine Arts or Social Sciences or Applied Social Sciences CITF 140 CITS 110 CITS 125	Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab BUSN 118 CITS 285 Limited Choice Limited Choice



## Computer Support Technician A.A.S.

Curriculum Code: 0743

Effective: Fall 2020 – Summer 2025

### 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 a Certificate of Achievement for Computer Technician (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.

### 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 Degree, 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 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  
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*  
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
CITN 115	IoT & Automation Fundamentals	5 / 6
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 one*

Course Code	Course Title	Credit / Billing Hours
CITF 240	IT Project Management	3 / 3
CITN 222	Wireless Networking & Security	3 / 3
CITN 230	Linux/UNIX Operating System	3 / 3
CITN 250	Microsoft Network Server	3 / 3

## Total Credit Hours

60-61 credits / 63-65 billing hours

## Recommended Course Sequence

Semester I (Fall)	Semester II (Spring)
CITS 110 CITS 125 CITS 170	Gen Ed – English Composition CITN 115 CITP 110 CITS 176

Semester III (Fall)	Semester IV (Spring)
Gen Ed- Humanities and Fine Arts or Social Sciences or Applied Social Sciences Gen Ed – Mathematics or Applied Mathematics CITS 225 CITS 230	Gen Ed – English Composition (Second Course)/Communications or Applied Communications Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab CITN 280 CITS 285 Limited Choice





## Computer Technician C.A.

Curriculum Code: 0168

Effective: Fall 2020 – Summer 2025

### 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).

### 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

### Total Credit Hours

31 credits / 33 billing hours

### Recommended Course Sequence

Semester I	Semester II
CITS 110	CITN 115
CITS 125	CITP 110
CITS 170	CITS 176
	Limited Choice



## Computer Technology Basics C.C.

Curriculum Code: 0844

Effective: Fall 2020 – Summer 2025

### 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 in Business Degree (0713).

### 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

### Total Credit Hours

22-23 credits / 22-23 billing hours

### Recommended Course Sequence

Semester I	Semester II
CITF 110	CITF 140
CITP 110	CITN 120
CITS 110	CITW 150
Limited Choice	



## **Construction Management A.A.S.**

Curriculum Code: 1634

Effective: Fall 2020 – Summer 2025

### **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.

### **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 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 Degree, 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 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	Industrial/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 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 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 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

**Total Credit Hours**

64-68 credits / 78-87 billing hours

## Recommended Course Sequence

Semester I (Fall)	Semester II (Spring)
Gen Ed – Mathematics or Applied Mathematics ARCH 113 DCTM 100 DCTM 102 Subspecialty Course(s)	Gen Ed – English Composition ACCG 101 DCTM 103 Subspecialty Course

Semester III (Summer)	Semester IV (Fall)
Gen Ed - English Composition (Second Course)/Communications or Applied Communications Gen Ed – Natural Sciences Lab or Applied Sciences and Technology Lab	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



## **Construction Management C.A.**

Curriculum Code: 1635

Effective: Fall 2020 – Summer 2025

### **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 (AET, 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.

### **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 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	Industrial/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 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
HVAC 120 or HVAC 130	Heating I or Air Conditioning I	3 / 4

### Total Credit Hours

36-38 credits / 48-52 billing hours



## Recommended Course Sequence

Semester I (Fall)	Semester II (Spring)
ARCH 113 DCTM 100 DCTM 102 DCTM 200	DCTM 201 DCTM 220 Subspecialty Course(s)

Semester III (Fall)
ACCG 101 MGMT 234 Subspecialty Course(s)



## Control Panel Wiring C.C.

Curriculum Code: 1471

Effective: Fall 2020 – Summer 2025

### 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.

### 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 102	Industrial/Construction Safety	2 / 3
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

### Total Credit Hours

18 credits / 26 billing hours

### Recommended Course Sequence

Semester I	Semester II
ELTE 102	ELTE 131
ELTE 108 (First 8 weeks)	ELTE 132
ELTE 109 (Second 8 weeks)	ELTE 150
ELTE 111	



## Correctional Officer C.C.

Curriculum Code: 0840

Effective: Fall 2020 – Summer 2025

### 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).

### 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

### Total Credit Hours

15 credits / 15 billing hours

### Recommended Course Sequence

Semester I	Semester II
CJUS 131	CJUS 251
CJUS 135	CJUS 255
CJUS 250	



## Creative Writing A.A.

Curriculum Code: 1623

Effective: Fall 2020 – Summer 2025

### 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).

### Additional Information

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

### Contact Information

Contact the Integrated 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 (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 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 140, The Art of Being Human, 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

### Total Credit Hours

60-63 credits / 61-67 billing hours

### Recommended Course Sequence

Semester I	Semester II
MTA English Composition MTA Mathematics MTA Natural Sciences ENGL 261	MTA Humanities and Fine Arts MTA Natural Sciences ENGL 271 Limited Choice
Semester III	Semester IV
MTA Social Sciences ENGL 200 ENGL 278 Electives as needed for total credits	MTA Social Sciences ENGL 279 Electives as needed for total credits



## **Criminal Justice A.A.**

Curriculum Code: 0146

Effective: Fall 2020 – Summer 2025

### **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).

### **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 (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
- 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 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
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	Fund of Public Speaking	3 / 3
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

### Total Credit Hours

62 credits / 64 billing hours

### Recommended Course Sequence

Semester I	Semester II
MTA English Composition CJUS 101 CJUS 102 CJUS 103	MTA English Comp (2nd course) or Communication MTA Humanities and Fine Arts MTA Mathematics CJUS 106 CJUS 201

Semester III	Semester IV
MTA Humanities and Fine Arts MTA Natural Sciences MTA Social Sciences CJUS 104 or 255	MTA Natural Sciences MTA Social Sciences CJUS 131 COMM 130 SOCL 260



## Criminal Justice - Corrections A.A.S.

Curriculum Code: 1209

Effective: Fall 2020 – Summer 2025

### 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.

### 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 Degree, Recommended Choices

(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)/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



Course Code	Course Title	Credit / Billing Hours
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

**Total Credit Hours**

61-62 credits / 63–64 billing hours

**Recommended Course Sequence**

Semester I	Semester II
Gen Ed – English Composition	Gen Ed – Mathematics or Applied Mathematics
CJUS 101	CJUS 106
CJUS 131	CJUS 251
CJUS 135	CJUS 255

Semester III	Semester IV
CITF 110	Gen Ed – English Composition (Second Course)/
CJUS 134	Communications or Applied Communications
CJUS 250	Gen Ed – Natural Sciences Lab or Applied Science
LEGL 160	and Technology Lab
Limited Choice	PSYC 200
Limited Choice	Limited Choice
	Limited Choice



## **Criminal Justice - Digital Evidence Specialist A.A.S.**

Curriculum Code: 1803

Effective: Fall 2020 – Summer 2025

### **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.

### **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 Degree, Recommended Choices**

(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)/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

### Total Credit Hours

61 credits / 63 billing hours

### Recommended Course Sequence

Semester I	Semester II
Gen Ed – English Composition Gen Ed – English Composition (Second Course)/Communications or Applied Communications CITF 110 CJUS 101 CJUS 102	Gen Ed – Mathematics or Applied Mathematics CITN 120 CJUS 103 CJUS 207 MGMT 234

Semester III	Semester IV
CITS 125 CJUS 104 CJUS 203 CJUS 245	Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab CITS 225 CJUS 204 CJUS 210



## Criminal Justice - Digital Evidence Specialist C.C.

Curriculum Code: 1802

Effective: Fall 2020 – Summer 2025

### 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.

### 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

### Total Credit Hours

21 credits / 21 billing hours

### Recommended Course Sequence

Semester I	Semester II
CITF 110	CITN 120 CJUS 207

Semester III	Semester IV
CITS 125	CITS 225 CJUS 210



## Criminal Justice - Juvenile Specialization A.A.S.

Curriculum Code: 1475

Effective: Fall 2020 – Summer 2025

### 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.

### 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 Degree, Recommended Choices

(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)/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*  
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  
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

Course Code	Course Title	Credit / Billing Hours
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

**Total Credit Hours**

65 credits / 67 billing hours

**Recommended Course Sequence**

Semester I	Semester II
Gen Ed – English Composition Gen Ed – Mathematics or Applied Mathematics CJUS 106 CJUS 126 PSYC 200	Gen Ed – English Comp (Second Course)/ Communications or Applied Communications Gen Ed – Humanities and Fine Arts or Social Sciences or Applied Social Sciences Gen Ed – Natural Sciences or Applied Science and Technology Lab CJUS 101 CJUS 133

Semester III	Semester IV
CJUS 103 CJUS 255 CJUS 286 SOWK 101 Limited Choice	CJUS 245 CJUS 247 CJUS 287 Limited Choice Limited Choice



## **Criminal Justice - Law Enforcement A.A.S.**

Curriculum Code: 1210

Effective: Fall 2020 – Summer 2025

### **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.

### **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 Degree, Recommended Choices**

(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)/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

## Total Credit Hours

61 credits / 63 billing hours

## Recommended Course Sequence

Semester I	Semester II
Gen Ed – English Composition Gen Ed – English Composition (Second Course)/Communications or Applied Communications CITF 110 CJUS 101 CJUS 102	Gen Ed – Mathematics or Applied Mathematics CJUS 103 CJUS 106 CJUS 205

Semester III	Semester IV
Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab CJUS 104 CJUS 203 CJUS 210 CJUS 245	CJUS 131 CJUS 201 CJUS 204 CJUS 207





## Customer Energy Specialist A.A.S.

Curriculum Code: 1022

Effective: Fall 2020 – Summer 2025

### 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.

### Additional Information

Students who have already completed DCTM 102, HVAC 102, METS 102 or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for ELTE 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 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 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 102	Industrial/Construction Safety	2 / 3
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

## 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

## Total Credit Hours

60-62 credits / 68-71 billing hours

## Recommended Course Sequence

Semester I	Semester II
Gen Ed – English Composition BUSN 118 CITA 110 ELTE 102 Limited Choice	Gen Ed – Mathematics or Applied Mathematics ACCG 101 ELTE 108 (First 8 weeks) ELTE 109 (Second 8 weeks) ENGL 121

Semester III	Semester IV
Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab DCTM 101 LEGL 215 MGMT 150 MKTG 200	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



## Customer Energy Specialist C.A.

Curriculum Code: 0893

Effective: Fall 2020 – Summer 2025

### 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.

### Additional Information

Students who have already completed DCTM 102, HVAC 102, METS 102 or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for ELTE 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 102	Industrial/Construction Safety	2 / 3
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

### 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

### Total Credit Hours

34 credits / 39 billing hours

## Recommended Course Sequence

Semester I	Semester II
BUSN 118 ELTE 102 ELTE 108 (First 8 weeks) ELTE 109 (Second 8 weeks)	ACCG 101 CITA 110 ENGL 124 MGMT 150

Semester III
DCTM 101 LEGL 215 MKTG 200 Limited Choice



## **Dental Hygiene A.A.S.**

Curriculum Code: 0279

Effective: Fall 2020 – Summer 2022

### **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.

### **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 she or he has 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 2020/2021 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, Recommended Choices

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

- English Composition  
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** – *Select one. Minimum 2.5 grade required. This selection also satisfies the Natural Sciences Lab or Applied Science and Technology Lab General Education 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** – *Select one. Minimum 2.0 grade required. ENGL 121 or 122 recommended for transferability. This selection also satisfies the English Composition General Education 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 higher MATH course) also satisfies the Mathematics or Applied Mathematics General Education requirement. SOCL 120 also satisfies the Humanities and Fine Arts or Social Sciences or Applied Social Sciences General Education 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** – *Select one. Minimum 2.0 grade required. This selection also satisfies the English Composition (second course)/Communications or Applied Communications General Education requirement.*

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

### Total Credit Hours for Admission

30-39 credits / 32-44 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

## Total Credit Hours

79-90 credits / 121.5-135.5 billing hours

## Recommended Course Sequence

Semester I	Semester II
BIOL 145 or (BIOL 201 and 202) COMM 120 or 130 ENGL 121, 122, 131, or 132	BIOL 203 CHEM 120 MATH 119 (or higher) PSYC 200 SOCL 120

Semester III	Semester IV (Fall)
BIOL 204 (Recommended) STAT 170 or 215 (Recommended)	DENT 140 DENT 142 DENT 144 DENT 146 DENT 148

Semester V (Spring)	Semester VI (Summer)
DENT 152 DENT 154 DENT 156 DENT 158 DENT 161	DENT 174 DENT 176

Semester VII (Fall)	Semester VIII (Spring)
DENT 240 DENT 242 DENT 244 DENT 247 DENT 248	DENT 252 DENT 254 DENT 256 DENT 270 (Recommended)





## Digital Media: Audio C.C.

Curriculum Code: 1457

Effective: Fall 2020 – Summer 2025

### 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.

### 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

### Total Credit Hours

16 credits / 16 billing hours

### Recommended Course Sequence

Semester I	Semester II
DMAC 120	DMAC 121

Semester III	Semester IV
DMAC 122	DMAC 222



## Digital Media: Audio Recording/Production C.A.

Curriculum Code: 1448

Effective: Fall 2020 – Summer 2025

### Description

Audio 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.

### 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

### Total Credit Hours

31 credits / 31 billing hours

### Recommended Course Sequence

Semester I	Semester II
DMAC 120	DMAC 121
DMAC 130	DMAC 132
DMAC 140	

Semester III	Semester IV
DMAC 122	DMAC 222
DMAC 240	DMAC 245



## Digital Media: Cinematography C.C.

Curriculum Code: 1450

Effective: Fall 2020 – Summer 2025

### 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.

### 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

### Total Credit Hours

25 credits / 25 billing hours

### Recommended Course Sequence

Semester I	Semester II
DMAC 120	DMAC 131
DMAC 130	DMAC 234
DMAC 140	

Semester III	Semester IV
DMAC 231	DMAC 246



## Digital Media Specialist A.A.S.

Curriculum Code: 1458

Effective: Fall 2020 – Summer 2025

### Description

This degree is an integrated curriculum that prepares individuals for a career in the digital media, audio and cinematography fields. Students learn to apply technical knowledge and skills to production, post-production, and distribution in the audio, film, and video industries. The curriculum prepares individuals to function as staff, producers, video/sound editors, and directors of audio and video programs in organizations. 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 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 Choices

(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)/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 244	Media/Cinema Producer	3 / 3

Course Code	Course Title	Credit / Billing Hours
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 two*

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

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

Course Code	Course Title	Credit / Billing Hours
DMAC 222	Audio Recording II	4 / 4
DMAC 232	Video Post-Production II	4 / 4

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

Course Code	Course Title	Credit / Billing Hours
DMAC 231	Digital Cinematography II	4 / 4
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

### Total Credit Hours

62-64 credits / 64-67 billing hours

### Recommended Course Sequence

Semester I	Semester II
Gen Ed - English Composition Gen Ed - English (second course) / Communications or Applied Communications DMAC 120 DMAC 130 DMAC 140	Gen Ed - Mathematics or Applied Mathematics DMAC 141 DMAC 240 Limited Choice Limited Choice Limited Choice
Semester III	Semester IV
Gen Ed - Natural Sciences Lab or Applied Science and Technology Lab DMAC 222 or 232 Limited Choice	DMAC 234 DMAC 244 DMAC 260 DMAC 295 DMAC 296



## Digital Media: Transfer A.A.S.

Curriculum Code: 1452

Effective: Fall 2020 – Summer 2025

### 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.

### 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 (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 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 two, each from a different discipline*  
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  
PHIL 153, Knowledge and Reality, 4 credits / 4 billing hours
- Mathematics – *Select one*  
MATH 121, Precalculus I, 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  
 PFWH 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 240	Employment Issues in Media	2 / 2

### 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

### Total Credit Hours

62-64 credits / 63-68 billing hours

### Recommended Course Sequence

Semester I	Semester II
MTA English Composition MTA Social Sciences DMAC 120 DMAC 130	MTA English Composition (second course) or Communications MTA Humanities and Fine Arts MTA Mathematics DMAC 140

Semester III	Semester IV
MTA Natural Sciences DMAC 141 DMAC 240	MTA Humanities and Fine Arts MTA Natural Sciences MTA Social Sciences Limited Choice

Semester V
Limited Choice Limited Choice





## Digital Media: Video/Cinema C.A.

Curriculum Code: 1454

Effective: Fall 2020 – Summer 2025

### 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.

### 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

### Total Credit Hours

31 credits / 31 billing hours

### Recommended Course Sequence

Semester I	Semester II
DMAC 120	DMAC 131
DMAC 130	DMAC 132
DMAC 140	DMAC 234

Semester III
DMAC 240
DMAC 246
Limited Choice



## **E-Business A.B.**

Curriculum Code: 0839

Effective: Fall 2020 – Summer 2025

### **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.

### **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 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*  
ARTS 102, Design & Communication, 3 credits / 4 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 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
BUSN 261	Writing a Business Plan	2 / 2
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	2 / 2
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

### Total Credit Hours

63-65 credits / 65-70 billing hours

## Recommended Course Sequence

Semester I	Semester II
Gen Ed – English Composition BUSN 118 CITP 110 CITW 150 CITW 160	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	Semester IV
Gen Ed – English Composition (Second Course)/Communications or Applied Communications CITW 185 MKTG 119 Limited Choice Limited Choice	Gen Ed - Humanities and Fine Arts or Social Sciences or Applied Social Sciences Limited Choice Limited Choice Limited Choice



## E-Business C.A.

Curriculum Code: 0845

Effective: Fall 2020 – Summer 2025

### 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 in Business Degree (0839).

### 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
BUSN 261	Writing a Business Plan	2 / 2
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

**Total Credit Hours**

32-36 credits / 33-36 billing hours

**Recommended Course Sequence**

Semester I	Semester II
BUSN 118	CITW 175
CITW 150	MKTG 120
CITW 160	MKTG 210
MKTG 200	Limited Choice
Limited Choice	Limited Choice
Limited Choice	



## Economics A.A.

Curriculum Code: 0230

Effective: Fall 2020 – Summer 2025

### 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).

### 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 517-483-1522, or 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 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 140, Art of Being Human, 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  
PHIL 153, Knowledge and Reality, 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 121	Precalculus I	4 / 4
STAT 215	Intro to Probability and Stats	4 / 4

### Program of Study Required Courses – *Select one*

Course Code	Course Title	Credit / Billing Hours
MATH 122	Precalculus II	4 / 4
MATH 141	Calculus with Applications	4 / 4

### Program of Study Required Courses – *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

### Total Credit Hours

64-65 credits / 64-69 billing hours

### Recommended Course Sequence

Semester I	Semester II
MTA English Composition MTA Social Sciences ACCG 210 ECON 120	MTA English Comp (2nd course) or Communications MTA Humanities and Fine Arts MTA Natural Sciences MATH 121
Semester III	Semester IV
MTA Humanities and Fine Arts MTA Natural Sciences ECON 201 ECON 213 MATH 122 or 141	ECON 202 ECON 260 INSU 105 or POLS 201, 205 or 240 STAT 215





## Education A.A.

Curriculum Code: 1624

Effective: Fall 2020 – Summer 2025

### 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).

### 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 517-483-1018, or 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
- 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  
MATH 121, Precalculus I, 4 credits / 4 billing hours

- Natural Sciences – *Select one from a discipline other than ISCI; BIOL 125 is recommended for 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*  
 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
HIST 211	U.S. History to 1877	4 / 4
ISCI 121	Integrated Sci for Education I	4 / 6

### Program of Study Required Courses – *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

### 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 202	Principles of Economics-Macro	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

### Total Credit Hours

60 credits / 62-64 billing hours

## Recommended Course Sequence

Semester I	Semester II
MTA English Composition MTA Mathematics EDUC 220 ISCI 121	MTA English Comp (2nd course) or Communication MTA Natural Sciences MTA Social Science EDUC 226, 228, 230 or 280
Semester III	Semester IV
EDUC 204 HIST 211 Electives as needed for total credits	MTA Humanities and Fine Arts EDUC 226, 228, 230 or 280 Electives as needed for total credits



## EKG Technician C.C.

Curriculum Code: 1442

Effective: Fall 2020 – Summer 2021

### 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

### Total Credit Hours

7.5 credits / 8 billing hours

### Recommended Course Sequence

Semester I	Semester II
CHSE 120	CHSE 136



## Electrical Apprenticeship C.A.

Curriculum Code: 1570

Effective: Fall 2020 – Summer 2025

### 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.

### 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, HVAC 102, METS 102 or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for ELTE 102. Any of these classes may also be used to fulfill the prerequisite for ELTE 108 and ELTE 109.

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 102	Industrial/Construction Safety	2 / 3
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

**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

**Total Credit Hours**

30.5-32.5 credits / 40.5-43.5 billing hours

**Recommended Course Sequence**

Semester I (Fall)	Semester II (Spring)
ELTE 102 ELTE 108 (First 8 weeks) ELTE 109 (Second 8 weeks)	ELTA 105 ELTE 141

Semester III (Fall)	Semester IV (Spring)
ELTA 106 ELTE 150	ELTA 120 (First 8 weeks) ELTA 155 (Second 8 weeks)

Semester V (Fall)	Semester VI (Spring)
ELTE 145	ELTE 131

Semester VII (Fall)	Semester VIII (Spring)
ELTA 160 ELTA 180	Limited Choice



## Electrical Machine Controls C.C.

Curriculum Code: 0966

Effective: Fall 2020 – Summer 2025

### 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.

### Additional Information

Students who have already completed DCTM 102, HVAC 102, METS 102 or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for ELTE 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 102	Industrial/Construction Safety	2 / 3
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

### Total Credit Hours

27 credits / 39.5 billing hours

### Recommended Course Sequence

Semester I	Semester II
ELTE 102	ELTE 109 (Second 8 weeks)
ELTE 108 (First 8 weeks)	ELTE 130 (First 8 weeks)
ELTE 111	ELTE 132
ELTE 129 (Second 8 weeks)	ELTE 232
METS 160	ELTE 260



## Electrical Technology A.A.S.

Curriculum Code: 0134

Effective: Fall 2020 – Summer 2025

### 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.

### 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, HVAC 102, METS 102 or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for ELTE 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.

### 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 Degree, 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 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 102	Industrial/Construction Safety	2 / 3
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
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

### Total Credit Hours

67.5-70.5 credits / 85.5-89.5 billing hours

## Recommended Course Sequence

Semester I	Semester II
Gen Ed – English Composition	DCTM 101
CITN 115	ELTA 105
ELTE 102	ELTE 112
ELTE 108 (First 8 weeks)	ELTE 121
ELTE 109 (Second 8 weeks)	ELTE 131
ELTE 111	ELTE 141

Semester III	Semester IV
BLDT 120	Gen Ed – English Composition (Second Course)/ Communications or Applied Communications
ELTA 160	Gen Ed - Humanities and Fine Arts or Social Sciences or Applied Social Sciences
ELTA 180	Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab
ELTE 123	ELTE 142
ELTE 145	ELTE 150

## Automation and Control Subspecialty Pathway

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
ELTE 102	Industrial/Construction Safety	2 / 3
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

### 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

## Total Credit Hours

70-74 credits / 95.5-98.5 billing hours

## Recommended Course Sequence

Semester I	Semester II
Gen Ed – English Composition ELTE 102 ELTE 108 (First 8 weeks) ELTE 111 ELTE 129 (Second 8 weeks) METS 160	ELTE 109 (Second 8 weeks) ELTE 121 ELTE 130 (First 8 weeks) ELTE 132 ELTE 232 ELTE 260
Semester III	Semester IV
Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab ELTE 123 ELTE 261 METS 115	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 102	Industrial/Construction Safety	2 / 3
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

## Total Credit Hours

72-75 credits / 92-96 billing hours

## Recommended Course Sequence

Semester I	Semester II
Gen Ed – English Composition ELTE 102 ELTE 108 (First 8 weeks) ELTE 109 (Second 8 weeks) ELTE 111 ELTE 173 (First 8 weeks) ELTE 174 (Second 8 weeks)	Gen Ed – English Composition (Second Course)/ Communications or Applied Communications ELTE 121 ELTE 131 ELTE 132 ELTE 150 ELTE 154

Semester III	Semester IV
Gen Ed – Humanities and Fine Arts or Social Sciences or Applied Social Sciences ELTE 123 ELTE 136 ELTE 251 ELTE 260	Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab ELTE 252 ELTE 255 ELTE 261



## Electrical Technology - Construction C.A.

Curriculum Code: 0759

Effective: Fall 2020 – Summer 2025

### 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.

### Additional Information

Students who have already completed DCTM 102, HVAC 102, METS 102 or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for ELTE 102. Any of these courses may also be used to fulfill the prerequisite for BLDT 120, ELTE 108, ELTE 109, and ELTE 121.

### 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 102	Industrial/Construction Safety	2 / 3
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

### 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

### Total Credit Hours

40.5-41.5 credits / 50.5-52.5 billing hours

## Recommended Course Sequence

Semester I (Fall)	Semester II (Spring)
CITN 115	ELTA 105
ELTE 102	ELTE 112
ELTE 108 (First 8 weeks)	ELTE 121
ELTE 109 (Second 8 weeks)	ELTE 131
Limited Choice	ELTE 141

Semester III (Fall)	Semester IV (Spring)
ELTA 180	ELTE 142
ELTE 145	ELTE 150



## Electrical Technology - Control Maintenance C.A.

Curriculum Code: 0760

Effective: Fall 2020 – Summer 2025

### 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.

### Additional Information

Students who have already completed DCTM 102, HVAC 102, METS 102 or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for ELTE 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 102	Industrial/Construction Safety	2 / 3
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

### Total Credit Hours

40 credits / 57.5 billing hours

## Recommended Course Sequence

Semester I (Fall)	Semester II (Spring)
ELTE 102 ELTE 108 (First 8 weeks) ELTE 109 (Second 8 weeks) ELTE 111	ELTE 131 ELTE 132 METS 160
Semester III (Fall)	Semester IV (Spring)
ELTE 150 ELTE 232 ELTE 260	ELTE 122 ELTE 261





## Electrical Utility/Lineworker A.A.S.

Curriculum Code: 1783

Effective: Fall 2020 – Summer 2025

### 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.

### 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 both sections of 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 Degree, 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 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  
COMM 240, Interpersonal Communication, 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 102	Industrial/Construction Safety	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

### 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

**Total Credit Hours**

62-66 credits / 81-90 billing hours

**Recommended Course Sequence**

Semester I (Summer)	Semester II (Fall)
Gen Ed – English Composition ELTE 181 Limited Choice, Fitness/Climbing (if needed)	ELTA 106 ELTE 102 ELTE 104 ELTE 108 (first 8 weeks) ELTE 109 (second 8 weeks) ELTE 173 (first 8 weeks) ELTE 174 (second 8 weeks) ELTE 182 Limited Choice, Rigging Limited Choice, Fitness/Climbing

Semester III (Spring)	Semester IV (Summer)
Gen Ed – Mathematics or Applied Mathematics ELTA 120 (first 8 weeks) ELTA 155 (second 8 weeks) ELTE 154 PFFT 183 Limited Choice, Fitness/Climbing	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



## Electrical Utility/Lineworker C.A.

Curriculum Code: 1468

Effective: Fall 2020 – Summer 2025

### 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.

### 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 both sections of 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.

Students who plan to pursue the Electrical Technology, Associate in Applied Science Degree (0134) or the Electrical/Lineworker, Associate in Applied Science Degree (1783) should substitute ELTE 121 for ELTA 106 and ELTA 120; and ELTE 123 for ELTA 155. ELTE 121 will also fulfill the General Education Applied Mathematics requirement for the degree.

### 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
ELTA 120	AC Fundamentals - Electrician	2 / 3
ELTA 155	Transformer Fundamentals	2 / 3
ELTE 102	Industrial/Construction Safety	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

Course Code	Course Title	Credit / Billing Hours
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

**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 .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

**Total Credit Hours**

41.5-43 credits / 59-62.5 billing hours

**Recommended Course Sequence**

Semester I (Summer)	Semester II (Fall)
ELTE 181 Limited Choice, Fitness/Climbing if needed	ELTA 106 (Second 8 weeks) ELTE 102 ELTE 104 (First 8 weeks) ELTE 108 (First 8 weeks) ELTE 109 (Second 8 weeks) ELTE 182 Limited Choice – Rigging Limited Choice – Fitness/Climbing
Semester III (Spring)	Semester IV (Summer)
ELTA 120 (First 8 weeks) ELTA 155 (Second 8 weeks) ELTE 154 ELTE 173 (First 8 weeks) ELTE 174 (Second 8 weeks) PFFT 183 Limited Choice – Fitness/Climbing	ELTE 272 ELTE 274 ELTE 276



## Electrical Wiring C.C.

Curriculum Code: 0964

Effective: Fall 2020 – Summer 2025

### 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.

### Additional Information

Students who have already completed DCTM 102, HVAC 102, METS 102 or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for ELTE 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 102	Industrial/Construction Safety	2 / 3
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

### Total Credit Hours

18.5 credits / 23.5 billing hours

### Recommended Course Sequence

Semester I	Semester II
CITN 115	ELTA 105
ELTA 180	ELTE 112
ELTE 102	ELTE 141
ELTE 108 (First 8 weeks)	
ELTE 109 (Second 8 weeks)	



## **Emergency Medical Services A.A.S.**

Curriculum Code: 0276

Effective: Fall 2020 – Summer 2025

### **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.

### **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.

This associate degree includes the Paramedic Certificate of Achievement selective admission program. Refer to the Paramedic C.A. Pathway, Curriculum Code 0272. The Paramedic admission and/or graduation requirements change each academic year. The program requirements below apply only to those students who have been admitted to the program for the 2020/2021 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 517-483-1810, or the Academic Advising Department, Gannon Building – StarZone, telephone number 517-483-1904.

To graduate from this program, students must complete each required EMTA and PARA course with a minimum grade of 3.0 and each required BIOL course with a minimum grade of 2.5. A minimum grade of 2.0 is required in all other courses.

Students in this program choose either Daytime EMT Academy or Evening EMT Academy 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 Choices

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

- English Composition – *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 Program of Study Required Courses 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  
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 120, College Algebra, 4 credits / 4 billing hours  
MATH 121, Precalculus I, 4 credits / 4 billing hours  
MATH 122, Precalculus II, 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** – *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
COMM 110	Communication in the Workplace	3 / 3
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



Course Code	Course Title	Credit / Billing Hours
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

### Total Credit Hours

68-74 credits / 87-94 billing hours

### Recommended Course Sequence for Daytime EMT Academy

Semester I	Semester II
Gen Ed – English Composition Gen Ed – Mathematics or Applied Mathematics BIOL 145 or (BIOL 201 and 202)	Gen Ed - Humanities and Fine Arts or Social Sciences or Applied Social Sciences COMM 110 PFHW 163

Semester III (Spring)	Semester IV (Fall)
EMTA 101 EMTA 102 EMTA 103 EMTA 104 EMTA 112	PARA 221 PARA 231 PARA 241 PARA 251 PARA 261

Semester V (Spring)	Semester VI (Summer)
PARA 222 PARA 232 PARA 242 PARA 252 PARA 262	PARA 263

### Recommended Course Sequence for Evening EMT Academy

Semester I	Semester II
Gen Ed – English Composition BIOL 145 or (BIOL 201 and 202)	Humanities and Fine Arts or Social Sciences or Applied Social Sciences COMM 110

Semester III (Fall)	Semester IV (Spring)
Gen Ed – Mathematics or Applied Mathematics EMTA 101 EMTA 102 PFHW 163	EMTA 103 EMTA 104 EMTA 112

Semester V (Fall)	Semester VI (Spring)
PARA 221	PARA 222
PARA 231	PARA 232
PARA 241	PARA 242
PARA 251	PARA 252
PARA 261	PARA 262

Semester VII (Summer)
PARA 263



## EMS Instructor-Coordinator C.C.

Curriculum Code: 1638

Effective: Fall 2020 – Summer 2021

### Description

The EMS Instructor-Coordinator 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.

### Additional Information

Students must complete all courses with a minimum grade of 3.0 to receive this certificate.

### Contact Information

Contact the Basic Emergency Medical Technician 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

### Total Credit Hours

11 credits / 11 billing hours

### Required Course Sequence

Semester I (Fall)	Semester II (Spring)
EMTA 222	EMTA 224



## Energy Auditor C.C.

Curriculum Code: 1813

Effective: Fall 2020 - Summer 2025

### 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.

### 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
AEET 120	Residential Energy	3 / 4
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 102	Industrial/Construction Safety	2 / 3
HVAC 110	Applied Electricity I	3 / 4
HVAC 130	Air Conditioning I	3 / 4

### Total Credit Hours

28 credits / 35 billing hours

### Recommended Course Sequence

Semester I	Semester II
DCTM 100	AEET 120
DCTM 101	CITN 115
HVAC 100	DCTM 103
HVAC 102	HVAC 130
HVAC 110	



## Energy Industry Fundamentals C.C.

Curriculum Code: 1777

Effective: Fall 2020 – Summer 2025

### 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.

### Additional Information

Students who have already completed DCTM 102, HVAC 102, METS 102 or WELD 102 with a grade of 2.5 or higher may substitute one of these courses for ELTE 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 Math Core

### 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 102	Industrial/Construction Safety	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 Fundamental II	2 / 2

### Program of Study Required Courses – *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 – 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

**Total Credit Hours**

23-28 credits / 29-35 billing hours

**Recommended Course Sequence**

Semester I	Semester II (Spring)
ELTA 106 (Second 8 weeks) – if selected	ELTA 120 (First 8 weeks) or ELTE 121
ELTE 102	ELTA 155 (Second 8 weeks)
ELTE 104 (First 8 weeks)	ELTE 154
ELTE 108 (First 8 weeks)	ELTE 173 (First 8 weeks)
ELTE 109 (Second 8 weeks)	ELTE 174 (Second 8 weeks)
	Limited Choice

Semester III (Fall)
ELTE 123 – if selected



## Energy Management Specialist A.A.S.

Curriculum Code: 1606

Effective: Fall 2020 – Summer 2025

### 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.

### Additional Information

Students who have already completed ELTE 102, HVAC 102, METS 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 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 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
AEET 120	Residential Energy	3 / 4
AEET 216	Solar Energy Technologies	3 / 4
AEET 256	Building Commissioning	3 / 4
DCTM 100	Intro to the Built Environment	3 / 4
DCTM 101	Drafting/Intro to CAD	3 / 4
DCTM 102	Industrial/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 230	Air Conditioning II	3 / 4
HVAC 231	Heat Pump	3 / 4
HVAC 251	Fund of Direct Digital Control	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

## Total Credit Hours

65 credits / 79-82 billing hours

## Recommended Course Sequence

Semester I	Semester II
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 HVAC 110	Gen Ed – English Composition AEET 120 HVAC 111 HVAC 120 HVAC 130
Semester III	Semester IV
Gen Ed – English Composition (Second Course)/Communications or Applied Communications AEET 216 DCTM 101 DCTM 103 HVAC 230	Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab AEET 256 HVAC 231 HVAC 251 Limited Choice





## Engineering/Physics A.S.

Curriculum Code: 1619

Effective: Fall 2020 – Summer 2025

### 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).

### 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 – Star Zone, 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 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
- Mathematics  
Program of Study Required Courses will meet this requirement
- Natural Sciences – *Select one from a discipline other than PHYS*  
CHEM 151, General Chemistry Lecture I, 4 credits / 4 billing hours
- Social Sciences – *Select two, each from a different discipline*  
ANTH 275, Physical Anthro & Archaeology, 4 credits / 4 billing hours  
CHDV 101, Child Growth/Develop: 0-12 Yrs, 4 credits / 4 billing hours  
ECON 260, Comparative Economic Systems, 3 credits / 3 billing hours  
EDUC 204, Educational Psychology, 3 credits / 3 billing hours  
GEOG 200, World Regional Geography, 4 credits / 4 billing hours  
POLS 240, Introduction to Public Policy, 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
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
PHYS 251	Physics I with Calculus	5 / 7
PHYS 252	Physics II with Calculus	5 / 7

**Elective Courses, Recommended Choices** – *Select courses to reach the minimum 60 total credits required for this degree. PHYS 260 is highly recommended. (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
CHEM 161	General Chemistry Lab I	1 / 3
CPSC 131	Numerical Methods and MATLAB	3 / 4
CPSC 230	Algorithms and Computing w/ C++	4 / 4
MATH 260	Linear Algebra	4 / 4
PHYS 260	Statics for Engineers	3 / 3
STAT 215	Intro to Probability and Stats	4 / 4

## Total Credit Hours

60 credits / 64-66 billing hours

## Recommended Course Sequence

Semester I	Semester II
MTA English Composition MTA Humanities and Fine Arts MTA Social Sciences MATH 151	MTA English Comp (2nd course) or Communications MTA Humanities and Fine Arts MTA Natural Sciences MATH 152

Semester III	Semester IV
MTA Social Sciences MATH 253 PHYS 251 Electives as needed for total credits	MATH 254 PHYS 252 Electives as needed for total credits



## Entrepreneurial Studies C.C.

Curriculum Code: 1805

Effective: Fall 2020 – Summer 2025

### Description

This program consists of practical hands-on courses that provide students with the basic business knowledge and skills necessary to consider when starting a small business.

### Contact Information

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

Course Code	Course Title	Credit / Billing Hours
ACCG 161	Accounting with Quickbooks	2 / 2
BUSN 157	Business Feasibility Analysis	2 / 2
BUSN 260	Starting a Business	4 / 4
BUSN 261	Writing a Business Plan	2 / 2
MKTG 200	Principles of Marketing	3 / 3

### Program of Study Required Courses, Limited Choice – *Select a minimum of one course, three credits*

Course Code	Course Title	Credit / Billing Hours
ACCG 101	Accounting Info for Management	3 / 3
ACCG 160	Payroll Systems and Taxes	2 / 2
MGMT 201	Time Management for Business	1 / 1
MGMT 225	Prin of Management & Leadership	3 / 3
MKTG 119	Mktg/Manage Your Profess Image	3 / 3

### Total Credit Hours

16 credits / 16 billing hours

### Recommended Course Sequence

Semester I	Semester II
ACCG 161	BUSN 261
BUSN 157	MKTG 200
BUSN 260	Limited Choice



## Environmental Technology A.A.S.

Curriculum Code: 0793

Effective: Fall 2020 – Summer 2025

### 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.

### 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 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)/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
GEOL 230	Environmental Geology	4 / 6
ISCI 245	S.T.E.M. Workplace Practices	4 / 6
MATH 121	Precalculus I	4 / 4
STAT 215	Intro to Probability and Stats	4 / 4

### Program of Study Required Courses, Limited Choice – *Select three or four courses.*

*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
GEOL 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
POLS 120	American Political System	4 / 4
SCIN 287	Science Technology Internship	2-4 / 2-4

### 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

### Total Credit Hours

61-65 credits / 75-90 billing hours

## Recommended Course Sequence

Semester I	Semester II
English Composition English Composition (second course)/ Communications or Applied Communications BIOL 127 CHEM 151 CHEM 161	CHEM 152 CHEM 162 ISCI 245 MATH 121

Semester III	Semester IV
Humanities and Fine Arts or Social Sciences or Applied Social Sciences BIOL 210 GEOL 230 STAT 215 Limited Choice	ENVR 131 Limited Choice Limited Choice Limited Choice Biology



## Field Sales and Marketing A.B.

Curriculum Code: 0190

Effective: Fall 2020 – Summer 2025

Revised: 4/24/20

### Description

Sales/marketing specialists, or sales representatives, sell products to wholesalers, retailers, or consumers, usually on a commission basis. They call on customers, demonstrate products, point out salable features, answer questions, and forward orders. Some sales representatives sell services, rather than products. 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. 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 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.

### General Education – Applied Degrees, 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)/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  
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  
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

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
BUSN 118	Introduction to Business	3 / 3
LEGL 215	Business Law-Basic Principles	3 / 3
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 140	Introduction to Advertising	3 / 3
MKTG 200	Principles of Marketing	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 235	Marketing Internship	3 / 3

### Program of Study Required Courses, Limited Choice – *Select two course, a minimum of six credits*

Course Code	Course Title	Credit / Billing Hours
BUSN 201	International Business	3 / 3
CITA 110	Intro to Microsoft Office	3 / 3
ECON 201	Principles of Economics-Micro	4 / 4
ECON 202	Principles of Economics-Macro	4 / 4
MGMT 225	Principles of Mgmt/Leadership	3 / 3
MGMT 228	Organization Behavior	3 / 3
MKTG 229	Public Relations	3 / 3

### Total Credit Hours

63-66 credits / 65-68 billing hours

### Recommended Course Sequence

Semester I	Semester II
Gen Ed - English Composition Gen Ed - English Composition (second course)/ Communications or Applied Communications BUSN 118 MKTG 200	Gen Ed - Mathematics MGMT 150 MKTG 119 MKTG 140 Limited Choice

Semester III	Semester IV
Gen Ed - Natural Sciences Lab or Applied Science and Technology Lab LEGL 215 MKTG 120 MKTG 204 MKTG 210 MKTG 221	Gen Ed - Humanities and Fine Arts or Social Sciences or Applied Social Sciences MGMT 200 MKTG 202 MKTG 235 Limited Choice





## Financial Institutions A.B.

Curriculum Code: 0103

Effective: Fall 2020 – Summer 2025

### Description

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. 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 planning to transfer should see an academic advisor before enrolling in any courses.

### Contact Information

Contact the Business and Economics Department, Gannon Building, Room 1222, telephone number 517-483-1522 or the Academic Advising Department, Gannon Building – Star Zone, telephone number 517-483-1904.

### General Education – Applied Degrees, 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 127, Business Writing, 3 credits / 3 billing hours  
ENGL 131, Honors Composition I, 4 credits / 4 billing hours
- English (second course) or 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*  
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*  
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  
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
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
MGMT 225	Principles of Mgmt/Leadership	3 / 3
MGMT 228	Organization Behavior	3 / 3
MKTG 200	Principles of Marketing	3 / 3

**Program of Study Required Courses, Limited Choices - Accounting and Finance –***Select two*

Course Code	Course Title	Credit / Billing Hours
ACCG 210	Principles of Financial Accg	4 / 4
ACCG 211	Principles of Managerial Accg	4 / 4
ACCG 271	Principles of Finance	3 / 3
MGMT 346	Managerial Finance	3 / 3

**Program of Study Required Courses, Limited Choices - Business/Insurance/  
Entrepreneurship – Select two, 6 credit minimum**

Course Code	Course Title	Credit / Billing Hours
BUSN 201	International Business	3 / 3
BUSN 251	Understanding Investments	3 / 3
ECON 201	Principles of Economics-Micro	4 / 4
INSU 105	Prin of Prop & Liability Ins	3 / 3
INSU 110	Personal Insurance	3 / 3
MGMT 235	Independent Study/Manage/Lead	1-3 / 1-3
MKTG 119	Mktg/Manage Your Profess Image	3 / 3
MKTG 120	Sales	3 / 3
MKTG 229	Public Relations	3 / 3

**Program of Study Required Courses, Limited Choices - Computer – Select one**

Course Code	Course Title	Credit / Billing Hours
CITA 110	Intro to Microsoft Office	3 / 3
CITA119	Microsoft Word	3 / 3
CITA 126	Microsoft Excel	3 / 3
CITF 108	Microsoft Windows	2 / 2
CITF 110	Intro Computer Info Systems	3 / 3

**Program of Study Required Courses, Limited Choices - Legal – Select one**

Course Code	Course Title	Credit / Billing Hours
LABR 204	Employment Law for Managers	3 / 3
LEGL 215	Business Law-Basic Principles	3 / 3

**Program of Study Required Courses, Limited Choices - Management – *Select two***

Course Code	Course Title	Credit / Billing Hours
MGMT 202	Managing Difficult People	1 / 1
MGMT 203	Managing Meetings	1 / 1
MGMT 237	Managing/Continual Improvement	3 / 3

**Total Credit Hours**

60-67 credits / 61-69 billing hours

**Recommended Course Sequence**

Semester I	Semester II
Gen Ed - English Composition or Applied English Gen Ed - English (second course)/ Communications or Applied Communications Gen Ed - Mathematics or Applied Mathematics BUSN 118 MGMT 225	Gen Ed - Humanities and Fine Arts or Social Sciences or Applied Social Sciences MGMT 150 MGMT 228 MKTG 200 Limited Choice - Accounting and Finance

Semester III	Semester IV
Gen Ed - Natural Sciences Lab or Applied Science and Technology Lab BUSN 250 Limited Choice - Accounting and Finance Limited Choice - Computer Limited Choice - Legal	MGMT 200 MGMT 224 Limited Choice - Business/Insurance/ Entrepreneurship Limited Choice - Business/Insurance/ Entrepreneurship Limited Choice - Management Limited Choice - Management



## Financial Institutions C.C.

Curriculum Code: 0151

Effective: Fall 2020 – Summer 2025

### Description

Certificate holders may improve their opportunities for advancement in this or a related area. Additional education enhances an individual's employment opportunities.

### Contact Information

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

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 Choices – Communication and Composition – *Select one*

Course Code	Course Title	Credit / Billing Hours
COMM 110	Communication in the Workplace	3 / 3
COMM 120	Dynamics of Communication	3 / 3
ENGL 121	Composition I	4 / 4
ENGL 127	Business Writing	3 / 3

### Program of Study Required Courses, Limited Choices – 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

### Total Credit Hours

23-25 credits / 23-25 billing hours

### Recommended Course Sequence

Semester I	Semester II
BUSN 118	MGMT 200
MGMT 150	MGMT 228
Limited Choice Communication and Composition	Limited Choice Accounting and Business
	Limited Choice Accounting and Business



## Fire Science Academy C.C.

Curriculum Code: 0709

Effective: Fall 2020 – Summer 2021

### 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

### Total Credit Hours

19 credits / 26 billing hours

### Recommended Course Sequence

Semester I
FIRE 101
FIRE 102
PFFT 119



## Fire Science Technology A.A.S.

Curriculum Code: 0123

Effective: Fall 2020 – Summer 2025

### 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.

### 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 – *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

### Total Credit Hours

69 credits / 71 billing hours

### Recommended Course Sequence

Semester I	Semester II
FIRE 100	Gen Ed – English Composition
FIRE 104	Gen Ed – Mathematics or Applied Mathematics
FIRE 110	Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab
FIRE 112	FIRE 105
FIRE 115	FIRE 150

Semester III	Semester IV
Gen Ed – English Composition (Second Course)/Communications or Applied Communications	FIRE 125
Gen Ed – Humanities and Fine Arts or Social Sciences or Applied Social Sciences	FIRE 215
FIRE 122	FIRE 260
FIRE 210	FIRE 270
FIRE 250	

## 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

### Total Credit Hours

65 credits / 74 billing hours

### Recommended Course Sequence

Semester I	Semester II
FIRE 101 FIRE 102 PFFT 119	Gen Ed - English Composition Gen Ed – English Composition (Second Course)/ Communications or Applied Communications Gen Ed – Mathematics or Applied Mathematics Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab FIRE 105

Semester III	Semester IV
Gen Ed - Humanities and Fine Arts or Social Sciences or Applied Social Sciences FIRE 104 FIRE 110 FIRE 112 FIRE 115	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

### Total Credit Hours

70 credits / 73.5 billing hours

### Recommended Course Sequence

Semester I	Semester II
FIRE 100	Gen Ed – English Composition
FIRE 104	Gen Ed – Mathematics/Applied Mathematics
FIRE 110	Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab
FIRE 112	FIRE 105
FIRE 115	FIRE 150

Semester III	Semester IV
Gen Ed – English Composition (Second Course)/Communications or Applied Communications	FIRE 125
Gen Ed – Humanities and Fine Arts or Social Sciences or Applied Social Sciences	FIRE 220
FIRE 245	FIRE 255
FIRE 250	FIRE 270
FIRE 265	



## **Fire Science/Basic EMT A.A.S.**

Curriculum Code: 1057

Effective: Fall 2020 – Summer 2025

### **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.

### **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/Social Sciences/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
FIRE 280	Fire Directed Indep Study	1-3 / 1-3
PFFT 119	Fire Academy Fitness Training	3 / 4

## Total Credit Hours

65-67 credits / 80-82 billing hours

## Recommended Course Sequence

Semester I	Semester II
FIRE 101	EMTA 101
FIRE 102	EMTA 102
PFFT 119	EMTA 103
	EMTA 104
	EMTA 112

Semester III	Semester IV
Gen Ed – English Composition	Gen Ed – English Composition (Second Course)/Communications or Applied Communications
Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab	Gen Ed – Humanities and Fine Arts or Social Sciences or Applied Social Sciences
FIRE 100	Gen Ed – Mathematics or Applied Mathematics
FIRE 104	FIRE 270
FIRE 112	FIRE 280



## General Associate Degree

Curriculum Code: 0863

Effective: Fall 2020 - Summer 2025

### 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 Core 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.

### 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
- h) courses in Student Development (SDEV) numbered other than 101

### 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 Degree Courses

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

- English Composition – *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](mailto:selective_admissions@lcc.edu) (selective\_admissions@lcc.edu) or 517-483-1182.

- P001 – Pre-Dental Hygiene
- P002 – Pre-Diagnostic Medical Sonography
- P006 - Pre-Nursing, PN/RN
- P007 – Pre-Paramedic
- P008 – Pre-Radiologic Technology
- P009 – Pre-Surgical Technology

### Total Credit Hours

Minimum 60 credits



## Geography A.A.

Curriculum Code: 0749

Effective: Fall 2020 – Summer 2025

### 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).

### 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 (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)/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  
HUMS 213, World Civilizations to 1600, 4 credits / 4 billing hours  
HUMS 214, World Civilizations from 1600, 4 credits / 4 billing hours  
LING 230, Introduction to Linguistics, 3 credits / 3 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
- Mathematics – *Select one*  
MATH 119, Math – Applications for Living, 4 credits / 4 billing hours  
MATH 120, College Algebra, 4 credits / 4 billing hours  
MATH 121, Precalculus I, 4 credits / 4 billing hours  
MATH 151, Calculus I, 4 credits / 4 billing hours
- Natural Sciences – *Select one from a discipline other than GEOG*  
GEOL 230, Environmental Geology, 4 credits / 6 billing hours

- Social Science – *Select one from a discipline other than GEOG*  
 ANTH 270, Cultural Anthropology, 3 credits / 3 billing hours  
 ANTH 275, Physical Anthro & Archaeology, 4 credits / 4 billing hours  
 ECON 120, Power, Authority and Exchange, 4 credits / 4 billing hours  
 ECON 202, Principles of Economics-Macro, 4 credits / 4 billing hours  
 ECON 213, U.S. Economics/Business History, 3 credits / 3 billing hours  
 ECON 260, Comparative Economic Systems, 3 credits / 3 billing hours  
 POLS 121, State and Local Government, 4 credits / 4 billing hours  
 POLS 260, Comparative Political Systems, 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
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
GSCI 100	Intro to Geospatial Tech	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
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
STAT 170	Introduction to Statistics	4 / 4

### Total Credit Hours

60-62 credits / 66-69 billing hours

### Recommended Course Sequence

Semester I	Semester II
MTA English Composition MTA Mathematics GEOG 120 GSCI 100	MTA English Composition (second course)/ Communications GEOG 221 Electives – 2 courses

Semester III	Semester IV
MTA Humanities and Fine Arts MTA Natural Sciences GEOG 200 GEOG 220	MTA Humanities and Fine Arts MTA Social Sciences GEOG 202 Electives – 2 courses



## Geospatial Science C.A.

Curriculum Code: 0834

Effective: Fall 2020 – Summer 2025

### 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).

### 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

### Total Credit Hours

30 credits / 41 billing hours

### Recommended Course Sequence

Semester I	Semester II
CITA 133	GSCI 110
GSCI 100	GSCI 240
GSCI 210	

Semester III	Semester IV
GSCI 120	GSCI 241
GSCI 271	GSCI 264
	GSCI 275





## Geospatial Science C.C.

Curriculum Code: 1820

Effective: Fall 2020 – Summer 2025

### 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).

### 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
GSCI 241	Remote Sens/AirPhoto Interpret	3 / 4
GSCI 260	Automating Workflows in GIS	3 / 4
GSCI 271	Parcel Mapping	3 / 5

### Total Credit Hours

16-18 credits / 20-26 billing hours

## Recommended Course Sequence

Semester I	Semester II
GSCI 100 Limited Choice Limited Choice if needed	GSCI 110 GSCI 240 GSCI 264



## Geospatial Science Technician A.A.S.

Curriculum Code: 0224

Effective: Fall 2020 – Summer 2025

### 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.

### 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 Degree, Recommended Choices

(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)/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

## Total Credit Hours

65-66 credits / 79-80 billing hours

## Recommended Course Sequence

Semester I	Semester II
Gen Ed – English Composition Gen Ed – Mathematics or Applied Mathematics CITA 133 GSCI 100 GSCI 210	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 GSCI 240 Limited Choice

Semester III	Semester IV
Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab CITP 110 GSCI 120 GSCI 260 GSCI 271	GSCI 241 GSCI 264 GSCI 275 Limited Choice Limited Choice



## Graphic Communication A.A.A.

Curriculum Code: 1533

Effective: Fall 2020 – Summer 2025

### 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.

### 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 Choices

(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

### Total Credit Hours

63-65 credits / 77-82 billing hours

### Recommended Course Sequence for Graphic Design Subspecialty

Semester I	Semester II
ARTS 102 ARTS 131 ARTS 162 ARTS 171	ARTS 132 or 153 ARTS 164 ARTS 173 ARTS 175 ARTS 251

Semester III	Semester IV
Gen Ed – English Composition Gen Ed – English Composition (second course)/Communications or Applied Communications Gen Ed – Mathematics or Applied Mathematics	ARTS 151 ARTS 179 ARTS 252 ARTS 253

Semester V
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	Semester II
ARTS 102 ARTS 131 ARTS 162 ARTS 164 ARTS 171	Gen Ed – Mathematics or Applied Mathematics ARTS 132 or 153 ARTS 151 ARTS 173

Semester III	Semester IV
Gen Ed – English Composition Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab	Gen Ed – English Composition (second course)/ Communications or Applied Communications ARTS 179 ARTS 195 CITD 120

Semester V
ARTS 226 ARTS 229 ARTS 232 ARTS 269 ARTS 281 CITW 185



## Graphic Design C.A.

Curriculum Code: 1020

Effective: Fall 2020 – Summer 2025

### 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.

### 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

### Total Credit Hours

39 credits / 50 billing hours

### Recommended Course Sequence

Semester I	Semester II
ARTS 102	ARTS 164
ARTS 162	ARTS 175
ARTS 171	ARTS 179
ARTS 173	ARTS 183

Semester III	Semester IV
ARTS 195	ARTS 252
ARTS 229	ARTS 253
ARTS 251	ARTS 269





## Group Fitness Instructor C.C.

Curriculum Code: 1704

Effective: Fall 2020 – Summer 2025

### 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.

### 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 121	Precalculus I	4 / 4
MATH 122	Precalculus II	4 / 4
MATH 151	Calculus	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)

**Total Credit Hours**

27-32 credits / 34-40 billing hours

**Recommended Course Sequence**

Semester I	Semester II
PFFT 109	BIOL 202 (if selected BIOL 201 and 202)
PFHW 163	PFKN 106
PFKN 170	PFKN 250
BIOL 145 or 201	PFKN 260
Limited Choice – English Composition (second choice)/Communications	PFWT 112
Limited Choice - Mathematics	



## Heating and Air Conditioning A.A.S.

Curriculum Code: 0836

Effective: Fall 2020 – Summer 2025

### 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).

### Additional Information

Students who have already completed DCTM 102, ELTE 102, METS 102, or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for HVAC 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 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*  
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 102	Industrial/Construction Safety	2 / 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

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

Course Code	Course Title	Credit / Billing Hours
AEET 120	Residential Energy	3 / 4
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
WELD 103	Combination Welding	4 / 6

## Total Credit Hours

70-73 credits / 87-90 billing hours

## Recommended Course Sequence

Semester I	Semester II
Gen Ed – English Composition	Gen Ed – Mathematics or Applied Mathematics
HVAC 100	HVAC 111
HVAC 102	HVAC 120
HVAC 110	HVAC 130
HVAC 113	Limited Choice
HVAC 115	

Semester III	Semester IV
Gen Ed – English Composition (Second Course)/Communications HVAC 220 HVAC 221 HVAC 230 HVAC 240 Limited Choice	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



## Heating and Air Conditioning C.A.

Curriculum Code: 0832

Effective: Fall 2020 – Summer 2025

### 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).

### Additional Information

Students who have already completed DCTM 102, ELTE 102, METS 102, or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for HVAC 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 102	Industrial/Construction Safety	2 / 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

### Total Credit Hours

34 credits / 45 billing hours

## Recommended Course Sequence

Semester I	Semester II
HVAC 100 HVAC 102 HVAC 110 HVAC 113 HVAC 115	HVAC 111 HVAC 120 HVAC 130
Semester III	
HVAC 220 HVAC 221 HVAC 230 HVAC 240	



## Heavy Equipment Repair Technician A.A.S.

Curriculum Code: 1055

Effective: Fall 2020 – Summer 2025

### 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 a certificate in Heavy Equipment Repair (1041).

### 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 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 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
AUTM 161	Auto Heating/Air Conditioning	4 / 6
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
WELD 102	Industrial/Construction 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

## Total Credit Hours

61-62 credits / 66-69 billing hours

## Recommended Course Sequence

Semester I (Fall)	Semester II (Spring)
Gen Ed – English Composition HERT 110 HERT 120 WELD 102	AUTM 161 HERT 125 HERT 140

Semester III (Summer)	Semester IV (Fall)
HERT 135 HERT 145	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



## Heavy Equipment Repair Technician C.A.

Curriculum Code: 1041

Effective: Fall 2020 – Summer 2025

### 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 in Applied Science Degree (1055).

### 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
AUTM 161	Auto Heating/Air Conditioning	4 / 6
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
WELD 102	Industrial/Construction Safety	2 / 3

### Total Credit Hours

41 credits / 44 billing hours

## Recommended Course Sequence

Semester I (Fall)	Semester II (Spring)
HERT 110 HERT 120 HERT 130 WELD 102	AUTM 161 HERT 125 HERT 140

Semester III (Summer)
HERT 135 HERT 145



## History A.A.

Curriculum Code: 0197

Effective: Fall 2020 – Summer 2025

### 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).

### 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 517-483-1018, or 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 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 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	Studies in American History	4 / 4
HIST 211	U.S. History to 1877	4 / 4
HIST 212	U.S. History: 1877 to Present	4 / 4

### Program of Study Required Courses, Limited Choices - History – *Select one*

Course Code	Course Title	Credit / Billing Hours
HIST 214	African History	4 / 4
HIST 235	Modern European History	4 / 4
HIST 240	Latin American History	4 / 4
HIST 250	History of Modern Asia	4 / 4

### Program of Study Required Courses, Limited Choices - Humanities – *Select one*

Course Code	Course Title	Credit / Billing Hours
HUMS 213	World Civilizations to 1600	4 / 4
HUMS 214	World Civilizations from 1600	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 255	American Lit to 1865	4 / 4
ENGL 256	American Lit 1865 to Present	4 / 4
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 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
HUMS 215	American Cultural Experience	4 / 4
JAPN 121	Elementary Japanese I	4 / 4
JAPN 122	Elementary Japanese II	4 / 4

Course Code	Course Title	Credit / Billing Hours
JAPN 201	Intermediate Japanese I	4 / 4
JAPN 202	Intermediate Japanese II	4 / 4
RELG 150	Intro to World Religions	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

### Total Credit Hours

60 credits / 61-65 billing hours

### Recommended Course Sequence

Semester I	Semester II
MTA English Composition MTA Mathematics MTA Natural Sciences HIST 211	MTA English Comp (2nd course) or Communications MTA Natural Sciences HIST 212 Limited Choice - Humanities

Semester III	Semester IV
MTA Social Sciences Limited Choice - History Electives as needed for total credits	MTA Social Sciences HIST 210 Electives as needed for total credits



## Human Resource Management A.B.

Curriculum Code: 0712

Effective: Fall 2020 – Summer 2025

### Description

Human resource managers serve as a link between management 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 planning to transfer should see an academic advisor before enrolling in any course.

### Contact Information

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.

### General Education – Applied Degrees, Recommended Choices

(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 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*  
MATH 117, Math for Business, 4 credits / 4 billing hours  
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

### 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
LABR 204	Employment Law for Managers	3 / 3
MGMT 200	Creative Thinking for Business	3 / 3
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 337	Advanced Human Resource Mgmt	3 / 3

### Program of Study Required Courses, Limited Choice –*Select four courses, minimum twelve credits*

Course Code	Course Title	Credit / Billing Hours
INSU 105	Prin of Prop & Liability Ins	3 / 3
LEGL 215	Business Law-Basic Principles	3 / 3
MGMT 150	Managing Customer Relations	3 / 3
MGMT 235	Independent Study/ Manage/Lead	1-3 / 1-3
MGMT 237	Managing/Continual Improvement	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 338	Current Topics in Management	3 / 3
MGMT 345	Context and Transformation	3 / 3
MGMT 346	Managerial Finance	3 / 3
MKTG 229	Public Relations	3 / 3

### Total Credit Hours

62-63 credits / 64-65 billing hours



## Recommended Course Sequence

Semester I	Semester II
English Composition or Applied English English/Communications or Applied Communications Humanities and Fine Arts or Social Sciences or Applied Social Sciences BUSN 118 MGMT 225	Mathematics or Applied Mathematics LABR 200 MGMT 224 MGMT 228 Limited Choice courses as needed for total credits

Semester III	Semester IV
Natural Sciences Lab or Applied Science and Technology Lab MGMT 200 MGMT 229 MGMT 231 Limited Choice courses as needed for total credits	LABR 204 MGMT 227 MGMT 337 Limited Choice courses as needed for total credits



## Human Services A.A.S.

Curriculum Code: 0915

Effective: Fall 2020 – Summer 2025

### 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.

### 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 check 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 Choices

(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
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, 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, 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, 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 History 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, 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 112, 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 112	Understanding Substance Abuse	4 / 4

**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

**Total Credit Hours**

63-64 credits / 65-66 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 or 517-483-1529 for fee information.

**Recommended Course Sequence**

Semester I	Semester II
GERO 100 HUSE 100 Program of Study, MTA English Composition Specialization course(s)	HUSE 105 HUSE 242 SOCL 120 Program of Study, MTA English Composition (second course)/Communications Specialization course(s)

Semester III	Semester IV
MTA Mathematics HUSE 282 PFHW 123 Program of Study, MTA Humanities and Fine Arts	BIOL 145 HUSE 284 PSYC 200 Program of Study, MTA Humanities and Fine Arts



## Human Services C.A.

Curriculum Code: 1201

Effective: Fall 2020 – Summer 2025

### 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.

### 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 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 – *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 112, 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 112	Understanding Substance Abuse	4 / 4

### 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

### Total Credit Hours

32-33 credits / 32-33 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)	Semester II (Spring)
ENGL 121 or 131 GERO 100 HUSE 100 Specialization course(s)	HUSE 105 HUSE 242 Specialization course(s)
Semester III (Fall)	Semester IV (Spring)
HUSE 282	HUSE 284





## Human Services C.C.

Curriculum Code: 1199

Effective: Fall 2020 – Summer 2025

### 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.

### 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 HUSE 112 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 112	Understanding Substance Abuse	4 / 4
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

**Total Credit Hours**

13-14 credits / 13-14 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	Semester II
HUSE 100 Specialization course(s)	HUSE 105 Specialization course(s)



## Human Services-Aging Studies C.C.

Curriculum Code: 1806

Effective: Fall 2020 – Summer 2025

### 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.

### 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

**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	Semester II
GERO 100 PSYC 200 Limited Choice - Gerontology	HUSE 105 Limited Choice - Gerontology Limited Choice - Psychology



# HVAC/R-Energy Management Engineering Technology A.A.S.

Curriculum Code: 1257

Effective: Fall 2020 – Summer 2025

## 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.

## Additional Information

Students who have already completed DCTM 102, ELTE 102, METS 102, or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for HVAC 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 Choices

(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 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 102	Industrial/Construction Safety	2 / 3
HVAC 110	Applied Electricity I	3 / 4
HVAC 111	Applied Electricity II	3 / 4

Course Code	Course Title	Credit / Billing Hours
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 122	Precalculus II	4 / 4
PHYS 120	The Art of Physics	4 / 5

### Total Credit Hours

65 credits / 77 billing hours

### Recommended Course Sequence

Semester I	Semester II
ENGL 124	ENGL 121
HUMS 160	HVAC 111
HVAC 100	HVAC 120
HVAC 102	HVAC 130
HVAC 110	MATH 122

Semester III	Semester IV
COMM 130	GEOG 200
HVAC 220	HVAC 201
HVAC 221	HVAC 241
HVAC 230	HVAC 251
HVAC 240	PHYS 120



## Industrial Maintenance Technician C.A.

Curriculum Code: 1484

Effective: Fall 2020 – Summer 2025

### 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.

### Additional Information

Students who have already completed DCTM 102, ELTE 102, HVAC 102 or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for METS 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 102	Industrial/Construction Safety	2 / 3
METS 130	Industrial Hydraulics	4 / 6
METS 140	Rigging	3 / 4.5
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
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

## Total Credit Hours

32 credits / 43.5-46.5 billing hours

## Recommended Course Sequence

Semester I	Semester II
METD 150	METS 130
METS 102	METS 140
Limited Choice	WELD 103

Semester III
Limited Choice
Limited Choice
Limited Choice





# Industrial Manufacturing Engineering Technology A.A.S.

Curriculum Code: 0110

Effective: Fall 2020 – Summer 2025

## 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.

## 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 Degree, Recommended Choices

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

- English Composition  
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 102	Industrial/Construction Safety	2 / 3
ELTE 108	Practical Electricity I	2 / 3
ENGL 121	Composition I	4 / 4
ENGL 122	Composition II	4 / 4
MATH 121	Precalculus I	4 / 4
MATH 122	Precalculus II	4 / 4

Course Code	Course Title	Credit / Billing Hours
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

### Total Credit Hours

63-64 credits / 81-82 billing hours

### Recommended Course Sequence

Semester I	Semester II
COMM 130 ELTE 102 ELTE 108 (first 8 weeks) ENGL 121 METD 100 METD 105	COMM 280 METD 110 METD 220 METM 108

Semester III	Semester IV
ENGL 122 MATH 121 METM 112 METM 190	Gen Ed - Humanities and Fine Arts or Social Sciences or Applied Social Sciences MATH 122 METM 220 METS 115



## Information Technology Foundations C.C.

Curriculum Code: 0766

Effective: Fall 2020 – Summer 2025

### 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 in Business degree (1453).

### 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

### Total Credit Hours

19 credits / 19 billing hours

### Recommended Course Sequence

Semester I	Semester II
CITF 110 CITN 120 CITS 125	CITF 120 CITP 110



## Inside Wireman Apprenticeship A.A.S.

Curriculum Code: 1445

Effective: Fall 2020 – Summer 2025

### 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.

### 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 Degree, 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 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  
COMM 240, Interpersonal Communication, 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

### Total Credit Hours

69-73 credits / 70-76 billing hours

### Recommended Course Sequence

Semester I	Semester II
APPR 170	APPR 171
Semester III	Semester IV
APPR 172	APPR 173
Semester V	Semester VI
APPR 174	APPR 175
Semester VII	Semester VIII
Gen Ed – English Composition APPR 176	Gen Ed – Mathematics or Applied Mathematics APPR 177
Semester IX	Semester X
Gen Ed – English Composition (Second Course)/Communications or Applied Communications APPR 178	Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab APPR 179

Semester XI	Semester XII
Gen Ed - Humanities and Fine Arts or Social Sciences or Applied Social Sciences APPR 180	APPR 181

Semester XIII
APPR 182



## Insurance and Risk Management A.B.

Curriculum Code: 1804

Effective: Fall 2020 – Summer 2025

### Description

Graduates of the Insurance and Risk Management program will be prepared to start their career. The insurance industry is expecting a high demand for professionals, providing graduates with many career opportunities.

### Additional Information

Not all courses in this Pathway transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling.

MATH 120 is recommended for students planning to transfer.

### Contact Information

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.

### General Education – Applied Degrees, Recommended Choices

(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  
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  
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

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
ACCG 210	Principles of Financial Accg	4 / 4
ECON 201	Principles of Economics – Micro	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
MGMT 228	Organization Behavior	3 / 3
MGMT 335	Managerial Statistics	3 / 3
MKTG 200	Principles of Marketing	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
CJUS 101	Intro to Criminal Justice	3 / 3
ECON 202	Principles of Economics – Macro	4 / 4
LEGL 215	Business Law – Basic Principles	3 / 3
INSU 260	Life/Health Insur Licensing	2 / 2
INSU 270	Property/Casualty Insur Licens	2 / 2

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

Course Code	Course Title	Credit / Billing Hours
ACCG 211	Principles of Managerial Accg	4 / 4
CJUS 204	Criminal Investigation	4 / 4
MGMT 234	Diversity in the Workplace	3 / 3
HUMS 120	Masterpieces of Art & Music	4 / 4
MGMT 225	Principles of Mgmt/Leadership	3 / 3
MGMT 332	Ethics: Assumpt for the Future	3 / 3
MKTG 120	Sales	3 / 3
PFHW 123	Human Nutrition	3 / 3
PSYC 200	Introduction to Psychology	4 / 4

### Total Credit Hours

60-65 credits / 62-67 billing hours



## Recommended Course Sequence

Semester I	Semester II
English Composition or Applied English ACCG 210 INSU 105 MGMT 228 Limited Choice	English (second course)/Communications or Applied Communications Mathematics or Applied Mathematics INSU 110 INSU 125 MKTG 200

Semester III (Summer)	Semester IV
INSU 295	ECON 201 INSU 175 INSU 250 Limited Choice

Semester V
Natural Sciences Lab or Applied Science and Technology Lab INSU 285 MGMT 335



## Interdisciplinary Humanities A.A.

Curriculum Code: 0119

Effective: Fall 2020 – Summer 2025

### 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).

### 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 517-483-1018, or 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)/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*  
 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
HUMS 213	World Civilizations to 1600	4 / 4
HUMS 214	World Civilizations from 1600	4 / 4

### Program of Study Required Courses, Humanities and Fine Arts – *Select two courses from different disciplines*

Course Code	Course Title	Credit / Billing Hours
ENGL 211	World Literature I	4 / 4
ENGL 212	World Literature II	4 / 4
MUSC 240	Musical Cultures to 1750	4 / 4
MUSC 241	Musical Cultures 1750-Present	4 / 4
PHIL 152	Introduction to Ethics	4 / 4
PHIL 211	Philosophy: Ancient & Medieval	4 / 4
PHIL 212	Philosophy: Modern & Contemporary	4 / 4

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

Course Code	Course Title	Credit / Billing Hours
HUMS 160	Mythology	4 / 4
HUMS 211	Art History to the Renaissance	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 120	Introduction to Anthropology	3 / 3
ANTH 270	Cultural Anthropology	3 / 3
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
HUMS 212	Art Hist from the Renaissance	4 / 4
PSYC 200	Introduction to Psychology	4 / 4
SOCL 120	Introduction to Sociology	4 / 4

### Total Credit Hours

60-62 credits / 61-66 billing hours

## Recommended Course Sequence

Semester I	Semester II
MTA English Composition MTA Mathematics MTA Social Sciences HUMS 213	MTA English Comp (2nd course) or Communications MTA Natural Sciences MTA Social Sciences HUMS 214
Semester III	Semester IV
MTA Natural Sciences Program of Study, Humanities and Fine Arts – 2 courses	Limited Choice Electives as needed for total credits



## **International Business A.B.**

Curriculum Code: 0240

Effective: Fall 2020 – Summer 2025

### **Description**

International business managers plan, organize, and control projects from start to finish for businesses and organizations with international connections. They help their company achieve its goals in differing cultural and governmental situations. Graduates of this program may work for a variety of organizations and businesses, both in this hemisphere and overseas. Knowledge of a foreign language and a technical or business specialty increases one's employability. This degree can be completed entirely online. 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 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.

### **General Education Applied Degrees, Recommended Choices**

(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  
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  
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
BUSN 118	Introduction to Business	3 / 3
BUSN 201	International Business	3 / 3
CITF 110	Intro Computer Info Systems	3 / 3
ECON 201	Principles of Economics-Micro	4 / 4
ECON 202	Principles of Economics-Macro	4 / 4
MKTG 119	Mktg/Manage Your Profess Image	3 / 3
MKTG 200	Principles of Marketing	3 / 3

### Program of Study Required Courses, Limited Choice –Select four courses, a minimum of twelve credits

Course Code	Course Title	Credit / Billing Hours
ACCG 211	Principles of Managerial Accg	4 / 4
BUSN 285	Business Admin Internship	2-5 / 2-5
ENGL 122	Composition II	4 / 4
LEGL 215	Business Law-Basic Principles	3 / 3
MGMT 225	Principles of Mgmt/Leadership	3 / 3
MGMT 231	Developing and Leading Teams	3 / 3
MKTG 210	Marketing on the Internet	3 / 3
MKTG 235	Marketing Internship	3 / 3

### Program of Study Required Courses, Limited Choice – Foreign Language I – Select one

Course Code	Course Title	Credit / Billing Hours
FREN 121	Elementary French I	4 / 4
GRMN 121	Elementary German I	4 / 4
JAPN 121	Elementary Japanese I	4 / 4
SPAN 121	Elementary Spanish I	4 / 4

### Program of Study Required Courses, Limited Choice – Foreign Language II – Select one

Course Code	Course Title	Credit / Billing Hours
FREN 122	Elementary French II	4 / 4
GRMN 122	Elementary German II	4 / 4
JAPN 122	Elementary Japanese II	4 / 4
SPAN 122	Elementary Spanish II	4 / 4

### Total Credit Hours

61-64 credits / 62-66 billing hours

## Recommended Course Sequence

Semester I	Semester II
English Composition or Applied English BUSN 118 CITF 110 MKTG 119 Limited Choice – Foreign Language I	English Composition (second course) or Communications or Applied Communications Mathematics or Applied Mathematics BUSN 201 MKTG 200 Limited Choice
Semester III	Semester IV
Natural Science Lab or Applied Science and Technology Lab ACCG 210 ECON 201 Limited Choice – Foreign Language II	ECON 202 Limited Choice Limited Choice Limited Choice



## International Studies A.A.

Curriculum Code: 0252

Effective: Fall 2020 – Summer 2025

### 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).

### 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 517-483-1018, or 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 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 – *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
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

### Total Credit Hours

60 credits / 61-64 billing hours

## Recommended Course Sequence

Semester I	Semester II
MTA English Composition MTA Humanities and Fine Arts POLS 120 Electives as needed for total credits	MTA English Composition (2nd course) or Communications MTA Mathematics POLS 201 or 240 Electives as needed for total credits
Semester III	Semester IV
MTA Natural Sciences POLS 260 POLS 270 Electives as needed for total credits	MTA Humanities and Fine Arts MTA Natural Sciences GEOG 200 Electives as need for total credits



## IoT Specialist C.A.

Curriculum Code: 1713

Effective: Fall 2020 – Summer 2025

### 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.

### 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

### Total Credit Hours

33 credits / 35 billing hours

### Recommended Course Sequence

Semester I (Fall)	Semester II (Spring)
CITP 110	CITN 115
CITS 125	CITN 220 (First 8 weeks)
CITS 170	CITN 225 (Second 8 weeks)

Semester III (Fall)
CITN 222
CITN 280



## Japanese Studies C.C.

Curriculum Code: 1787

Effective: Fall 2020 – Summer 2025

### 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 of Completion in Japanese 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.

### 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

### Total Credit Hours

16 credits / 16 billing hours

### Recommended Course Sequence

Semester I	Semester II
JAPN 121	JAPN 122

Semester III	Semester IV
JAPN 201	JAPN 202



## Journalism A.A.

Curriculum Code: 1628

Effective: Fall 2020 – Summer 2025

### 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).

### Additional Information

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

### Contact Information

Contact the Integrated 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 (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 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 201, Introduction to Poetry, 4 credits / 4 billing hours  
ENGL 208, Children's Literature, 4 credits / 4 billing hours  
ENGL 220, Science Fiction, 4 credits / 4 billing hours  
HIST 212, U.S. History: 1877 to Present, 4 credits / 4 billing hours  
HUMS 140, The Art of Being Human, 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 245	Popular Culture and Mass Media	4 / 4
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 211	World Literature I	4 / 4
ENGL 212	World Literature II	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

### Total Credit Hours

60 credits / 61-65 billing hours

## Recommended Course Sequence

Semester I	Semester II
MTA English Composition MTA Mathematics MTA Natural Sciences ENGL 279	MTA English Comp (2nd course) or Communication MTA Humanities and Fine Arts MTA Natural Sciences ENGL 245
Semester III	Semester IV
MTA Humanities and Fine Arts MTA Social Sciences JRNL 151 Electives as needed for total credits	MTA Social Sciences JRNL 254 Electives as needed for total credits



## Juvenile Justice C.A.

Curriculum Code: 0916

Effective: Fall 2020 – Summer 2025

### Description

This certificate option is designed to provide entry-level skills for the person who wishes to enter the job market as a juvenile care worker at a public or private juvenile residential facility. Students may apply these credits toward completion of the Criminal Justice, Juvenile Specialization Associate in Applied Science degree (1475).

### 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 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 286	Juvenile Internship I	3 / 3
PSYC 200	Introduction to Psychology	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
HUSE 110	Child Abuse and Neglect	3 / 3
HUSE 242	The Family: Addiction/ Violence	3 / 3
SOWK 101	Introduction to Social Work	3 / 3

### Total Credit Hours

35 credits / 35 billing hours

### Recommended Course Sequence

Semester I	Semester II
CJUS 101	CJUS 133
CJUS 103	CJUS 245
CJUS 106	CJUS 247
CJUS 126	CJUS 286
PSYC 200	SOCL 120
Limited Choice	





## **Kinesiology/Exercise Science A.A.S.**

Curriculum Code: 1639

Effective: Fall 2020 – Summer 2025

### **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).

### **Additional Information**

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 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)/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  
PHIL 153, Knowledge and Reality, 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, 121, 122, or 151, rather than STAT 170.*

Course Code	Course Title	Credit / Billing Hours
MATH 120	College Algebra	4 / 4
MATH 121	Precalculus I	4 / 4
MATH 122	Precalculus II	4 / 4
MATH 151	Calculus	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
PFHW 123	Human Nutrition	3 / 3
PFHW 181	Stress Management	1 / 1
PFKN 106	Group Fitness Instructor Prep	3 / 4
PFKN 210	Athletic Training Principles	3 / 4
PFKN 270	Personal Trainer Preparation	4 / 5
PFKN 280	Kinesiology Internship	3 / 3

**Total Credit Hours**

60-65 credits / 69-76 billing hours

## Recommended Course Sequence

Semester I (Fall)	Semester II (Spring)
BIOL 145 or 201 PFFT 109 PFHW 163 PFKN 170 Limited Choice - Mathematics	MTA English Composition BIOL 202 (if selected BIOL 201/202) PFKN 250 PFKN 260 Limited Choice – Kinesiology

Semester III (Fall)	Semester IV (Spring)
MTA Humanities and Fine Arts (2 courses) MTA Social Science PFKN 200 PFKN 201 PFWT 112 Limited Choice – Kinesiology (if needed)	MTA English Composition/ Communications PFKN 208 PSYC 200 Limited Choice – Chemistry Limited Choice – Kinesiology (if needed)



## Literature A.A.

Curriculum Code: 0124

Effective: Fall 2020 – Summer 2025

Revised 5/1/20

### 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).

### 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 Integrated 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 (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 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 140, Art of Being Human, 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 – Composition - *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

**Total Credit Hours**

60-63 credits / 61-67 billing hours

**Recommended Course Sequence**

Semester I	Semester II
MTA English Composition MTA Mathematics MTA Natural Science ENGL 200 or 261	Limited Choice - Composition MTA Humanities and Fine Arts MTA Natural Science ENGL 200 or 261

Semester III	Semester IV
MTA Social Science Limited Choice Electives as needed for total credits	MTA Social Science Limited Choice Electives as needed for total credits



## Local Corrections Officer C.C.

Curriculum Code: 1810

Effective: Fall 2020 – Summer 2025

### 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).

### 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

### Total Credit Hours

17 credits / 19 billing hours

### Recommended Course Sequence

Semester I	Semester II
CJUS 101	CJUS 272
CJUS 130	CJUS 273
CJUS 131	





## Long-Term Care Nurse Aide C.C.

Curriculum Code: 1025

Effective: Fall 2020 – Summer 2021

### 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

### Total Credit Hours

4 credits / 6.5 billing hours

### Recommended Course Sequence

Semester I
CHSE 108



## Machine Tool Technology C.A.

Curriculum Code: 1470

Effective: Fall 2020 – Summer 2025

### 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.

### Additional Information

Students who have already completed ELTE 102 or DCTM 102 or HVAC 102 or WELD 102 with a grade of 2.0 or higher may substitute one of those courses for METS 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
METS 102	Industrial/Construction 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
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

### Total Credit Hours

31-34 credits / 42.5-51 billing hours

## Recommended Course Sequence

Semester I	Semester II
METS 102 Limited Choice	METD 110 METM 108
Semester III	Semester IV
METM 112 METM 190	Limited Choice Limited Choice Limited Choice



## Magnetic Resonance Imaging Technology A.A.S.

Curriculum Code: 1632

Effective: Summer 2020 – Summer 2023

### 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 Michigan Radiologic and Imaging Science Consortium (MiRIS).

### 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 2.0 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, Recommended Choices

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

- English Composition  
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 – BIOL 201 and 202 also satisfies the Natural Sciences Lab or Applied Science and Technology Lab General Education requirement. SOCL 120 also satisfies the Humanities and Fine Arts or Social Sciences or Applied Social Sciences General Education requirement.**

Course Code	Course Title	Credit / Billing Hours
BIOL 201	Human Anatomy	4 / 6
BIOL 202	Human Physiology	4 / 5
SOCL 120	Introduction to Sociology	4 / 4

**Program of Study Required Courses for Admission – English Composition - Select one. This selection satisfies the English Composition General Education 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 – English Composition (second course)/Communications - Select one. This selection satisfies the English Composition (second course)/Communications or Applied Communications General Education requirement.**

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

**Program of Study Required Courses for Admission – Mathematics - Select one, or a MATH course higher than 121. This selection satisfies the Mathematics or Applied Mathematics General Education requirement.**

Course Code	Course Title	Credit / Billing Hours
MATH 121	Precalculus I	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 - 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

**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 *

**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	Semester II
BIOL 201 COMM 110 or 120 ENGL 121, 122, 131, or 132 PHYS 120 or 200	BIOL 202 MATH 121 (or higher), STAT 170 or 215 SOCL 120

Semester III (Summer 2021)	Semester IV (Fall 2021)
MRIT 200 MRIT 229 MRIT 260	MRIT 201 MRIT 220 MRIT 230 MRIT 261

Semester V (Spring 2022)	Semester VI (Summer 2022)
MRIT 222 MRIT 232 MRIT 240 MRIT 262	MRIT 263 MRIT 295



# Magnetic Resonance Imaging Technology C.A.

Curriculum Code: 1602

Effective: Summer 2020 – Fall 2021

## 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 Michigan Radiologic and Imaging Science Consortium (MiRIS).

## 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*



Course Code	Course Title	Credit / Billing Hours
MRIT 263	Clinical Practice III	3 / 0*
MRIT 295	MRI Certification Exam Prep	3 / 0*

### 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 2020)	Semester II (Fall 2020)
MRIT 200	MRIT 201
MRIT 229	MRIT 220
MRIT 260	MRIT 230
	MRIT 261

Semester III (Spring 2021)	Semester IV (Summer 2021)
MRIT 222	MRIT 263
MRIT 232	MRIT 295
MRIT 240	
MRIT 262	



## Management C.A.

Curriculum Code: 0249

Effective: Fall 2020 – Summer 2025

### 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. Courses in this certificate may also be applied directly toward an Associate Degree in Management.

### Contact Information

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

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 Courses – *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

### 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 127	Business Writing	3 / 3

### 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

## Total Credit Hours

33 credits / 33 billing hours

## Recommended Course Sequence

Semester I	Semester II
BUSN 118	MGMT 200
LABR 200	MGMT 228
MGMT 224	MGMT 231
MGMT 234	Limited Choice
Limited Choice	Limited Choice – Communication and Writing
	Limited Choice - Management



## Management and Leadership A.B.

Curriculum Code: 0245

Effective: Fall 2020 – Summer 2025

### Description

A manager leads from all levels of the organization. A manager plans, organizes, delegates, and controls entire 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 colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

### Contact Information

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.

### General Education – Applied Degrees, Recommended Choices

(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 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 Communications – *Select one*  
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  
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

### Program of Study Required Courses

Course Code	Course Title	Credit / Billing Hours
BUSN 118	Introduction to Business	3 / 3
BUSN 201	International Business	3 / 3
LABR 200	Intro to Labor Relations	3 / 3
LEGL 215	Business Law-Basic Principles	3 / 3
MGMT 200	Creative Thinking for Business	3 / 3
MGMT 224	Human Resource Management	3 / 3
MGMT 225	Principles of Mgmt/Leadership	3 / 3
MGMT 228	Organization Behavior	3 / 3
MGMT 231	Developing and Leading Teams	3 / 3
MGMT 237	Managing/Continual Improvement	3 / 3
MKTG 200	Principles of Marketing	3 / 3

### Program of Study Required Courses, Limited Choice –*Select three or four courses, minimum of ten credits*

Course Code	Course Title	Credit / Billing Hours
ACCG 210	Principles of Financial Accg	4 / 4
ACCG 211	Principles of Managerial Accg	4 / 4
ECON 201	Principles of Economics-Micro	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
LABR 204	Employment Law for Managers	3 / 3
MGMT 150	Managing Customer Relations	3 / 3
MGMT 201	Time Management for Business	1 / 1
MGMT 202	Managing Difficult People	1 / 1
MGMT 203	Managing Meetings	1 / 1
MGMT 227	Training/Development for Busn	3 / 3
MGMT 235	Independent Study/Manage/Lead	1-3 / 1-3
MGMT 280	Mgmt/Leadership Internship	3 / 3
MGMT 346	Managerial Finance	3 / 3
MKTG 119	Mktg/Manage Your Profess Image	3 / 3

### Total Credit Hours

60-63 credits / 62-65 billing hours

## Recommended Course Sequence

Semester I	Semester II
English Composition or Applied English English Composition (second course)/ Communications or Applied Communications Humanities and Fine Arts or Social Sciences or Applied Social Sciences BUSN 118 MGMT 225	Mathematics or Applied Mathematics BUSN 201 MGMT 224 MGMT 231 Limited Choice courses as need for total credits
Semester III	Semester IV
Natural Sciences Lab or Applied Science and Technology Lab LABR 200 MGMT 228 MKTG 200 Limited Choice courses as needed for total credits	LEGL 215 MGMT 200 MGMT 237 Limited Choice courses as needed for total credits



## **Manufacturing Engineering Technology A.A.S.**

Curriculum Code: 1359

Effective: Fall 2020 – Summer 2025

### **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.

### **Additional Information**

Students who have already completed DCTM 102, ELTE 102, HVAC 102 or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for METS 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 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 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 102	Industrial/Construction Safety	2 / 3
METS 115	Intro to Mechanical Systems	4 / 6

### Total Credit Hours

60 credits / 83 billing hours

### Recommended Course Sequence

Semester I	Semester II
Gen Ed – Mathematics or Applied Mathematics	METD 110
METD 100	METD 130
METM 108	METM 112
METS 102	METM 220

Semester III	Semester IV
Gen Ed – English Composition	Gen Ed – English Composition (Second Course)/
Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab	Communications or Applied Communications
METM 150	Gen Ed – Humanities and Fine Arts or Social Sciences or Applied Social Sciences
METM 195	METD 220
METM 221	METS 115





## Marketing A.B.

Curriculum Code: 0204

Effective: Fall 2020 – Summer 2025

### Description

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 planning to transfer should see an academic advisor before enrolling in any course.

### Contact Information

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.

### General Education – Applied Degrees, 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)/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  
SOCL 120, Introduction to Sociology, 4 credits / 4 billing hours
- Mathematics – *Select one*  
MATH 117, Math for Business, 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  
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
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 200	Principles of Marketing	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

## Program of Study Required Courses, Limited Choice – *Select two courses, a minimum of six credits*

Course Code	Course Title	Credit / Billing Hours
ACCG 210	Principles of Financial Accg	4 / 4
ECON 201	Principles of Economics-Micro	4 / 4
LEGL 215	Business Law-Basic Principles	3 / 3
MGMT 200	Creative Thinking for Business	3 / 3
MGMT 225	Principles of Mgmt/Leadership	3 / 3
MKTG 231	Independent Study in Marketing	1-3 / 1-3

## Total Credit Hours

60-63 credits / 61-65 billing hours

## Recommended Course Sequence

Semester I	Semester II
English Composition English Composition (second course)/ Communications or Applied Communications BUSN 118 MKTG 119 MKTG 200	Mathematics MKTG 120 MKTG 130 MKTG 229 Limited Choice

Semester III	Semester IV
Humanities and Fine Arts or Social Sciences or Applied Social Sciences MKTG 140 MKTG 204 MKTG 210 MKTG 221	Natural Sciences Lab or Applied Science and Technology Lab MKTG 202 MKTG 235 Limited Choice



## Marketing C.A.

Curriculum Code: 0225

Effective: Fall 2020 – Summer 2025

### Description

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 and its relationship to business operations. Students completing the Marketing certificate may apply credits toward a Field Sales or Marketing Associate degree.

### Contact Information

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

Course Code	Course Title	Credit / Billing Hours
BUSN 118	Introduction to 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

### Program of Study Required Courses, Limited Choice - Marketing – *Select four courses, a 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 231	Independent Study in Marketing	1-3 / 1-3
MKTG 235	Marketing Internship	3 / 3

### Total Credit Hours

30-31 credits / 30-31 billing hours

## Recommended Course Sequence

Semester I	Semester II
BUSN 118 MKTG 119 MKTG 200 Limited Choice - Communication and Composition Limited Choice - Marketing Limited Choice - Marketing	MKTG 120 MKTG 202 Limited Choice - Marketing Limited Choice - Marketing



## Massage Therapy C.A.

Curriculum Code: 1255

Effective: Fall 2020 – Summer 2023

### 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. Successful completion of this program prepares an individual for testing through the Massage and Bodywork Licensing Exam (MBLEx).

### Additional Information

Students must complete all required courses with a minimum grade of 2.5 to receive this Certificate of Achievement.

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 MASG 132A and MASG 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
MASG 131	Massage I	4.5 / 4.5
MASG 132A	Body Systems for Massage I	1.5 / 2
MASG 132B	Body Systems for Massage II	1.5 / 2
MASG 137	Medical Elements of Massage	2 / 2
MASG 139A	Medical Conditions Massage I	1 / 1
MASG 139B	Medical Conditions Massage II	1 / 1
MASG 141	Massage Clinic I	1.5 / 2.5
MASG 151A	Research Literacy	1 / 1
MASG 151B	Event Massage	1 / 1
MASG 151C	Maternal/Infant Massage	1 / 1
MASG 151D	Special Populations	1 / 1
MASG 231	Massage II	4.5 / 4.5
MASG 232	Massage III	4.5 / 4.5
MASG 235	Licensing Exam Prep	1 / 1
MASG 241	Massage Clinic II	1.5 / 2.5
MASG 242	Massage Clinic III	1.75 / 3

Course Code	Course Title	Credit / Billing Hours
MASG 251A	Polarity Therapy	1 / 1
MASG 251B	Reflexology	1 / 1
MASG 251C	Asian Body Therapy	1 / 1
MASG 251D	Positional Release	1 / 1
MASG 254	Busn App for Massage	2 / 2
MASG 256	Clinical Assess for Massage	1 / 1
PFFT 104	Massage Fitness Lab	1 / 2
PFHW 163	Healthy Lifestyles	2 / 3

### Total Credit Hours

40.25 credits / 46.5 billing hours

### Recommended Course Sequence – Daytime Cohort

Semester I (Fall 2020)	Semester II (Spring 2021)
MASG 131	MASG 132B
MASG 132A	MASG 139B
MASG 137	MASG 141
MASG 139A	MASG 151A
MASG 151B	MASG 231
MASG 251A	MASG 232
PFFT 104	MASG 241
	MASG 256

Semester III (Summer 2021)
MASG 151C
MASG 151D
MASG 235
MASG 242
MASG 251B
MASG 251C
MASG 251D
MASG 254
PFHW 163

## Recommended Course Sequence – Evening Cohort

Semester I (Spring 2021)	Semester II (Summer 2021)
MASG 131 MASG 132A MASG 137 MASG 139A MASG 151D MASG 251B MASG 251C PFFT 104	MASG 132B MASG 139B MASG 151C

Semester III (Fall 2021)	Semester IV (Spring 2022)
MASG 141 MASG 151A MASG 151B MASG 231 MASG 256 PFHW 163	MASG 232 MASG 235 MASG 241 MASG 242 MASG 251A MASG 251D MASG 254



## Mathematics A.S.

Curriculum Code: 1620

Effective: Fall 2020 – Summer 2025

### 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).

### Additional Information

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

### Contact Information

Contact the Mathematics and Computer Science Department, Arts and Sciences Building, Room 3203, telephone number 517-483-1073, or the Academic Advising Department, Gannon Building – Star Zone, 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 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*  
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  
MUSC 240, Musical Cultures to 1750, 4 credits / 4 billing hours  
MUSC 241, Musical Cultures 1750-Present, 4 credits / 4 billing hours
- Mathematics  
Program of Study Required Courses fulfills this requirement
- Natural Sciences – *Select one from a discipline other than PHYS*  
ASTR 201, Introductory Astronomy, 4 credits / 5 billing hours  
BIOL 120, Environmental Science, 4 credits / 6 billing hours  
CHEM 151, General Chemistry Lecture I, 4 credits / 4 billing hours  
PFHW 123, Human Nutrition, 3 credits / 3 billing hours
- Social Sciences – *Select two, each from a different discipline*  
ECON 120, Power, Authority and Exchange, 4 credits / 4 billing hours  
GEOG 200, World Regional Geography, 4 credits / 4 billing hours  
POLS 260, Comparative Political Systems, 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
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 Equation	4 / 4
MATH 260	Linear Algebra	4 / 4
PHIL 151	Intro to Logic & Critical Thinking	4 / 4
PHYS 251	Physics I with Calculus	5 / 7

**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
CPSC 231	Computing and Data Structures	4 / 4
PHYS 252	Physics II with Calculus	5 / 7
STAT 215	Intro to Probability and Stats	4 / 4

## Total Credit Hours

61-64 credits / 65-68 billing hours

## Recommended Course Sequence

Semester I	Semester II
MTA English Composition MTA Natural Sciences MATH 151 PHIL 151	MTA English Comp (2nd course) or Communications MTA Social Sciences CPSC 230 MATH 152
Semester III	Semester IV
MTA Humanities and Fine Arts CPSC 260 MATH 253 PHYS 251	MTA Social Sciences MATH 254 MATH 260 Elective as need for total credits



## **Mechanical Systems A.A.S.**

Curriculum Code: 0173

Effective: Fall 2020 – Summer 2025

### **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.

### **Additional Information**

Students who have already completed DCTM 102, ELTE 102, HVAC 102 or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for METS 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 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 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 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 102	Industrial/Construction Safety	2 / 3
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
WELD 103	Combination Welding	4 / 6

### Total Credit Hours

63 credits / 85.5 billing hours

### Recommended Course Sequence

Semester I	Semester II
Gen Ed – Mathematics or Applied Mathematics ELTE 108 (First 8 weeks) ELTE 109 (Second 8 weeks) METD 150 METS 102 METS 120	ELTE 131 METS 110 METS 130 METS 160

Semester III	Semester IV
Gen Ed – English Composition Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab METM 108 METS 210	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



## Mechanical Systems C.A.

Curriculum Code: 0147

Effective: Fall 2020 – Summer 2025

### 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.

### Additional Information

Students who have already completed DCTM 102, ELTE 102, HVAC 102 or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for METS 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 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 102	Industrial/Construction Safety	2 / 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

### Total Credit Hours

32 credits / 43.5 billing hours

### Recommended Course Sequence

Semester I	Semester II
ELTE 108 (First 8 weeks)	ELTE 131
ELTE 109 (Second 8 weeks)	METS 110
MATH 115	METS 130
METD 150	METS 160
METS 102	
METS 120	



## **Mechatronics - Multi-Skilled Maintenance Technology A.A.S.**

Curriculum Code: 1780

Effective: Fall 2020– Summer 2025

### **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.

### **Additional Information**

Students who have already completed DCTM 102, ELTE 102, HVAC 102 or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for METS 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 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 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 102	Industrial/Construction Safety	2 / 3
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
WELD 108	Welding for Non-Majors	4 / 6

## Total Credit Hours

62 credits / 83 billing hours

## Recommended Course Sequence

Semester I	Semester II
Gen Ed – Mathematics or Applied Mathematics ELTE 108 (First 8 weeks) ELTE 129 (Second 8 weeks) METD 150 METS 102 METS 160	ELTE 130 (First 8 weeks) ELTE 132 (Second 8 weeks) METM 108 METS 125 METS 145

Semester III	Semester IV
Gen Ed – English Composition Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab ELTE 260 METS 110	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



## Medical Assistant C.A.

Curriculum Code: 1811

Effective: Fall 2020 – Summer 2025

### 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 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.

### 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, CPR for Health Care Professionals, is a co-requisite requirement for MEDA 156. 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 116	Intro:MA Clinical & Adm Skills	6 / 8
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	5 / 7
MEDA 166	MA Clinical Procedures II	5 / 7
MEDA 175	MA Certification Review	3 / 3
MEDA 177	MA Practicum Immersion	3 / 3

### Total Credit Hours

31 credits / 38 billing hours

## Required Course Sequence

Semester I (Fall)	Semester II (Spring)
MEDA 116	MEDA 145
MEDA 126	MEDA 156
MEDA 135	MEDA 166
	NCHE 102

Semester III (Summer)
MEDA 175
MEDA 177





## Medical Insurance Billing and Coding C.C.

Curriculum Code: 1488

Effective: Fall 2020 – Summer 2022

### 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 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.

### 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

### Total Credit Hours

22 credits / 22 billing hours

### Recommended Course Sequence

Semester I (Fall)	Semester II (Spring)
CHSE 120	CHSE 124
CHSE 123	CHSE 125
CHSE 131	CHSE 127

Semester III (Summer)
CHSE 130



## Microsoft Office Specialist C.C.

Curriculum Code: 0841

Effective: Fall 2020 – Summer 2025

### 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 in Business Degree (0713).

### 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

### Total Credit Hours

21 credits / 21 billing hours

### Recommended Course Sequence

Semester I	Semester II
CITA 115	CITA 140
CITA 119	CITA 219
CITA 126	CITA 226
CITA 133	



## Mid-Michigan Police Academy C.C.

Curriculum Code: 1707

Effective: Fall 2020 – Summer 2021

### 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

### Total Credit Hours

27.5 credits / 38.5 billing hours

### Recommended Course Sequence

Semester I
CJUS 270
CJUS 271
PFFT 114
PFHW 120



## Mobile Application Developer C.A.

Curriculum Code: 1712

Effective: Fall 2020 – Summer 2025

### 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 in Business degree (0113).

### 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	2 / 2
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
CITW 165	Web Development JavaScript	3 / 3
CITW 185	Web Development PHP & MySQL	4 / 4

### Total Credit Hours

34-36 credits / 34-36 billing hours

## Recommended Course Sequence

Semester I	Semester II
CITP 110 CITW 150 Limited Choice	CITP 130 CITP 180 CITW 160 Limited Choice

Semester III
CITP 230 CITP 235 Limited Choice



## Music A.A.

Curriculum Code: 1477

Effective: Fall 2020 – Summer 2025

### 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), and Musicianship Studies CC (1352).

### 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 (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
- English Composition (second course) or 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 – *Select one from a discipline other than MUSC*  
HUMS 211, Art History to the Renaissance, 4 credits / 4 billing hours  
HUMS 212, Art Hist from the Renaissance, 4 credits / 4 billing hours  
PHIL 151, Intro to Logic & Critcal 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  
RELG 212, Judaism, Christianity & Islam, 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  
 PFHW 123, Human Nutrition, 3 credits / 3 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  
 COMM 280, Intercultural Communication, 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
MUSC 109*	Studio Class	1 / 1 (4 / 4)
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 164	Aural Skills II	1 / 2
MUSC 168	Rudiments of Music	3 / 3
MUSC 193	Music Theory I	4 / 4
MUSC 194	Music Theory II	4 / 4
MUSC 197	Music Tech 1 Home Studio Prod	2 / 3
MUSC 257	Applied Lesson III	2 / 2
MUSC 258	Applied Lesson IV	2 / 2

\*MUSC 109 must be taken four times.

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

Course Code	Course Title	Credit / Billing Hours
MUSC 199	Music Appreciation	3 / 3
MUSC 241	Musical Cultures 1750-Present	4 / 4

**Program of Study Required Courses - Ensemble** – *Select one each semester, courses may be repeated*

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

**Total Credit Hours**

64-68 credits / 76-84 billing hours

**Recommended Course Sequence**

Semester I	Semester II
MTA English Composition	MTA English Composition (2nd course)/
MTA Mathematics	Communications
MUSC 109	MUSC 109
MUSC 157	MUSC 138
MUSC 168	MUSC 158
MUSC 197	MUSC 163
Ensemble	MUSC 193
	Ensemble

Semester III	Semester IV
MTA Natural Sciences	MTA Humanities and Fine Arts
MTA Social Sciences	MTA Natural Sciences
MUSC 109	MTA Social Sciences
MUSC 164	MUSC 109
MUSC 194	MUSC 199 or MUSC 241
MUSC 257	MUSC 258
Ensemble	Ensemble





## Music Industry A.A.A.

Curriculum Code: 1807

Effective: Fall 2020 – Summer 2025

### Description

The Music Industry Associate of Applied Arts offers courses and experiences to prepare the student for a career in the ever-evolving field of commercial music. Students will be prepared to engage in the areas of Popular Music Performance, Composition and Arrangement, Music Production, and Music Business. Additionally, upon graduation the students will be prepared to teach music either independently or through established training centers. Not all courses in this program transfer to all colleges. Students planning to transfer should see an academic advisor before enrolling in any course.

### Additional Information

Students must be enrolled in a musical ensemble each semester they are enrolled as a Music major, for a minimum of four total credits.

### Contact Information

Contact the Communication, Media, & 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 Choices

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

- English Composition – *Select one*  
ENGL 121, Composition I, 4 credits / 4 billing hours  
ENGL 127, Business 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  
MUSC 199, Music Appreciation, 3 credits / 3 billing hours  
MUSC 241, Musical Cultures 1750-Present, 4 credits / 4 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  
STAT 170, Introduction to Statistics, 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
MUSC 109*	Studio Class	1 / 1 (4 / 4)
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 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 255	Music Business & Management	4 / 4
MUSC 257	Applied Lesson III	2 / 2
MUSC 258	Applied Lesson IV	2 / 2
MUSC 296	Music Internship	3 / 3

\*MUSC 109 must be taken four times

### Program of Study Required Courses, Limited Choice - Ensemble – *Select one each semester. Courses may be repeated for credit.*

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

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

Course Code	Course Title	Credit / Billing Hours
MUSC 194	Music Theory I	4 / 4
MUSC 292	Arranging & Songwriting	3 / 3

### 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
ACCG 101	Accounting Info for Management	3 / 3
BUSN 118	Introduction to Business	3 / 3
BUSN 150	Legal Issues: Start Small Busn	2 / 2
DANC 102	Beginning Modern	2 / 3
DMAC 121	Digital Audio Production II	4 / 4
DMAC 122	Audio Recording I	4 / 4
MKTG 200	Principles of Marketing	3 / 3
MUSC 237	Musical Theater Performance	2 / 3
MUSC 298	Music Tech 2 Advanced Studio	3 / 3
THEA 120	Introduction to Acting	2 / 3

## Total Credit Hours

60-64 credits / 74-79 billing hours

## Recommended Course Sequence

Semester I	Semester II
English Composition English Composition (second course)/ Communications or Applied Communications MUSC 109 MUSC 157 MUSC 168 MUSC 197 Limited Choice - Ensemble	Mathematics or Applied Mathematics MUSC 109 MUSC 138 MUSC 158 MUSC 163 MUSC 193 Limited Choice - Ensemble
Semester III	Semester IV
MUSC 109 MUSC 164 MUSC 194 or MUSC 292 MUSC 255 MUSC 257 Limited Choice - Ensemble	Humanities and Fine Arts or Social Sciences or Applied Social Sciences Natural Sciences Lab or Applied Science and Technology Lab MUSC 109 MUSC 258 MUSC 296 Limited Choice Limited Choice - Ensemble



## Music Technology C.C.

Curriculum Code: 1358

Effective: Fall 2020 – Summer 2025

### 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.

### 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

### Total Credit Hours

18 credits / 19-20 billing hours

### Recommended Course Sequence

Semester I	Semester II
MUSC 168 MUSC 197	DMAC 121 MUSC 298 Limited Choice

Semester III
DMAC 122



## Musicianship Studies C.C.

Curriculum Code: 1352

Effective: Fall 2020 – Summer 2025

### 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.

### 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

**Total Credit Hours**

20 credits / 27 billing hours

**Recommended Course Sequence**

Semester I	Semester II
MUSC 109	MUSC 109
MUSC 157	MUSC 138
MUSC 168	MUSC 158
MUSC 197	MUSC 163
Limited Choice	MUSC 193
	Limited Choice



## Neurodiagnostic Technology A.A.S.

Curriculum Code: 1812

Effective: Fall 2020 – Summer 2022

### 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 Michigan Radiologic and Imaging Science Consortium (MiRIS).

### Additional Information

All courses listed in Semester I and II must be completed before beginning the NDXT courses. Courses in semesters I and II must be completed with a minimum 2.0 grade, with the exception of the English Composition (second course)/Communications or Applied Communications General Education requirement which must be completed with a minimum 2.5 grade. All NDXT courses must be completed 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 credits may be awarded for a current Registered Electroencephalographic Technologist (R.EEG T) Certification. 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 Choices

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

- English Composition – *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
- 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 – 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

### Program of Study Required Courses for Admission – 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

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



**Program of Study Required Courses for Admission, Limited Choice** - *Select courses if needed to reach the minimum of 60 credits required for this degree.*

Course Code	Course Title	Credit / Billing Hours
ANTH 271	Medical Anthropology	3 / 3
PFFT or PFWT XXX	Activity courses	1-2 / 2-3 (3 credit max)

**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*

**Total Credit Hours**

60-61 credits / 33-35 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)	Semester II (Spring)
Gen Ed - English Composition	BIOL 145 or (BIOL 201 and BIOL 202)
MATH 119	CHSE 117
PFHW 163	CHSE 120
PSYC 200	COMM 110 or 120, or 130

Semester III (Fall)	Semester IV (Spring)
NDXT 100 NDXT 101 NDXT 102 NDXT 120	NDXT 130 NDXT 131 NDXT 132 NDXT 200 NDXT 201 NDXT 202 NDXT 220

Semester V (Summer)
NDXT 221 NDXT 230 NDXT 231 NDXT 232

Semester III (Fall)	Semester IV (Spring)
NDXT 100 NDXT 101 NDXT 102 NDXT 120	NDXT 130 NDXT 131 NDXT 132 NDXT 200 NDXT 201 NDXT 202 NDXT 220

Semester V (Summer)
NDXT 221 NDXT 230 NDXT 231 NDXT 232



## Neurodiagnostic Technology C.A.

Curriculum Code: 1808

Effective: Fall 2020 – Summer 2021

### 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 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 Michigan Radiologic and Imaging Science Consortium (MiRIS).

### 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.

All NDXT courses must be completed with a minimum 2.5 grade to continue in the program and receive this certificate.

### 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*

Course Code	Course Title	Credit / Billing Hours
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*

### 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)	Semester II (Spring)
NDXT 100	NDXT 130
NDXT 101	NDXT 131
NDXT 102	NDXT 132
NDXT 120	NDXT 200
	NDXT 201
	NDXT 202
	NDXT 220

Semester III (Summer)
NDXT 221
NDXT 230
NDXT 231
NDXT 232



## **Nursing - PN Option C.A.**

Curriculum Code: 0235

Effective: Fall 2020 – Fall 2021

### **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.

### **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 she or he has 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 2019/2020 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, email [selective\\_admissions@star.lcc.edu](mailto:selective_admissions@star.lcc.edu), 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 - Mathematics – *Select one, a MATH course higher than 119 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 Course for Admission – English Composition – *Select one*

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

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

### Total Credit Hours

42 credits / 58 billing hours

### Recommended Course Sequence for Admission

Semester I	Semester II
BIOL 201 BIOL 202 NURS 201 PFHW 163	Program of Study Required Course for Admission - Mathematics Program of Study Required Course for Admission – English Composition

### Recommended Course Sequence

Semester I	Semester II
NURS 211 NURS 212	NURS 221 NURS 222



## **Nursing - RN Option A.A.S.**

Curriculum Code: 0222

Effective Dates: Fall 2020 –Fall 2022

### **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.

### **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 she or he has successfully completed all of the NURS courses listed in the previous sequenced semester with a minimum grade of 3.0. For questions on the admission process, [email](mailto:selective_admissions@star.lcc.edu) (selective\_admissions@star.lcc.edu).

## 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 2020/2021 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, email [selective\\_admissions@star.lcc.edu](mailto:selective_admissions@star.lcc.edu), or the Academic Advising Department, Gannon Building – StarZone, telephone number 517-483-1904.

## General Education – Applied Degrees, Recommended Choices

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

- English Composition  
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*  
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
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 – English Composition** – *Select one. This course will also satisfy 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 – 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.*

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 Course for Admission - Mathematics** – *Select one. This course will also satisfy the General Education - Mathematics or Applied Mathematics requirement. (A MATH course higher than 119 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

### Total Admission Credit Hours

30-32 credits / 34-38 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	Semester II
BIOL 201 COMM 110, 120, or 130 ENGL 121, 122, 131, or 132 MATH 119, STAT 170, or 215 PFHW 163	Gen Ed - Humanities and Fine Arts or Social Sciences or Applied Social Sciences BIOL 202 BIOL 203 NURS 201

Semester III
BIOL 204 (Recommended)

## 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

**Total Credit Hours** (includes Admission requirement credits)

69-71 credits / 96.25 – 100.25 billing hours

### 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 or IV	Semester IV or V
NURS 211	NURS 221
NURS 212	NURS 222

Semester V or VI	Semester VI or VII
NURS 231	NURS 241
NURS 232	NURS 242

## Advanced Standing Track Pathway

Credits granted for PN, 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

**Total Credit Hours** (includes Admission requirement and licensure credits)

69-71 credits / 77.25 – 81.25 billing hours

### 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 or IV	Semester IV or V
NURS 210	NURS 231
NURS 212	NURS 232

Semester V or VI
NURS 241
NURS 242



## **Paralegal A.B.**

Curriculum Code: 0101

Effective: Fall 2020 – Summer 2025

### **Description**

Paralegals/legal assistants, generally work under the supervision of an attorney as authorized by law and adhere to recognized ethical standards and rules of professional responsibility. Paralegals/legal assistants investigate the facts; conduct interviews; perform legal research; analyze substantive and procedural laws; draft appropriate documents including: briefs, pleadings, and other forms. Paralegals/legal assistants possess strong technology and case management skills. Paralegals/legal assistants have 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/legal assistants 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.

### **Additional Information**

Paralegal Program Legal Specialty Courses Transfer Credit Policy\*

The Lansing Community College Paralegal Studies Program may award transfer credit for designated, legal specialty courses on a case-by-case basis determined by the Paralegal Studies Program Director, subject to approval of the Dean of the Technical Careers Division. The current Paralegal specialty courses are LEGL 115, LEGL 125, LEGL 210, 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 paralegal studies program. To be considered "substantially similar", the course must have incorporated the same or similar topics and assignments as the LCC Paralegal 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 Paralegal specialty course credit may be earned toward the Paralegal Associate Degree or Paralegal 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 Paralegal Associate degree or Certificate unless at least 10 hours of Paralegal 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 Choices

(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)/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	Paralegal Career/Ethics	3 / 3
LEGL 125	Legal Research and Writing I	4 / 4
LEGL 160	Critical Thinking in Law	3 / 3
LEGL 210	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 Choices – *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	Paralegal Independent Study	3 / 3
LEGL 280	Paralegal Internship	3 / 3

## Total Credit Hours

63 credits / 65 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	Semester II
Gen Ed – English Composition Gen Ed - Mathematics or Applied Mathematics LEGL 115 LEGL 160 LEGL 217	Gen Ed – English Composition (Second Course)/ Communications or Applied English Gen Ed – Natural Sciences Lab or Applied Science and Technology Lab CITF 110 LEGL 228 LEGL 210

Semester III	Semester IV
LEGL 110 LEGL 125 LEGL 211 LEGL 222 Limited Choice	Gen Ed – Humanities and Fine Arts or Social Sciences or Applied Social Sciences LEGL 225 LEGL 223 LEGL 270 Limited Choice



## **Paralegal Post-Bachelor C.A.**

Curriculum Code: 0744

Effective: Fall 2020 – Summer 2025

### **Description**

Paralegals/legal assistants, generally work under the supervision of an attorney as authorized by law and adhere to recognized ethical standards and rules of professional responsibility. Paralegals/legal assistants investigate the facts; conduct interviews; perform legal research; analyze substantive and procedural laws; draft appropriate documents including: briefs, pleadings, and other forms. Paralegals/legal assistants possess strong technology and case management skills. Paralegals/legal assistants have 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/legal assistants 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.

### **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.

### **Paralegal Program Legal Specialty Courses Transfer Credit Policy\***

The Lansing Community College Paralegal Studies Program may award transfer credit for designated, legal specialty courses on a case-by-case basis determined by the Paralegal Studies Program Director, subject to approval of the Dean of the Technical Careers Division. The current Paralegal specialty courses are LEGL 115, LEGL 125, LEGL 210, 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 paralegal studies program. To be considered "substantially similar", the course must have incorporated the same or similar topics and assignments as the LCC Paralegal 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 Paralegal specialty course credit may be earned toward the Paralegal Associate Degree or Paralegal 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 Paralegal Associate degree or Certificate unless at least 10 hours of Paralegal 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	Paralegal Career/Ethics	3 / 3
LEGL 125	Legal Research and Writing I	4 / 4
LEGL 210	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	Paralegal Internship	3 / 3
CJUS 103	Criminal Law	3 / 3

### Total Credit Hours

34 credits / 34 billing hours

### Recommended Course Sequence

Semester I	Semester II
LEGL 115	LEGL 210
LEGL 125	LEGL 223
LEGL 211	LEGL 225
LEGL 217	LEGL 228
LEGL 222	LEGL 270
	Limited Choice





## Paramedic C.A.

Curriculum Code: 0272

Effective: Fall 2020 – Summer 2021

### 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 ambulances 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.

### 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 application deadline is July 1.

The BIOL course(s) below must be completed with a minimum grade of 2.5 by the start of Fall semester.

Once admitted, a student may not begin a new semester in the Paramedic Program until she or he has successfully completed all of the PARA courses listed in the previous semester with a minimum grade of 3.0. A grade of 3.0 or above is required in all PARA courses to earn the Certificate of Achievement.

### 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 2020/2021 academic year. For the most current and complete information, contact the Paramedic Program, Health and Human Services Building, Room 108, telephone number 517-483-1810, or the Academic Advising Department, Gannon Building – StarZone, telephone number 517-483-1904.

### Program of Study Required Courses for Admission – *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

## Total Credit Hours

37-41 credits / 51-56 billing hours

## Required Course Sequence

Semester I	Semester II (Fall)
BIOL 145 or (BIOL 201 and 202)	PARA 221 PARA 231 PARA 241 PARA 251 PARA 261

Semester III (Spring)	Semester IV (Summer)
PARA 222 PARA 232 PARA 242 PARA 252 PARA 262	PARA 263



## Patient Care Technician C.C.

Curriculum Code: 1784

Effective: Fall 2020 – Summer 2021

### 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.

### 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

### Total Credit Hours

10 credits / 15.75 billing hours

### Recommended Course Sequence

Semester I	Semester II
CHSE 108	CHSE 151



## Personal Trainer C.A.

Curriculum Code: 1705

Effective: Fall 2020 – Summer 2025

### 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.

### 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 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 are encouraged to complete a MATH course rather than STAT 170.*

Course Code	Course Title	Credit / Billing Hours
MATH 120	College Algebra	4 / 4
MATH 121	Precalculus I	4 / 4
MATH 122	Precalculus II	4 / 4
MATH 151	Calculus	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 210	Athletic Training Principles	3 / 4

**Total Credit Hours**

42-49 credits / 51-60 billing hours

**Recommended Course Sequence**

Semester I (Fall)	Semester II (Spring)
PFFT 109 PFHW 163 PFKN 170 BIOL 145 or 201 Limited Choice - Mathematics	BIOL 202 (if selected BIOL 201/202) PFKN 106 PFKN 250 PFKN 260 PFWT 112 Limited Choice – English/Communication

Semester III (Fall)
PFKN 200 PFKN 201 PFKN 208 PFKN 270 PFKN 280 Limited Choice – Personal Trainer



## Pharmacy Technician C.C.

Curriculum Code: 1024

Effective: Fall 2020 – Summer 2021

### 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 to take the Pharmacy Technician Certification Exam.

### 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

### Total Credit Hours

7 credits / 7 billing hours

### Required Course Sequence

Semester I	Semester II
CHSE 235	CHSE 236



## Philosophy A.A.

Curriculum Code: 0159

Effective: Fall 2020 – Summer 2025

### 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).

### 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 517-483-1018, or 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 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*  
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  
THEA 110, Introduction to Theatre, 3 credits / 3 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 153	Knowledge and Reality	4 / 4
PHIL 211	Philosophy: Ancient & Medieval	4 / 4
PHIL 212	Philosophy: Modern & Contemptry	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
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 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
HUMS 260	Ancient Egypt	4 / 4
RELG 212	Judaism, Christianity & Islam	4 / 4
RELG 250	Religions of East Asia	4 / 4

### Total Credit Hours

60-62 credits / 61-66 billing hours

### Recommended Course Sequence

Semester I	Semester II
MTA English Composition MTA Mathematics MTA Social Sciences PHIL 101	MTA English Comp (2nd course) or Communications MTA Natural Sciences MTA Social Sciences PHIL 151



Semester III	Semester IV
MTA Humanities and Fine Arts MTA Natural Sciences Limited Choice Electives as needed for total credits	Limited Choice Electives as needed for total credits



## Phlebotomy Technician C.C.

Curriculum Code: 1010

Effective: Fall 2020 – Summer 2022

### 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.

### 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

### Total Credit Hours

6 credits / 7 billing hours

### Recommended Course Sequence

Semester I	Semester II
CHSE 143	CHSE 144



## Photography C.C.

Curriculum Code: 0963

Effective: Fall 2020 – Summer 2025

### Description

This certificate is designed to provide students with the necessary technical knowledge and skills needed to qualify for entry level photographic support positions. All of the course work may be applied toward the Photographic Imaging Technology Associate in Applied Science Degree.

### 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
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 117	Digital Photography II	4 / 4
PHOT 119	Intermediate Lighting	3 / 3

### Total Credit Hours

24 credits / 25 billing hours

### Recommended Course Sequence

Semester I	Semester II
ARTS 102	PHOT 114
PHOT 111	PHOT 117
PHOT 112	PHOT 119
PHOT 113	



## Political Science A.A.

Curriculum Code: 0750

Effective: Fall 2020 – Summer 2025

### 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).

### Additional Information

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

### Contact Information

Contact the Political Science Program in the Arts & Sciences Building, Room 2203, telephone number 517-483-1018, or 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 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 140, Art of Being Human, 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

### Total Credit Hours

60 credits / 61-64 billing hours

## Recommended Course Sequence

Semester I	Semester II
MTA English Composition MTA Humanities and Fine Arts POLS 120 POLS 201 Electives as needed for total credits	MTA English Comp (2nd course) or Communications MTA Mathematics MTA Social Sciences POLS 121

Semester III	Semester IV
MTA Natural Sciences POLS 260 POLS 270 Electives as needed for total credits	MTA Humanities and Fine Arts MTA Natural Sciences POLS 240 Electives as needed for total credits



## Powerplant Maintenance Technology A.A.S.

Curriculum Code: 0745

Effective: Fall 2020 – Summer 2025

### 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.

### Contact Information

Contact the Aviation Technology Program at the Mason-Jewett Field, 655 Aviation Drive, Mason, telephone number 517-483-1406.

### General Education - Applied Degree, 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 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

### Total Credit Hours

76-78 credits / 98-101 billing hours

### Recommended Course Sequence

Semester I (Fall)	Semester II (Spring)
AVGM 111	AVPP 251
AVGM 112	AVPP 253
AVGM 113	AVPP 255
AVGM 114	AVPP 257
	AVPP 259

Semester III (Summer)	Semester IV (Fall)
AVAF 212	Gen Ed – English Composition
AVPP 261	Gen Ed – Mathematics or Applied Mathematics
AVPP 263	AVPP 241
AVPP 265	
AVPP 267	

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





## Powerplant Maintenance Technology C.A.

Curriculum Code: 1035

Effective: Fall 2020 – Summer 2025

### 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.

### Contact Information

Contact the Aviation Technology Program at the Mason-Jewett Field, 655 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

### Total Credit Hours

40 credits / 55 billing hours

## Recommended Course Sequence

Semester I (Fall)	Semester II (Spring)
AVPP 241	AVPP 251

Semester III (Summer)	Semester IV (Spring)
AVAF 212	AVPP 253 AVPP 255 AVPP 257 AVPP 259

Semester V (Summer)
AVPP 261 AVPP 263 AVPP 265 AVPP 267



## Pre-Professional Health Studies A.S.

Curriculum Code: 0754

Effective: Fall 2020 – Summer 2025

### 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).

### 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 (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 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 121	Precalculus I	4 / 4
MATH 122	Precalculus 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
MATH 141	Calculus with Applications	4 / 4
MATH 151	Calculus I	4 / 4
PHYS 221	Introductory Physics I	4 / 6

### Total Credit Hours

60 credits / 72 billing hours

### Recommended Course Sequence

Semester I (Fall)	Semester II (Spring)
MTA English Composition CHEM 151 CHEM 161 MATH 121	MTA English Comp (2nd course) or Communications CHEM 152 CHEM 162 MATH 122
Semester III (Summer)	Semester IV (Fall)
MTA Social Sciences BIOL 128	MTA Humanities and Fine Arts MTA Social Sciences BIOL 127 CHEM 251
Semester V (Spring)	
MTA Humanities and Fine Arts CHEM 252 CHEM 272 Elective as needed for total credits	



## Psychology A.A.

Curriculum Code: 0215

Effective: Fall 2020 – Summer 2025

### 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).

### 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 517-483-1018, or 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 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 140, Art of Being Human, 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

### Total Credit Hours

60-61 credits / 62-64 billing hours

## Recommended Course Sequence

Semester I	Semester II
MTA English Composition MTA Mathematics PSYC 200 Electives as needed for total credits	MTA English Comp (2nd course) or Communications MTA Natural Sciences PSYC 202 PSYC 203 Electives as needed for total credits

Semester III	Semester IV
MTA Humanities and Fine Arts MTA Natural Sciences PSYC 205 or PSYC 221 Electives as needed for total credits	MTA Humanities and Fine Arts MTA Social Sciences PSYC 250 Electives as needed for total credits



## **Radiologic Technology A.A.S.**

Curriculum Code: 0196

Effective: Fall 2020 – Summer 2022

### **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.

### **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. BIOL 201 and BIOL 202, 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 2.0 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 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 she or he has 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 2020/2021 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 Choices**

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

- English Composition – *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  
SOCL 260, Race and Ethnicity, 3 credits / 3 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 BIOL 202 also satisfy the Natural Sciences Lab or Applied Science and Technology Lab General Education requirement.**

Course Code	Course Title	Credit / Billing Hours
BIOL 201	Human Anatomy	4 / 6
BIOL 202	Human Physiology	4 / 5
CHSE 117	Health Law and Ethics	2 / 2

**Program of Study Required Courses for Admission – English Composition (second course)/Communications – *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 for Admission – Mathematics– *Select one, or a MATH course higher than 119.***

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 Courses**

Course Code	Course Title	Credit / Billing Hours
IRXT 105	Introduction to Imaging	2 / 2
IRXT 111	Radiographic Positioning I	6 / 6
IRXT 112	Radiographic Positioning II	5 / 5
IRXT 116	Patient Care in Radiography	4 / 4
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

Course Code	Course Title	Credit / Billing Hours
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

### Total Credit Hours

77-80 credits / 80-83 billing hours

### Recommended Course Sequence

Semester I	Semester II
Program of Study Required Course for Admission - Mathematics BIOL 201 BIOL 202 CHSE 117	Gen Ed - English Composition Gen Ed - Humanities and Fine Arts or Social Sciences or Applied Social Sciences COMM 110, 120, or 130

Semester III (Fall)	Semester IV (Spring)
IRXT 105 IRXT 111 IRXT 116	IRXT 112 IRXT 140 IRXT 144 IRXT 170

Semester V (Summer)	Semester VI (Fall)
IRXT 172 IRXT 240 (Recommended)	IRXT 214 IRXT 222 IRXT 224

Semester VII (Spring)
IRXT 200 IRXT 215 IRXT 280



## Religious Studies A.A.

Curriculum Code: 0751

Effective: Fall 2020 – Summer 2025

### 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).

### 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 517-483-1018, or 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)/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 150	Intro to World Religions	4 / 4
RELG 212	Judaism, Christianity & Islam	4 / 4
RELG 242	New Testament Literature	4 / 4

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

Course Code	Course Title	Credit / Billing Hours
HUMS 160	Mythology	4 / 4
HUMS 213	World Civilizations to 1600	4 / 4
HUMS 214	World Civilizations from 1600	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 260	Ancient Egypt	4 / 4
PHIL 101	Introduction to Philosophy	3 / 3
PHIL 152	Introduction to Ethics	4 / 4
PHIL 153	Knowledge and Reality	4 / 4
PHIL 211	Philosophy: Ancient & Medieval	4 / 4
PHIL 212	Philosophy: Modern & Contempory	4 / 4

### Total Credit Hours

60-61 credits / 62-64 billing hours

### Recommended Course Sequence

Semester I	Semester II
MTA English Composition MTA Mathematics MTA Social Sciences RELG 150	MTA English Comp (2nd course)/Communications MTA Natural Science MTA Social Science RELG 212
Semester III	Semester IV
MTA Natural Science RELG 242 Limited Choice	Limited Choice Limited Choice Elective as needed for total credits



## Robotics and Automated Technology C.A.

Curriculum Code: 1605

Effective: Fall 2020 – Summer 2025

### 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.

### Additional Information

Students who have already completed DCTM 102, ELTE 102, HVAC 102 or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for METS 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 102	Industrial/Construction Safety	2 / 3
METS 125	Intro to Hydraulics/Pneumatics	4 / 6
METS 145	Automated Systems	3 / 4.5
METS 160	Introduction to Robotics	3 / 4.5

### Total Credit Hours

31 credits / 42 billing hours

### Recommended Course Sequence

Semester I	Semester II
ELTE 108 (First 8 weeks)	ELTE 130 (First 8 weeks)
ELTE 129 (Second 8 weeks)	ELTE 132 (Second 8 weeks)
MATH 115	METM 108
METD 150	METS 125
METS 102	METS 145
METS 160	



## Robotics and Automated Technology C.C.

Curriculum Code: 1789

Effective: Fall 2020 – Summer 2025

### 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.

### Additional Information

Students who have already completed DCTM 102, ELTE 102, HVAC 102 or WELD 102 with a grade of 2.0 or higher may substitute one of these courses for METS 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 109	Practical Electricity II	2 / 3
METD 150	Industrial Blueprint Reading	3 / 3
METS 102	Industrial/Construction Safety	2 / 3
METS 125	Intro to Hydraulics/Pneumatics	4 / 6
METS 160	Introduction to Robotics	3 / 4.5

### Total Credit Hours

16 credits / 22.5 billing hours

### Recommended Course Sequence

Semester I	Semester II
ELTE 108 (First 8 weeks)	ELTE 109 (Second 8 weeks)
METS 102	METD 150
METS 160	METS 125



## Sales Specialist C.A.

Curriculum Code: 0242

Effective: Fall 2020 – Summer 2025

### Description

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. A sales specialist may wish to go on to earn the Field Sales or Marketing Associate Degree.

### Contact Information

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

Course Code	Course Title	Credit / Billing Hours
BUSN 118	Introduction to Business	3 / 3
CITA 110	Intro to Microsoft Office	3 / 3
COMM 130	Fundamentals Public Speaking	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

### 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 231	Independent Study in Marketing	1-3 / 1-3
MKTG 235	Marketing Internship	3 / 3

### Total Credit Hours

30 credits / 30 billing hours

## Recommended Course Sequence

Semester I	Semester II
BUSN 118	COMM 130
CITA 110	MGMT 150
MKTG 120	MKTG 119
MKTG 200	Limited Choice
Limited Choice	Limited Choice





## Sign Language Interpreter A.A.A.

Curriculum Code: 0282

Effective: Fall 2020 – Summer 2025

### 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. Entrance to the Interpreter Program is granted by passing a screening implemented by the Sign Language Program. State of Michigan PA 204 of 2007 states that interpreters must possess certification in order to be employed. State credentials are available through the Bureau of Professional Licensing (BPL) in Licensing and Regulatory Affairs (LARA) for the State of Michigan. 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 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 Program must meet with a faculty advisor from the Sign Language Interpreter Program.

### Additional Information

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 Academic Advising Department, Gannon Building, - StarZone, telephone number 517-483-1904.

### General Education – Applied Degrees, Recommended Choices

(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 (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*  
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  
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 120, Environmental Science, 4 credits / 6 billing hours  
CHEM 135, Chemistry in Society, 4 credits / 5 billing hours  
ISCI 131, Integrated Physical Science, 4 credits / 6 billing hours

## 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 176	Advanced Fingerspelling	2 / 2
SIGN 200	Applied Skill in the Workplace	2 / 2
SIGN 240	Intro to Transliteration	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 – *select one*

Course Code	Course Title	Credit / Billing Hours
SIGN 164	American Sign Language IV	3 / 3
SIGN 170	Expressive/Receptive ASL	3 / 3
SIGN 294	Sign Lang Interpreting Seminar	3 / 3

## Total Credit Hours

69-70 credits / 70-72 billing hours

## Recommended Course Sequence

Semester I (Fall)	Semester II (Spring)
English Composition or Applied English Humanities and Fine Arts or Social Science or Applied Social Science SIGN 160 SIGN 161	Mathematics or Applied Mathematics Natural Sciences Lab or Applied Science and Technology Lab SIGN 162 SIGN 166
Semester III (Summer)	Semester IV (Fall)
SIGN 163 SIGN 167 Limited Choice if choosing SIGN 170	SIGN 200 SIGN 240 SIGN 250 (Fall only) SIGN 261 Limited Choice if choosing SIGN 164

Semester V (Spring)	Semester VI (Summer)
SIGN 176 (Spring and Summer only) SIGN 260 (Spring only) SIGN 263 SIGN 267	SIGN 266 SIGN 268

Semester VII (Fall)	Semester VIII (Spring)
SIGN 270 (Fall only) Limited Choice if choosing SIGN 294	SIGN 271 (Spring only)



## Sign Language Interpreter C.A.

Curriculum Code: 0187

Effective: Fall 2020 – Summer 2025

### 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. Entrance to the Interpreter Program is granted by passing a screening implemented by the Sign Language Program. State of Michigan PA 204 of 2007 states that interpreters must possess certification in order to be employed. State credentials are available through the Bureau of Professional Licensing (BPL) in Licensing and Regulatory Affairs (LARA) for the State of Michigan. 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 Program must meet with a faculty advisor from the Sign Language Interpreter Program.

### Additional Information

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, Arts and Sciences Building, Room 137, telephone number 517-483-5329.

### 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 200	Applied Skill in the Workplace	2 / 2
SIGN 240	Intro to Transliteration	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 (Fall or Spring)	American Sign Language IV	3 / 3
SIGN 170 (Summer)	Expressive/Receptive ASL	3 / 3
SIGN 176 (Spring or Summer)	Advanced Fingerspelling	2 / 2

**Total Credit Hours**

39-40 credits / 39-40 billing hours

**Recommended Course Sequence**

Semester I (Fall)	Semester II (Spring)
SIGN 160 SIGN 161	SIGN 162 SIGN 166

Semester III (Summer)	Semester IV (Fall)
SIGN 163 SIGN 167 Limited Choice (if choosing SIGN 170 or 176)	SIGN 200 SIGN 240 SIGN 261 Limited Choice (if choosing SIGN 164)

Semester V (Spring)	Semester VI (Summer)
SIGN 263 SIGN 267	SIGN 266 SIGN 268



## Social Science A.A.

Curriculum Code: 0121

Effective: Fall 2020 – Summer 2025

### 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).

### 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 517-483-1018, or 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 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 140, Art of Being Human, 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  
PHIL 153, Knowledge and Reality, 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

**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 270	Cultural Anthropology	3 / 3
ANTH 272	Food and Sustainability	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
HONR 156	Community Service Practicum II	1 / 1
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
PSYC 203	Social Psychology	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 150	Intro to World Religions	4 / 4
RELG 212	Judaism, Christianity & Islam	4 / 4
SOCL 254	Marriage and Family	3 / 3
SOCL 255	Contemporary Social Problems	3 / 3
SOCL 260	Race and Ethnicity	3 / 3

## Total Credit Hours

60 credits / 61-64 billing hours

## Recommended Course Sequence

Semester I	Semester II
MTA English Composition MTA Mathematics PSYC 200 Elective	MTA English Comp (2nd course) or Communications MTA Natural Sciences SOCL 120 Electives as needed for total credits
Semester III	Semester IV
MTA Humanities and Fine Arts POLS 201 Electives as needed for total credits	MTA Humanities and Fine Arts MTA Natural Sciences ANTH 120 Electives as needed for total credits





## **Sociology A.A.**

Curriculum Code: 0753

Effective: Fall 2020 – Summer 2025

### **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).

### **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 517-483-1018, or 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 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 140, Art of Being Human, 4 credits / 4 billing hours  
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  
PHIL 153, Knowledge and Reality, 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. (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
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 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
PSYC 200	Introduction to Psychology	4 / 4
RELG 150	Intro to World Religions	4 / 4
RELG 212	Judaism, Christianity & Islam	4 / 4

### Total Credit Hours

60 credits / 61-64 billing hours

## Recommended Course Sequence

Semester I	Semester II
MTA English Composition MTA Mathematics SOCL 120 Electives as needed for total credits	MTA English Comp (2nd course) or Communication MTA Natural Science ANTH 270 Elective as needed for total credits
Semester III	Semester IV
MTA Humanities and Fine Arts SOCL 255 Electives as needed for total credits	MTA Humanities and Fine Arts MTA Natural Science SOCL 254 or 260 Electives as needed for total credits



## Spanish Studies C.C.

Curriculum Code: 1788

Effective: Fall 2020 – Summer 2025

### 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 of Completion in Spanish may improve their employment opportunities, in particular since many Spanish companies have ties to Michigan businesses. Completing a Certificate in Completion in Spanish 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.

### 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

### Total Credit Hours

16 credits / 16 billing hours

### Recommended Course Sequence

Semester I	Semester II
SPAN 121	SPAN 122

Semester III	Semester IV
SPAN 201	SPAN 202



## Sterile Processing Technician C.C.

Curriculum Code: 1017

Effective: Fall 2020 – Summer 2022

### 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.

### Additional Information

Students must complete all three courses below 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 120	Medical Terminology	4 / 4
CHSE 145	Sterile Processing Tech I	5 / 7
CHSE 148	Sterile Processing Externship	3 / 3

### Total Credit Hours

12 credits / 14 billing hours

### Recommended Course Sequence

Semester I	Semester II
CHSE 120 CHSE 145	CHSE 148



## Studio Art A.F.A.

Curriculum Code: 1781

Effective: Fall 2020 – Summer 2025

### 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.

### 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 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 (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

## Total Credit Hours

60 credits / 70-75 billing hours

## Recommended Course Sequence

Semester I	Semester II
English Composition English Composition (second course)/ Communications or Applied Communications Humanities and Fine Arts or Social Sciences or Applied Social Sciences ARTS 103 ARTS 131	Mathematics or Applied Mathematics Natural Sciences Lab or Applied Science and Technology Lab ARTS 151 ARTS 153 ARTS 171

Semester III	Semester IV
ARTS 132 ARTS 136 ARTS 200 HUMS 216 Limited Choice as needed for minimum credits	ARTS 201 Limited Choice as needed for minimum credits



## **Surgical Technology A.A.S.**

Curriculum Code: 1021

Effective: Fall 2020 – Summer 2022

### **Description**

The Surgical Technologist is the person who stands elbow-to-elbow with the surgeon and passes the instruments. It is his or her 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 exam 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®).

### **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 she or he has 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 2020/2021 academic year. For the most current and complete information, interested students should visit 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 Choices

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

- English Composition  
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  
POLS 270, International Relations, 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  
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 – *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 – *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 – 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 – 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

### 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 Operative Procedures	2 / 2
SURG 110	Advanced Surgical Procedures	6 / 6
SURG 111	Surgical Specialty/Prof Prep	2 / 2
SURG 112	Surgical Clinical Compliance	1 / 1
SURG 121	Applied Surgical Techniques I	2 / 4
SURG 122	Applied Surgical Techniques II	3 / 6
SURG 123	Applied Surgical Techniq III	4 / 8
SURG 124	Applied Surgical Techniques IV	4 / 8

### Total Credit Hours

61-63 credits / 77-80 billing hours

### Recommended Course Sequence for Admission

Semester I	Semester II
MTA - Mathematics or Applied Mathematics BIOL 201 CHSE 120 ENGL 121, 122, 131 or 132	MTA - 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, 120 or 130

### Recommended Course Sequence

Semester III (Fall 2020)	Semester IV (Spring 2021)
SURG 100 SURG 101 SURG 108 SURG 109 SURG 121 SURG 122	SURG 110 SURG 111 SURG 112 SURG 123 SURG 124



## Surveying and Materials Technology C.C.

Curriculum Code: 1011

Effective: Fall 2020 – Summer 2025

### 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.

### 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

### Total Credit Hours

19 credits / 25 billing hours

### Recommended Course Sequence

Semester I	Semester II
CIVL 101	CIVL 110
CIVL 120	CIVL 124
DCTM 100	CIVL 141



## Sustainability C.A.

Curriculum Code: 1487

Effective: Fall 2020 – Summer 2025

### 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.

### 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

### 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

### Total Credit Hours

35-36 credits / 43-44 billing hours

## Recommended Course Sequence

Semester I	Semester II
ECON 201 MATH 115 Limited Choice – Architecture	CHEM 135 ECON 202 Limited Choice - English

Semester III
GEOL 230 PHYS 200 Limited Choice - Biology



## Teacher Paraprofessional A.A.S.

Curriculum Code: 1039

Effective: Fall 2020 – Summer 2025

### 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.

### 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 517-483-1018, or the Academic Advising Department, Gannon Building – StarZone, telephone number 517-483-1904.

### General Education – Applied Degrees, 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 122, Composition II, 4 credits / 4 billing hours
- English Composition (second course)/Communications or Applied Communications –  
*Select one for Early Childhood and Elementary Education Pathways*  
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 119, Math - Applications for Living, 4 credits / 4 billing hours  
MATH 120, College Algebra, 4 credits / 4 billing hours  
MATH 121, Precalculus I, 4 credits / 4 billing hours
- Natural Sciences Lab or Applied Science and Technologies Lab – *Select one for Special Education 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 186	Child Self-Esteem/Positive Dis	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 123	Literacy and Play	1 / 1
CHDV 184	Children and Stress	1 / 1
CHDV 215	Infant Toddler Program Dev	4 / 4
CHDV 220	Early Child Curr/Learn Environ	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

### Total Credit Hours

60 credits / 62-64 billing hours

## Recommended Course Sequence

Semester I	Semester II
English Composition Mathematics or Applied Mathematics CHDV 100 EDUC 204 EDUC 280	CHDV 101 CHDV 186 EDUC 230 ENGL 208

Semester III	Semester IV
English Composition (second course)/ Communications or Applied Communications CHDV 111 EDUC 226 ISCI 121	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 186	Child Self-Esteem/Positive Dis	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*

Course Code	Course Title	Credit / Billing Hours
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 205	Human Growth and Development	3 / 3
SOCL 120	Introduction to Sociology	4 / 4

## Total Credit Hours

60 credits / 65 billing hours



## Recommended Course Sequence

Semester I	Semester II
English Composition Mathematics or Applied Mathematics ARTS 240 EDUC 204 EDUC 280	CHDV 186 EDUC 220 EDUC 230 ENGL 208

Semester III	Semester IV
English Composition (second course)/ Communications or Applied Communications EDUC 226 EDUC 228 ISCI 121	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 186	Child Self-Esteem/Positive Dis	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

## Total Credit Hours

60 credits / 64 billing hours

## Recommended Course Sequence

Semester I	Semester II
English Composition Mathematics or Applied Mathematics EDUC 204 EDUC 220 EDUC 280	CHDV 186 EDUC 230 ENGL 208 PFKN 260

Semester III	Semester IV
Natural Sciences Lab or Applied Science and Technology Lab EDUC 226 PSYC 200 SIGN 160	Limited Choice Limited Choice Limited Choice Limited Choice Limited Choice



## Teacher Paraprofessional C.C.

Curriculum Code: 0829

Effective: Fall 2020 – Summer 2025

### 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.

### 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 517-483-1018, 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 186	Child Self-Esteem/Positive Dis	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 123	Literacy and Play	1 / 1
CHDV 124	Young Investigators: Math/Sci	1 / 1
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

**Total Credit Hours**

19-22 credits / 19-24 billing hours

**Recommended Course Sequence**

Semester I	Semester II
CHDV 186	EDUC 230
EDUC 226	Limited Choice
EDUC 280	Limited Choice
Limited Choice	



## Theatre A.A.A.

Curriculum Code: 0278

Effective: Fall 2020 – Summer 2025

### 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 pathways to determine the courses to take each semester.

### 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 Choices

(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 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 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 120	Introduction to Acting	2 / 3
THEA 150	Acting for the Camera	3 / 4
THEA 160	Stage Combat	2 / 3
THEA 170	Stage Combat II: Film Combat	3 / 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
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 Limited Choice Courses – Dance Subspecialty Pathway

(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

### Total Credit Hours

60-63 credits / 80-83 billing hours

## Recommended Course Sequence – Theatre Subspecialty

### Fall Start

Semester I (Fall)	Semester II (Spring)
THEA 110	DANC (any 100-level course)
THEA 120	THEA 132
THEA 131	THEA 143
THEA 141	THEA 170
THEA 160	THEA 171
Gen Ed - English Composition	THEA 173
Gen Ed - Mathematics or Applied Mathematics	

Semester III (Fall)	Semester IV (Spring)
Gen Ed - English Composition (second course)/ Communications or Applied Communications	Gen Ed - Natural Sciences Lab or Applied Science and Technology Lab
THEA 225	THEA 150
THEA 233	THEA 181
THEA 240	THEA 210
THEA 285	THEA 220
	THEA 283

### OR Spring Start

Semester I (Spring)	Semester II (Fall)
THEA 110	Gen Ed - Natural Sciences Lab or Applied Science and Technology Lab
THEA 120	
THEA 132	Gen Ed - Mathematics or Applied Mathematics
THEA 143	THEA 131
THEA 171	THEA 141
THEA 173	THEA 160
Gen Ed - English Composition	THEA 285

Semester III (Spring)	Semester IV (Fall)
THEA 150	Gen Ed - English Composition (second course)/
THEA 170	Communications or Applied Communications
THEA 181	DANC (any 100-level DANC course)
THEA 210	THEA 225
THEA 220	THEA 233
THEA 283	THEA 240

### Recommended Course Sequence – Dance Subspecialty Pathway

Semester I	Semester II
DANC 101	Gen Ed - English Composition (second course)/
DANC 102	Communications or Applied Communications
DANC 104	DANC 201
THEA 110	DANC 261
THEA 131	THEA 132
THEA 141	THEA 143
Limited Choice	THEA 173
	Limited Choice

Semester III	Semester IV
Gen Ed - English Composition	Gen Ed - Natural Sciences Lab or Applied Science and Technology Lab
DANC 103	
THEA 225	Gen Ed - Mathematics or Applied Mathematics
THEA 233	DANC 261
THEA 240	Limited Choice
Limited Choice	Limited Choice





## **Transfer Studies A.A.**

Curriculum Code: 1779

Effective: Fall 2020 – Summer 2025

### **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, as it clearly announces to four-year colleges and universities that the student has successfully completed the MTA. 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).

### **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**

Complete a minimum of 30 credits from the [General Education](#)

- English Composition – *Select one*
- English Composition (second course) or Communications – *Select one*
- Humanities and Fine Arts – *Select two, each from a different discipline*
- Mathematics – *Select one*
- Natural Sciences – *Select two, each from a different discipline; one must be a lab course*
- Social Sciences – *Select two, 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.

- ANTH
- COMM
- ECON
- EDUC
- ENGL
- FREN
- GEOG
- GRMN
- HIST
- HUMS
- 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.

### **Total Credit Hours**

Minimum 60 credits / 61 billing hours

## Recommended Course Sequence

Semester I	Semester II
MTA English Composition MTA Mathematics Program of Study Required Course Elective Elective	MTA English Comp (2nd course) or Communications MTA Natural Sciences Program of Study Required Course Elective Elective

Semester III	Semester IV
MTA Humanities and Fine Arts MTA Natural Sciences MTA Social Sciences Program of Study Required Course Elective	MTA Humanities and Fine Arts MTA Social Sciences Program of Study Required Course (if needed) Elective (if needed)



## Transfer Studies A.S.

Curriculum Code: 1782

Effective: Fall 2020 – Summer 2025

### 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, as it clearly announces to four-year colleges and universities that the student has successfully completed the MTA. 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).

### 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

Complete a minimum of 30 credits from the [General Education](#)

- English Composition – *Select one*
- English Composition (second course) or Communications – *Select one*
- Humanities and Fine Arts – *Select two, each from a different discipline*
- Mathematics – *Select one*
- Natural Sciences – *Select two, each from a different discipline; one must be a lab course*
- Social Sciences – *Select two, 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
- GEOG
- GEOL
- ISCI
- PHYS
- 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.

- CITP courses numbered 110 to 294
- MATH courses numbered 119 to 294
- PFKN courses numbered 105 to 294

## 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.

## Total Credit Hours

Minimum 60 credits / 61 billing hours

## Recommended Course Sequence

Semester I	Semester II
MTA English Composition MTA Mathematics Program of Study Required Course Elective Elective	MTA English Comp (2nd course) or Communications MTA Natural Sciences Program of Study Required Course Elective Elective
Semester III	Semester IV
MTA Humanities and Fine Arts MTA Natural Sciences MTA Social Sciences Program of Study Required Course Elective	MTA Humanities and Fine Arts MTA Social Sciences Program of Study Required Course (if needed) Elective(s) as needed for the total credits



## Transfer Studies A.S.

Curriculum Code: 1782

Effective: Fall 2020 – Summer 2025

### 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, as it clearly announces to four-year colleges and universities that the student has successfully completed the MTA. 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).

### 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

Complete a minimum of 30 credits from the [General Education](#)

- English Composition – *Select one*
- English Composition (second course) or Communications – *Select one*
- Humanities and Fine Arts – *Select two, each from a different discipline*
- Mathematics – *Select one*
- Natural Sciences – *Select two, each from a different discipline; one must be a lab course*
- Social Sciences – *Select two, 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
- GEOG
- GEOL
- ISCI
- PHYS
- 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.

- CITP courses numbered 110 to 294
- MATH courses numbered 119 to 294
- PFKN courses numbered 105 to 294

## 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.

## Total Credit Hours

Minimum 60 credits / 61 billing hours

## Recommended Course Sequence

Semester I	Semester II
MTA English Composition MTA Mathematics Program of Study Required Course Elective Elective	MTA English Comp (2nd course) or Communications MTA Natural Sciences Program of Study Required Course Elective Elective

  

Semester III	Semester IV
MTA Humanities and Fine Arts MTA Natural Sciences MTA Social Sciences Program of Study Required Course Elective	MTA Humanities and Fine Arts MTA Social Sciences Program of Study Required Course (if needed) Elective(s) as needed for the total credits



## **Ultrasound: Diagnostic Medical Sonography A.A.S.**

Curriculum Code: 0790

Effective: Summer 2020 – Summer 2022

### **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.

### **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 require 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 2020/2021 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 Choices

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

- English Composition – *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
- 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 – English Composition (second course)/Communications** – *Select one. This course will satisfy the English Composition (second course)/Communications or Applied Communications General Education 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
SIGN 160	Intro to the Deaf Community	3 / 3

**Program of Study Required Course for Admission - Mathematics** – *Select one. This course will satisfy the Mathematics or Applied Mathematics General Education requirement. (A MATH course higher than 120 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 – Natural Sciences Lab** – *Select one. This course will satisfy the Natural Sciences Lab or Applied Science and Technology Lab General Education 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 – *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

**Total Credit Hours**

75-80 credits / 81-87 billing hours

**Recommended Course Sequence**

Semester I (Fall)	Semester II (Spring)
Program of Study Required Course for Admission - Mathematics BIOL 145 or (BIOL 201 and BIOL 202) PHYS 120 or PHYS 200	Gen Ed – English Composition Gen Ed – Humanities and Fine Arts or Social Sciences or Applied Social Sciences COMM 110, 120, 130, or SIGN 160

Semester III (Summer)	Semester IV (Fall)
CHSE 120 IDMS 169 IDMS 200 IDMS 270	IDMS 201 IDMS 202 IDMS 234 IDMS 271 IDMS 280

Semester V (Spring)	Semester VI (Summer)
IDMS 245 IDMS 265 IDMS 266 IDMS 281	IDMS 282



## Vascular Technology C.C.

Curriculum Code: 1604

Effective: Fall 2020 – Summer 2022

### 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.

### 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

### Total Credit Hours

17 credits / 20 billing hours

### Recommended Course Sequence

Semester I (Fall)	Semester II (Spring)
IDMS 250	IDMS 251
IDMS 255	IDMS 256



## Veterinary Technology A.A.S.

Curriculum Code: 0287

Effective: Fall 2020 – Summer 2025

Updated: 05/27/2020

### Description

Veterinary technicians 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 technology 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.

### 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. For core, a student must earn a minimum grade of 2.0 in all courses.

### Contact Information

Contact the Science Department, Arts & Sciences Building, Room 3203, telephone number (517) 483-1092 or the [MSU Department of Veterinary Technology](http://cvm.msu.edu) (cvm.msu.edu), or the Center for Academic and Career Pathways – GB StarZone, telephone number (517) 483-1904.

### General Education – Applied Degrees, Recommended Choices

(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 121	Precalculus I	4 / 4
MATH 122	Precalculus II	4 / 4
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
ENGL 131	Honors Composition I	4 / 4
ENGL 122	Composition II	4 / 4
ENGL 132	Honors Composition II	4 / 4

## MSU Veterinary Technology Courses

Forty-three (43) credits from the Veterinary Technology 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.

### 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	Semester II
COMM 120 or Limited Choice for Humanities and Fine Arts or Social Science or Applied Social Science Limited Choice for English Composition or Applied English Limited Choice for Mathematics or Applied Mathematics	BIOL 121 COMM 120 or Limited Choice for Humanities and Fine Arts or Social Science or Applied Social Science

Semester III	Semester IV
Veterinary Technology courses from MSU	Veterinary Technology courses from MSU



## Web Site Developer C.C.

Curriculum Code: 0843

Effective: Fall 2020 – Summer 2025

### 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 in Business Degree (0839).

### 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

### Total Credit Hours

16-18 credits / 16-18 billing hours

### Recommended Course Sequence

Semester I	Semester II
CITW 150 CITW 160 Limited Choice	CITW 165 CITW 175



## Welding Technology A.A.S.

Curriculum Code: 0186

Effective: Fall 2020 – Summer 2025

### 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.

### Additional Information

Students who have already completed DCTM 102, ELTE 102, HVAC 102, or METS 102 with a grade of 2.0 or higher may substitute one of these courses for WELD 102. Any of these courses may also be used to fulfill the prerequisite for METS 140 and ELTE 108/109

### 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](mailto:manufacturing@lcc.edu) (manufacturing@lcc.edu).

### 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 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
WELD 102	Industrial/Construction 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 Blpt 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	3 / 4
WELD 250	Welding Internship	3 / 3

## Total Credit Hours

60-61 credits / 81-83.5 billing hours

## Recommended Course Sequence

Semester I	Semester II
METM 108	METM 190
METS 140	WELD 105
WELD 102	WELD 111
WELD 103	WELD 125
WELD 110	

Semester III	Semester IV
Gen Ed – English Composition	Gen Ed – English Composition (Second Course)/
Gen Ed – Mathematics or Applied	Communications or Applied Communications
Mathematics	Gen Ed – Humanities and Fine Arts or Social
WELD 201	Sciences or Applied Social Sciences
WELD 220	WELD 205
Limited Choice	Limited Choice



## Welding Technology C.A.

Curriculum Code: 0156

Effective: Fall 2020 – Summer 2025

### 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.

### Additional Information

Students who have already completed DCTM 102, ELTE 102, HVAC 102, or METS 102 with a grade of 2.0 or higher may substitute one of these courses for WELD 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
WELD 102	Industrial/Construction 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 Blpt Reading/ Weld	2 / 2
WELD 220	Structural Fab & Inspection	4 / 6

### Total Credit Hours

31 credits / 45.5 billing hours

### Recommended Course Sequence

Semester I	Semester II
WELD 102	WELD 105
WELD 103	WELD 111
WELD 110	WELD 125

Semester III
METM 190
METS 140
WELD 220



## Welding Technology C.C.

Curriculum Code: 1356

Effective: Fall 2020 – Summer 2025

### 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 in Applied Science Degree.

### Additional Information

Students who have already completed DCTM 102, ELTE 102, HVAC 102, or METS 102 with a grade of 2.0 or higher may substitute one of these courses for WELD 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
WELD 102	Industrial/Construction 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

### Total Credit Hours

18 credits / 27 billing hours

### Recommended Course Sequence

Semester I	Semester II
WELD 102	WELD 105
WELD 103	WELD 111
WELD 110	

## 2020-2021 Course Descriptions

### **ACAD100**      **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 (NCEL 101 or NCSS 101 or ENGL 098 or ENGL 099 or ESOL 098 or ESOL 099)

### **ACCG100**      **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

### **ACCG101**      **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

### **ACCG102**      **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 semester schedule book. (Sp)

- Prerequisite Course: None
- Placement Score: None. Prerequisite is determined by the section.

### **ACCG160**      **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

## 2020-2021 Course Descriptions

### **ACCG161     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

### **ACCG210     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
- Note:
  - 1) Textbooks for this course are included in the course fee. Access to the textbooks will be given on the first day of class.
  - 2) Students taking this course intending to transfer to MSU must also complete ACCG 102, Principles Supplement (Spring semester), or ACCG 211.

### **ACCG211     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
- Note: Textbooks for this course are included in the course fee. Access to the textbooks will be given on the first day of class.

### **ACCG220     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
- Recommended: Electronic spreadsheet experience

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*

## 2020-2021 Course Descriptions

### **ACCG221 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
- Recommended: Electronic spreadsheet experience

### **ACCG230 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
- Recommended: Electronic spreadsheet experience

### **ACCG240 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. (F,Sp, Su)

- Prerequisite Course: Minimum 2.0 in ACCG 210
- Placement Score: Reading Level 5

### **ACCG241 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

### **ACCG245 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

## 2020-2021 Course Descriptions

### **ACCG250      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 and Reading Level 5

### **ACCG260      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
- Recommended: Keyboarding experience

### **ACCG266      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

### **ACCG271      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

### **ACCG280      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

### **ACCG290      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

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*

## 2020-2021 Course Descriptions

### **ACCG292 Fraud Detection and Prevention**

**Credit Hours: 3 / Billing Hours: 3**

Fraud examination will cover the principles and methodology of fraud detection and deterrents. The course will include the how and why of fraud, recognizing symptoms and positive detection methods, fundamentals of conducting a fraud investigation, fraud in the management ranks, and methods of resolution. (Sp)

- Prerequisite Course: Minimum 2.0 in ACCG 211 or concurrently and Reading Level 5 and Writing Level 4

### **AEET120 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)]

### **AEET175 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

### **AEET216 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)]

### **AEET256 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)
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 5



## 2020-2021 Course Descriptions

### **AEET275 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

### **AEET280 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

### **AERO110 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
- Note: Call Aerospace Studies at MSU at (517) 355-2168 for specific days and times.

### **AERO111 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
- Note: Call Aerospace Studies at MSU, (517) 355-2168, for specific days and times.

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*

## 2020-2021 Course Descriptions

### **AERO112      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
- Note: Call Aerospace Studies at MSU, 517-355-2168, for specific information regarding the Aerospace Studies program.

### **AERO113      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
- Note: Call Aerospace Studies at MSU, 517-355-2168 for specific information regarding the Aerospace Studies program.

### **AERO210      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
- Note: Call Aerospace Studies at MSU at (517) 355-2168 for specific days and times

### **AERO211      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
- Note: Call Aerospace Studies at MSU, (517) 355-2168, for specific days and times.

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **AERO212 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
- Note: Call Aerospace Studies at MSU, 517-355-2168, for specific days and times.

### **AERO213 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
- Note: Call Aerospace Studies at MSU at 517-355-2168 for specific days and times.

### **ANTH120 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 Score: Reading Level 5 and Writing Level 6

### **ANTH270 Cultural Anthropology**

**Credit Hours: 3 / Billing Hours: 3**

This course compares ways of life for societies worldwide using anthropological theory and methodology. Basic institutions of pre-industrial society, such as kinship, religion, law, politics, and economics are examined to provide a better understanding of the diversity of contemporary societies. Cultural variations and the role culture plays in adapting to the environment is emphasized. (F, Sp, Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### **ANTH271 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

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **ANTH272 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

### **ANTH275 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)

### **APPR170 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: None. Must be a current IBEW Electrical Apprentice

### **APPR171 Inside Wireman Apprentice 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: None. Must be a current IBEW Electrical Apprentice

### **APPR172 Inside Wireman Apprentice 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 Apprentice

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **APPR173      Inside Wireman Apprentice 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: None. Must be a current IBEW Electrical Apprentice

### **APPR174      Inside Wireman Apprentice 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: None. Must be a current IBEW Electrical Apprentice

### **APPR175      Inside Wireman Apprentice 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: None. Must be a current IBEW Electrical Apprentice

### **APPR176      Inside Wireman Apprentice 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: None. Must be a current IBEW Electrical Apprentice

### **APPR177      Inside Wireman Apprentice 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: None. Must be a current IBEW Electrical Apprentice

### **APPR178      Inside Wireman Apprentice 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: None. Must be a current IBEW Electrical Apprentice

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **APPR179      Inside Wireman Apprentice 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: None. Must be a current IBEW Electrical Apprentice

### **APPR180      Inside Wireman Apprentice 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: None. Must be a current IBEW Electrical Apprentice

### **APPR181      Inside Wireman Apprentice 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: None. Must be a current IBEW Electrical Apprentice

### **APPR182      Inside Wireman Apprentice 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: None. Must be a current IBEW Electrical Apprentice

### **APPR183      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: None. Must be a current IBEW Electrical Apprentice

### **APPR184      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: None. Must be a current IBEW Electrical Apprentice

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*

## 2020-2021 Course Descriptions

### **APPR220 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: None. Must be an Apprentice or Journey Electrician

### **APPR225 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: None. Must be a current IBEW Apprentice or Journeyman

### **APPR227 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: None. Must be a current IBEW Apprentice or Journeyman

### **APPR228 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: None. Must be a current IBEW Apprentice or Journeyman

### **APPR230 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: None. Must be a current IBEW Apprentice or Journeyman

### **APPR231 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

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*

## 2020-2021 Course Descriptions

### **ARCH105**      **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

### **ARCH107**      **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)

### **ARCH110**      **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)

### **ARCH111**      **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

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*



## 2020-2021 Course Descriptions

### **ARCH113      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

### **ARCH114      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)

### **ARCH118      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 Scores: Reading Level 4 and Writing Level 4 and Math Level 4

### **ARCH120      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

### **ARCH124      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

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*

## 2020-2021 Course Descriptions

### **ARCH125 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)

### **ARCH126 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)

### **ARCH141 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

### **ARCH142 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

### **ARCH146 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 Scores: Reading Level 4 and Writing Level 4 and (Math Level 4 or minimum 2.0 in MATH 105 or MATH 106)

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*

## 2020-2021 Course Descriptions

### **ARCH175 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

### **ARCH176 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

### **ARCH218 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

### **ARCH220 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

### **ARCH233 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)

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **ARCH235 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

### **ARCH243 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

### **ARCH275 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

### **ARCH290 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

### **ARCH295 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

## 2020-2021 Course Descriptions

### **ARTS102      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
- Note: Face-to-Face sections use Adobe Photoshop CC on Macintosh computers. Online 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 100 Computer Lab. Access to a Wacom Intuos or Bamboo Digital Drawing Tablet is highly recommended but not required.

### **ARTS103      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
- Note: Students purchase own art supplies and materials.

### **ARTS105      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

### **ARTS131      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 in sketches, developmental drawings, and finished imagery. Fundamental elements of drawing and principles of perspective are covered. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### **ARTS132      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

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*F=Fall; Sp=Spring; Su=Summer*

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## 2020-2021 Course Descriptions

### **ARTS136 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

### **ARTS151 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
- Note: This course uses Photoshop CC on Macintosh computers

### **ARTS153 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

### **ARTS162 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
- Note: Online students are required to have semester-long access to Adobe Illustrator CC. Students have access to this software in the LCC TLC 100 Computer Lab.

### **ARTS164 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
- Note: Adobe Illustrator CC on Macintosh computers is used.

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## 2020-2021 Course Descriptions

### **ARTS171 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,Su)

- Prerequisite Course: Minimum 2.5 in (ARTS 102 or PHOT 118) or concurrently
- Placement Score: Reading Level 5 and Writing Level 6
- Note: Adobe Photoshop CC software is used. Online 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 100 Computer Lab.

### **ARTS173 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,Su)

- Prerequisite Course: Minimum 2.5 in ARTS 171 or concurrently
- Placement Score: Reading Level 5 and Writing Level 6
- Note: This course uses Adobe Dreamweaver CC on Macintosh computers.

### **ARTS175 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

### **ARTS179 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. (F,Sp)

- Prerequisite Course: Minimum 2.0 in ARTS 173
- Placement Score: Reading Level 5 and Writing Level 6
- Note: This course uses Adobe Illustrator and Photoshop CC.

### **ARTS183 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: ARTS 212

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## 2020-2021 Course Descriptions

### **ARTS195      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,Sp)

- Prerequisite Course: None
- Placement Score: None

### **ARTS200      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
- Note: Students purchase own art supplies and materials (approx. \$200)

### **ARTS201      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
- Note: Students purchase own art supplies and materials (approx. \$200)

### **ARTS207      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
- Note: Students purchase own art supplies and materials

### **ARTS226      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
- Note: This course uses the Adobe Creative Suite on Macintosh computers



## 2020-2021 Course Descriptions

### **ARTS229      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,Sp)

- Prerequisite Course: Minimum 2.0 in ARTS 179
- Placement Score: Reading Level 5 and Writing Level 6
- Note: This course uses Adobe Dreamweaver CC on Macintosh computers

### **ARTS232      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
- Note: This course uses the Adobe Creative Suite on Macintosh computers

### **ARTS234      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
- Note: This course uses Autodesk Maya on Macintosh computers

### **ARTS235      Comp Graphics/3-D Animation II      Credit Hours: 3 / Billing Hours: 4**

This course builds upon ARTS234. 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
- Note: This course uses Autodesk Maya on Macintosh computers

### **ARTS240      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
- Note: EDUC201 and EDUC220 are prerequisites for this course to transfer to Central Michigan University

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## 2020-2021 Course Descriptions

### **ARTS251      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
- Note: This course uses the Adobe CC Suite on Macintosh computers

### **ARTS252      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
- Note: This course uses the Adobe CC Suite on Macintosh computers.

### **ARTS253      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
- Note: This course uses the Adobe CC Suite on Macintosh computers

### **ARTS269      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
- 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.

### **ARTS281      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

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## 2020-2021 Course Descriptions

### **ASTR201**      **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

### **AUTM102**      **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 or ENGL 098 concurrently) and Writing Level 2 and [Math Level 3 or Minimum 2.0 in (MATH 105 or MATH 106)]
- 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.

### **AUTM111**      **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 or ENGL 098 concurrently) and Writing Level 2 and [Math Level 3 or Minimum 2.0 in (MATH 105 or MATH 106)]
- 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.

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## 2020-2021 Course Descriptions

### **AUTM112 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
- 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.

### **AUTM113 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 or ENGL 098 concurrently) and Writing Level 2 and [Math Level 3 or minimum 2.0 in (MATH 105 or MATH 106)]
- 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.

### **AUTM125 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 or ENGL 098 concurrently) and Writing Level 2 and [Math Level 3 or Minimum 2.0 in (MATH 105 or MATH 106)]
- 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.

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## 2020-2021 Course Descriptions

### **AUTM126 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 or ENGL 098 concurrently) and Writing Level 2 and [Math Level 3 or Minimum 2.0 in (MATH 105 or MATH 106)]
- 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.

### **AUTM131 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 or ENGL 098 concurrently) and Writing Level 2 and [Math Level 3 or minimum 2.0 in (MATH 105 or MATH 106)]
- 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.

### **AUTM141 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 or ENGL 098 concurrently) and Writing Level 2 and [Math Level 3 or Minimum 2.0 in (MATH 105 or MATH 106)]
- 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.

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## 2020-2021 Course Descriptions

### **AUTM151 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 or ENGL 098 concurrently) and Writing Level 2 and [Math Level 3 or Minimum 2.0 in (MATH 105 or MATH 106)]
- 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.

### **AUTM161 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 or ENGL 098 concurrently) and Writing Level 2 and [Math Level 3 or minimum 2.0 in (MATH 105 or MATH 106)]
- 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.

### **AUTM180 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 or ENGL 098 concurrently) and Writing Level 2 and [Math Level 3 or Minimum 2.0 in (MATH 105 or MATH 106)]

### **AUTM185 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

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*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*

## 2020-2021 Course Descriptions

### **AUTM211 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 or ENGL 098 concurrently) and Writing Level 2 and [Math Level 3 or Minimum 2.0 in (MATH 105 or MATH 106)]
- 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.

### **AUTM270 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
- 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.

### **AUTM273 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
- 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.

*F=Fall; Sp=Spring; Su=Summer*

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## 2020-2021 Course Descriptions

### **AUTM275 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
- 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.

### **AUTM280 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
- 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.

### **AUTM282 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
- 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.

### **AUTM284 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
- 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.

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## 2020-2021 Course Descriptions

### **AUTM286 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
- 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.

### **AUTM288 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
- 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.

### **AUTM290 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

### **AUTM296 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

### **AUTM298 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

## 2020-2021 Course Descriptions

### **AVAF125 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

### **AVAF126 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

### **AVAF127 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

### **AVAF134 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

### **AVAF140 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
- 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.

### **AVAF208 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

*F=Fall; Sp=Spring; Su=Summer*

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## 2020-2021 Course Descriptions

### **AVAF209 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

### **AVAF210 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

### **AVAF211 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

### **AVAF212 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

### **AVAF246 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

## 2020-2021 Course Descriptions

### **AVEL202 Flight Line Testing**

**Credit Hours: 3 / Billing Hours: 4**

This course is a practical study of the electronics systems found aboard modern aircraft, focusing on the flight line testing of such systems as VHF communications, VHF navigation, ADF, radar, and autopilots. (F)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None

### **AVGM111 Aviation General I**

**Credit Hours: 4 / Billing Hours: 5**

This course is designed to develop the skills and knowledge required to weigh an aircraft and record the appropriate data. It involves mathematical and basic physics principles related to aviation, including aerodynamics, theory of flight, aircraft structural design and simple machines. (F)

- Prerequisite Course: None. Department Approval is required
- Placement Score: None

### **AVGM112 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

### **AVGM113 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

### **AVGM114 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

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## 2020-2021 Course Descriptions

### **AVPP241 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

### **AVPP251 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

### **AVPP253 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

### **AVPP255 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

### **AVPP257 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

### **AVPP259 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

## 2020-2021 Course Descriptions

### **AVPP261 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

### **AVPP263 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

### **AVPP265 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

### **AVPP267 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

### **BIOL120 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

Note: An online course also has some labs requiring students to physically tour a field lab facility or to do simple experiments at home.

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## 2020-2021 Course Descriptions

### **BIOL121 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
- Placement Score: Reading Level 5 and Writing Level 6 and [Math Level 4 or Minimum 2.0 in (MATH 105 or MATH 106)]
- Recommended: CHEM 120 or High School Chemistry

### **BIOL125 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

### **BIOL127 Cell Biology**

**Credit Hours: 4 / Billing Hours: 6**

Lecture topics include chemistry 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

### **BIOL128 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)]

### **BIOL145 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)].

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## 2020-2021 Course Descriptions

### **BIOL201 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.

### **BIOL202 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

### **BIOL203 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

### **BIOL204 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)]

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## 2020-2021 Course Descriptions

### **BIOL210**      **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,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)]

### **BIOL229**      **Nature Study for Educators**

**Credit Hours: 4 / Billing Hours: 6**

A general biology course for educators and education majors on integrated understanding of the natural world, including the biotic and abiotic components comprising three typical mid-Michigan environmental communities: an aquatic, a forest, and a field community. (F,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 4
- Recommended: ISCI 122

### **BIOL260**      **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

### **BIOL265**      **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

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## 2020-2021 Course Descriptions

### **BIOL270 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

### **BIOL275 Molecular Biology I**

**Credit Hours: 4 / Billing Hours: 6**

Introduces core principles of molecular biology, DNA/RNA structure, gene expression, function and replication, Polymerase Chain Reaction, and recombinant DNA technology. Laboratory emphasizes reagent preparation, culturing bacteria, isolating and purifying bacterial and plasmid DNA, restriction enzyme digests, and agarose gel electrophoresis analysis. Field trip to research laboratories. Students are expected to design, execute, and present a capstone scientific research project. (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

### **BIOL276 Molecular Biology II**

**Credit Hours: 4 / Billing Hours: 6**

Continuation of BIOL 275. Advanced lecture topics in bacteriophage biology, gene analysis, gene sequencing, and applications of molecular biotechnology. Gene cloning experiments with plasmid vectors, and molecular analysis of protein structure and function. (Sp)

- Prerequisite Course: Minimum 2.0 in BIOL 275
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 4

### **BLDT120 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)

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*

## 2020-2021 Course Descriptions

### **BLDT130 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

### **BLDT140 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)]

### **BLDT160 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

### **BLDT170 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

## 2020-2021 Course Descriptions

### **BLDT171**      **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

### **BLDT180**      **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)]
- 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.

### **BLDT285**      **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) and Departmental Approval is required
- Placement Score: None
- Restriction: Building Construction Majors

### **BUSN118**      **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)

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **BUSN150      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
- Note: Previously LEGL 150

### **BUSN155      Marketing Your Small Business      Credit Hours: 1 / Billing Hours: 1**

Marketing relevant to entrepreneurship is the prime focus for this course. Student exposure will involve entrepreneurial marketing concepts such as, marketing research, marketing analysis, promotion, pricing, channel development, brand development, target markets, customer bases and competition analysis. The course is entirely application focused, which will result in a marketing plan strategically built for the business venture of the student, or the business venture assigned to the student. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4 and Math Level 4

### **BUSN157      Business Feasibility Analysis      Credit Hours: 2 / Billing Hours: 2**

This course will explore your business idea(s) to determine whether the venture has potential to succeed. The class will give you the tools needed for trial-and-error testing before moving forward to the start-up phase. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4 and Math Level 4

### **BUSN201      International Business      Credit Hours: 3 / Billing Hours: 3**

Overview of international business: organizational, social, cultural, and economic variables that create change in the international marketplace. Includes exchange rates, resource allocation, import quotas and export controls, balance of payments, and free trade versus protectionism. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4
- Recommended: BUSN 118

### **BUSN250      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

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **BUSN251 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)]

### **BUSN260 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: Minimum 2.0 in BUSN 157 or concurrently
- Placement Score: Reading Level 5 and Writing Level 4 and Math Level 4

### **BUSN261 Writing a Business Plan**

**Credit Hours: 2 / Billing Hours: 2**

The focus of this course is on writing a business plan. Students will develop a realistic business plan which includes the marketing plan and financial plan. The successful plan will be clear and concise and incorporate the mission, goals, objectives, and implementation strategies of the business as outlined and presented in the course text. (F,Sp)

- Prerequisite Course: Minimum 3.0 in BUSN 260
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 4

### **BUSN285 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

### **CHDV100 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 or NCSS 101 concurrently) and Writing Level 4
- Recommended: Child Development and Early Education Major
- 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.

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **CHDV101 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

### **CHDV111 Child Guidance/Communication**

**Credit Hours: 4 / Billing Hours: 4**

This course, which includes field work, examines interaction skills and environmental structures which 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
- Note: Prior to the beginning of the semester all students must register for 4 hours/week at an approved (by CHDV program) weekday daytime fieldwork site by calling 517-483-1417. Students must pass an ICHAT criminal background check and receive clearance that they are not on the State Child Abuse and Neglect registry prior to the beginning of field placement. In addition to regular class time, students are required to complete Bloodborne Pathogens Training online. Information will be distributed via the course management site and/or in class. 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.

### **CHDV113 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

### **CHDV122 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

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### CHDV123 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

### CHDV124 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

### CHDV126 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

### CHDV129 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

### CHDV184 Children and Stress

Credit Hours: 1 / Billing Hours: 1

This course examines stress as it relates to children. Specific topics include symptoms and causes of stress, situations which are stressful for children, ways to help children cope with stress, and techniques for reducing stress. Divorce and death are among topics discussed. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 4 and Writing Level 4

*F=Fall; Sp=Spring; Su=Summer*

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## 2020-2021 Course Descriptions

### **CHDV186 Child Self-Esteem/Positive Dis**

**Credit Hours: 1 / Billing Hours: 1**

This course looks at children's self-esteem: what it is, where it comes from, and how it can be fostered in both home and early education settings. It focuses on practical suggestions and teaches positive guidance and discipline techniques that build self-esteem. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 4 and Writing Level 4

### **CHDV189 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

### **CHDV215 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
- Note: Prior to the beginning of the semester all students must register for 4 hours/week at an approved (by CHDV program) weekday daytime fieldwork site by calling 517-483-1417. Students must pass an ICHAT criminal background check and receive clearance that they are not on the State Child Abuse and Neglect registry prior to the beginning of field placement. In addition to regular class time, students are required to complete Bloodborne Pathogens Training online. Information will be distributed via the course management site and/or in class.

### **CHDV220 Early Child Curr/Learn Environ**

**Credit Hours: 4 / Billing Hours: 4**

This course, with field work, explores developmentally appropriate programming which promotes physical, cognitive, language, literacy, and creative development in preschool-age early education and care settings. Emphasis is on active involvement of children in concrete experiences. Other topics include learning environments, materials and equipment, learning goals, and observation and assessment skills. (F,Sp)

- Prerequisite Course: Minimum 2.5 in CHDV 215 (previously CHDV 221)
- Placement Score: Reading Level 5 and Writing Level 6
- Note: Prior to the beginning of the semester all students must register for 4 hours/week at an approved (by CHDV program) weekday daytime fieldwork site by calling 517-483-1417. Students must pass an ICHAT criminal background check and receive clearance that they are not on the State Child Abuse and Neglect registry prior to the beginning of field placement. In addition to regular class time, students are required to complete Bloodborne Pathogens Training online. Information will be distributed via the course management site and/or in class.

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **CHDV222 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

### **CHDV225 Families and Inclusion**

**Credit Hours: 4 / Billing Hours: 4**

This course examines inclusive strategies for young children, and approaches to establish and maintain supportive relationships with families. It includes: understanding current systems of assessment and services children and families may be involved in, supporting the child's relationship with his/her family by developing respectful communication strategies, understanding the complex strengths and diversity of families, and recognizing professional roles and responsibilities. (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

### **CHDV230 Early Childhood Program Admin**

**Credit Hours: 3 / Billing Hours: 3**

This course examines the administrative role in managing an early childhood education and care program. The focus is on providing a safe, healthy environment; developing effective leadership and management strategies; meeting professional standards and advocacy; and effective communication techniques. (F,Sp,Su)

- Prerequisite Course: Minimum 2.5 in CHDV 111
- Placement Score: Reading Level 5 and Writing Level 4

### **CHDV284 Early Childhood Practicum**

**Credit Hours: 6 / Billing Hours: 6**

A capstone supervised field experience in an early education and care program. Students plan and implement an environment and curriculum that are healthy, respectful, and challenging for children. Authentic assessment is used in planning for individuals. Accompanying seminar explores the teacher's role in planning, goal-setting, evaluation, family relationships, and professionalism. (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
- Note: Prior to the beginning of the semester all students must register for 12 hours/week at an approved (by CHDV program) weekday daytime fieldwork site by calling 517-483-1417. Students must pass an ICHAT criminal background check and receive clearance that they are not on the State Child Abuse and Neglect registry prior to the beginning of field placement. Students may be required to submit additional medical documentation for field placement sites as required by Michigan Child Care Licensing. In addition to regular class time, students are required to complete Bloodborne Pathogens Training online. Information will be distributed via the course management site and/or in class.

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **CHDV297**      **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

### **CHEM120**      **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)]

### **CHEM125**      **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)

### **CHEM130**      **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)

### **CHEM135**      **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)]

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### CHEM151 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

### CHEM152 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, modern materials, and green chemistry. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in CHEM 151 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
- Note: Students planning to transfer to four-year institutions are encouraged to take MATH 121 as the prerequisite for this course.

### CHEM161 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]

### CHEM162 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

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **CHEM182**    **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

### **CHEM192**    **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

### **CHEM251**    **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

### **CHEM252**    **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

### **CHEM262**    **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

*F=Fall; Sp=Spring; Su=Summer*

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## 2020-2021 Course Descriptions

### CHEM272 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

### CHSE100 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 vital signs, drug dose calculations, and medical terminology. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 or (Reading Level 4 and ENGL 099 concurrently) and Writing Level 4
- Note: In addition to regular class time, students are required to complete Bloodborne Pathogens Training online. Information will be distributed via the course D2L site.

### CHSE108 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
- Required for clinical:
  - 1. Completion of Bloodborne Pathogens online training; information given first day of class.
  - 2. Negative 2-step TB (tuberculosis) tests within the last year.
  - 3. Students must pass an ICHAT criminal background check (to be completed on first day of course, credit/debit card required).
  - 4. Proof of required immunizations.
  - 5. Students MUST meet physical requirements for the duration of course as specified in course syllabus.
- Note: This course provides training for CNA testing, nursing home, and Home Health Aide. \$4 of the course fee is for a medical kit and is non-refundable.

F=Fall; Sp=Spring; Su=Summer

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## 2020-2021 Course Descriptions

### CHSE114 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

### CHSE117 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

### CHSE119 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

### CHSE120 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

### CHSE123 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), 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,Sp)

- 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

### CHSE124 Medical Ins Billing/Coding II

Credit Hours: 4 / Billing Hours: 4

The course provides comprehensive billing directions for BCBS of Michigan, Medicare, Medicaid, commercial insurances including HMOs, managed care, and worker's compensation. (Sp)

- Prerequisite Course: Minimum 2.5 in CHSE 123
- Placement Score: Reading Level 5 and Writing Level 4

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## 2020-2021 Course Descriptions

### **CHSE125      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, and CPT coding; produce claim forms and patient statements; and build office databases. (Sp)

- Prerequisite Course: Minimum 2.5 in CHSE 123
- Placement Score: Placement Scores: Reading Level 5 and Writing Level 4

### **CHSE127      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 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

### **CHSE130      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 work-place 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
- Required:
  - 1) Completion of Bloodborne Pathogens and HIPAA Training online; information given at orientation.
  - 2) Negative 2-step TB (tuberculosis) skin test within the last year.
  - 3) Students must pass an ICHAT criminal background check prior to worksite placement; information given at orientation.
  - 4) Additional arranged hours are required for online discussion board.

### **CHSE131      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

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## 2020-2021 Course Descriptions

### CHSE136 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
- 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.

### CHSE139 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

### CHSE143 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
- Required: Completion of Bloodborne Pathogens Training online. Information will be distributed via the course D2L site and/or in class.
- Note: \$21 of the course fee is for a medical kit and is non-refundable.

*F=Fall; Sp=Spring; Su=Summer*

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## 2020-2021 Course Descriptions

### CHSE144 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
- Required:
  - 1) Completion of Bloodborne Pathogens and HIPAA Training online; information given at orientation.
  - 2) Negative 2-step TB (tuberculosis) skin test within the last year.
  - 3) Students must pass an ICHAT criminal background check prior to worksite placement; information given at orientation.
  - 4) Additional arranged hours are required for online discussion board.
- Note: \$4 of the course fee is for a medical kit and is non-refundable.

### CHSE145 Sterile Processing Tech I

Credit Hours: 5 / Billing Hours: 7

This course introduces individuals to basic skills needed in the Sterile Processing Department of health care facilities. Duties include processing of patient care equipment, supplies, and instruments for use in all departments. It also includes principles and practices of decontamination, cleaning, disinfection, sterilization, and distribution of medical/surgical supplies. Clinical component is included. (F,Sp)

- Prerequisite Course: Minimum 2.5 in CHSE 120 or concurrently
- Placement Score: Reading Level 5 and Writing Level 4
- Required:
  - 1) Completion of Bloodborne Pathogens and HIPAA Training online; information given at first class session.
  - 2) Negative 2-step TB (tuberculosis) skin test within the last year.
  - 3) Students must pass an ICHAT criminal background check prior to clinical placement; information given at first class session.

## 2020-2021 Course Descriptions

### CHSE148 Sterile Processing Externship

Credit Hours: 3 / Billing Hours: 3

This course prepares individuals to function competently in the Sterile Processing Department in hospitals. It builds on the principles and practices taught in CHSE 145 and includes discussion of professional work-place skills, resume writing, and interviewing skills, as well as 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. (F, Sp)

- Prerequisite Course: Minimum 2.5 in CHSE 145
- Placement Score: Reading Level 5 and Writing Level 4
- Required:
  - 1) Completion of Bloodborne Pathogens and HIPAA Training online; information given at first class session.
  - 2) Negative 2-step TB (tuberculosis) skin test within the last year.
  - 3) Students must pass an ICHAT criminal background check prior to clinical placement; information given at first class session.

### CHSE150 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: Program Approval is required
- Placement Score: None

## 2020-2021 Course Descriptions

### CHSE151 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
- Co-Requisite Course: NCHE 102
- Required:
  - 1) Completion of Bloodborne Pathogens, HIPAA & Sparrow online training; information given first day of class.
  - 2) Negative 2-step TB (tuberculosis) tests within the last year.
  - 3) Students must pass an ICHAT criminal background check. ICHAT to be completed on first day of course (credit card required).
  - 4) Proof of required immunizations.
  - 5) Students must meet PHYSICAL REQUIREMENTS for the duration of course as specified in course syllabus.
- Note: Provides training for national PCT certification and hospital. \$20 of the course fee is for a medical kit and is non-refundable.

### CHSE235 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 to take the Pharmacy Technician Certification Board National Certification Exam. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4 and Math Level 4

## 2020-2021 Course Descriptions

### CHSE236 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)

- 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
- Required:
  - 1) Completion of Bloodborne Pathogens and HIPAA Training online; information given at orientation.
  - 2) Negative 2-step TB (tuberculosis) skin test within the last year.
  - 3) Students must pass an ICHAT criminal background check prior to worksite placement; information given at orientation.
  - 4) Additional arranged hours are required for online discussion board.

### CITA110 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
- 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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## 2020-2021 Course Descriptions

### CITA115 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
- 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. Equipment and software is provided for students that wish to complete assignments at student computer labs on Main, West or 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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## 2020-2021 Course Descriptions

### CITA119 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
- 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.

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## 2020-2021 Course Descriptions

### CITA126 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
- 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 MyLab 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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## 2020-2021 Course Descriptions

**CITA133**

**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
- 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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## 2020-2021 Course Descriptions

### CITA140 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
- 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.

### CITA219 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
- 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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*F=Fall; Sp=Spring; Su=Summer*

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## 2020-2021 Course Descriptions

### CITA226 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
- 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.\*\*

### CITA229 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

### CITD120 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

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **CITD227 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
- Placement Score: None

### **CITD229 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

### **CITD250 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

### **CITF108 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
- 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.

## 2020-2021 Course Descriptions

### **CITF110**      **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
- 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.

### **CITF120**      **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)

### **CITF140**      **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

*F=Fall; Sp=Spring; Su=Summer*

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## 2020-2021 Course Descriptions

### **CITF227**      **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

### **CITF229**      **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

### **CITF240**      **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

### **CITF260**      **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

### **CITN115**      **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

## 2020-2021 Course Descriptions

### **CITN120      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

### **CITN220      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)]
- Note: This course is the first in the three-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.

### **CITN222      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)]

*F=Fall; Sp=Spring; Su=Summer*

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## 2020-2021 Course Descriptions

### **CITN225      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)]
- Note: This course is the second in the three-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.

### **CITN227      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 required
- Placement Score: None

### **CITN229      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

### **CITN230      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

### **CITN239      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

*F=Fall; Sp=Spring; Su=Summer*

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## 2020-2021 Course Descriptions

### **CITN240**      **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
- Note: This course is the third in the three-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.

### **CITN244**      **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

### **CITN250**      **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

### **CITN253**      **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

### **CITN256**      **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

## 2020-2021 Course Descriptions

### **CITN280 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

### **CITP110 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)]
- 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.

### **CITP130 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)]

### **CITP140 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)]

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## 2020-2021 Course Descriptions

### **CITP150      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

### **CITP180      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

### **CITP190      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

### **CITP220      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)

- Prerequisite Course: Minimum 2.0 in CITP 180
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 4
- Recommended: CITP 150

### **CITP227      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

## 2020-2021 Course Descriptions

### **CITP229**      **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

### **CITP230**      **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

### **CITP235**      **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

### **CITP240**      **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

### **CITP250**      **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

*F=Fall; Sp=Spring; Su=Summer*

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## 2020-2021 Course Descriptions

### **CITP280      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

### **CITP290      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

### **CITP295      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

### **CITS110      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)]

### **CITS125      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)]
- Note: Students will receive vouchers during the class for the CompTia A+ Certification exams.

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **CITS170 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

### **CITS176 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

### **CITS225 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
- Note: Students will receive vouchers during the class for the CompTia Network+ Certification exams.

### **CITS227 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

### **CITS229 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

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **CITS230 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

### **CITS285 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

### **CITW150 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: Windows familiarity

### **CITW160 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. Within a team, students will demonstrate their understanding and application of the concepts introduced during the semester. (F, Sp, Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### **CITW165 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

*F=Fall; Sp=Spring; Su=Summer*

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## 2020-2021 Course Descriptions

### **CITW175      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

### **CITW180      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

### **CITW185      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

### **CITW227      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

### **CITW229      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



## 2020-2021 Course Descriptions

### **CIVL101**      **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

### **CIVL110**      **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

### **CIVL120**      **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

### **CIVL124**      **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

### **CIVL131**      **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 Course: None
- Placement Score: None

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*

## 2020-2021 Course Descriptions

### **CIVL135      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

### **CIVL141      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)]

### **CIVL143      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

### **CIVL170      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

### **CIVL171      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

### **CIVL225      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

*F=Fall; Sp=Spring; Su=Summer*

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## 2020-2021 Course Descriptions

### **CIVL241      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

### **CIVL290      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

### **CJUS101      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

### **CJUS102      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

### **CJUS103      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

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **CJUS104 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

### **CJUS106 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

### **CJUS126 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

### **CJUS130 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

### **CJUS131 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

*F=Fall; Sp=Spring; Su=Summer*

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## 2020-2021 Course Descriptions

### **CJUS133 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

### **CJUS134 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

### **CJUS135 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

### **CJUS201 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

### **CJUS203 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

### **CJUS204 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

*F=Fall; Sp=Spring; Su=Summer*

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## 2020-2021 Course Descriptions

### **CJUS205 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

### **CJUS207 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. (Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4
- Recommended: Minimum 2.0 in CJUS 101

### **CJUS210 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

### **CJUS242 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
- Note: The \$39 Course Fee is non-refundable.

### **CJUS245 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,Su)

- Prerequisite Course: Minimum 2.0 in ((CJUS 101 or CJUS 131) and (CJUS 103 or CJUS 135))
- Placement Score: Reading Level 5 and Writing Level 4

## 2020-2021 Course Descriptions

### **CJUS247 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: Reading Level 5 and Writing Level 4
- Recommended: Minimum 2.0 in (CJUS 126 and HUSE 110 and PSYC 200)

### **CJUS250 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

### **CJUS251 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

### **CJUS255 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

### **CJUS270 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
- Co-Requisite Courses: CJUS 271 and PFFT 114 and PFHW 100
- Note: \$400 of the Course Fee is non-refundable.

### **CJUS271 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
- Co-Requisite Courses: CJUS 270 and PFFT 114 and PFHW 100

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*

## 2020-2021 Course Descriptions

### **CJUS272      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
- Co-Requisite: CJUS 273
- Note: The \$60 Course Fee is non-refundable

### **CJUS273      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
- Co-Requisite: CJUS 272
- Note: The \$240 Course Fee is non-refundable

### **CJUS281      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

### **CJUS285      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
- 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.

*F=Fall; Sp=Spring; Su=Summer*

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## 2020-2021 Course Descriptions

### **CJUS286 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
- 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.

### **CJUS287 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
- 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.

### **CJUS288 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
- 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.

### **CJUS295 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

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### COMM110 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
- Note: Internet access may be needed for quizzes or other assessments in the course.

### COMM120 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
- Note:
  - 1) Internet access may be needed for quizzes or other assessments in the course
  - 2) Online students need to be able to record and submit videos

### COMM130 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 source citation and appropriate integration of presentational aids. Presentations will occur in informative, persuasive, and small group contexts. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6
- Note: Internet access may be needed for quizzes or other assessments in the course.

### COMM200 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

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### COMM240 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
- Note: Internet access may be needed for quizzes or other assessments in the course.

### COMM260 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
- Note: Formerly SPCH 260

### COMM270 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, violence, news, advertising, and the role of media in political campaigns. Assignments and observational projects 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
- Note: Formerly SPCH 270

### COMM280 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
- Note: Internet access may be needed for quizzes or other assessments in the course

## 2020-2021 Course Descriptions

### COMM295 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
- Note: Formerly SPCH 295

### CPAR250 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
- Co-requisite Courses: CPAR 251 and CPAR 252

### CPAR251 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
- Co-requisite Courses: CPAR 250 and CPAR 252

### CPAR252 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
- Co-requisite Course: CPAR 250 and CPAR 251

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **CPAR270 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

### **CPSC131 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

### **CPSC230 Algorithms and Computing w/C++**

**Credit Hours: 4 / Billing Hours: 4**

This course establishes 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, and pointer variables. Object orientation and data abstraction/information hiding is emphasized. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in (MATH 151 or MATH 161) or concurrently
- Placement Score: Reading Level 5 and Writing Level 6

### **CPSC231 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 abstract data structures such as linked lists, the stack, queue, binary search tree, heap and priority queue are studied. (F,Sp)

- Prerequisite Course: Minimum 2.0 in CPSC 230
- Placement Score: Reading Level 5 and Writing Level 6

### **CPSC260 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

*F=Fall; Sp=Spring; Su=Summer*

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## 2020-2021 Course Descriptions

### **CTGT210 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
- Co-requisite Courses: CTGT 215 and CTGT 230 and CTGT 240

### **CTGT215 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
- Co-requisite Courses: CTGT 210 and CTGT 230 and CTGT 240

### **CTGT220 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
- Co-requisite Courses: CTGT 231 and CTGT 241

### **CTGT230 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
- Co-requisite Courses: CTGT 210 and CTGT 215 and CTGT 240

## 2020-2021 Course Descriptions

### **CTGT231 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
- Co-requisite Courses: CTGT 220 and CTGT 241

### **CTGT240 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
- Co-requisite Courses: CTGT 210 and CTGT 215 and CTGT 230

### **CTGT241 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
- Co-requisite Courses: CTGT 220 and CTGT 231

### **DANC101 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

### **DANC102 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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## 2020-2021 Course Descriptions

### **DANC103     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

### **DANC104     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

### **DANC105     Beginning Jazz-Summer**

**Credit Hours: 1 / Billing Hours: 1.5**

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. (Su)

- Prerequisite Course: None
- Placement Score: None

### **DANC161     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
- Co-Requisite: Approved students must be registered in one LCC Dance Technique class. Auditing only permitted for intermediate classes.

### **DANC201     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

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **DANC202 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

### **DANC203 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
- Placement Score: None

### **DANC204 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

### **DANC207 Intermediate Ballet-Summer**

**Credit Hours: 1.5 / Billing Hours: 2**

A continuation of beginning Ballet. This course includes alignment training, spatial relationships, practice of movement qualities, and longer combinations. Intermediate concepts in choreography and 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. (Su)

- Prerequisite Course: Minimum 3.5 in DANC 101 or Dance Audition for Intermediate Ballet Placement
- Placement Score: None

### **DANC261 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
- Co-Requisite: Approved students must be registered in one LCC Dance Technique class. Auditing only permitted for intermediate classes.

## 2020-2021 Course Descriptions

### **DANC290 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
- Note: For information, call the Business, Communication and the Arts Office at 517-483-1546.

### **DCTM100 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)]
- Note: This course replaces the following courses: AEET 102, ARCH 100, BLDT 100 and CIVL 100.

### **DCTM101 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)]
- Note: This course replaces the following courses: ARCH 100 and GRET 203.

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## 2020-2021 Course Descriptions

### **DCTM102 Industrial/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
- Note:
  - 1) This course requires students to be certified in CPR and First Aid as part of the course grade. Training will occur as part of traditional on-campus sections. Online students have the option of attending CPR and First Aid sessions at LCC's West Campus. Students who cannot travel to LCC will need to make other arrangements to become certified. Additional costs may be incurred if the scheduled CPR and First Aid sessions are not used.
  - 2) 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.

### **DCTM103 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)]
- Note: This course replaces the following courses: AEET 261, BLDT 277, BLDT 281 and CIVL 142

### **DCTM150 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

### **DCTM200 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

*F=Fall; Sp=Spring; Su=Summer*

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## 2020-2021 Course Descriptions

### **DCTM201 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

### **DCTM210 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

### **DCTM220 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

### **DENT140 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
- Co-requisite Courses: DENT 142 and DENT 144 and DENT 146 and DENT 148

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **DENT142 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
- Co-requisite Courses: DENT 140 and DENT 144 and DENT 146 and DENT 148

### **DENT144 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
- Co-requisite Courses: DENT 140 and DENT 142 and DENT 146 and DENT 148
- Note: \$1,220 of the course fee is for a dental kit and is non-refundable

### **DENT146 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
- Co-requisite Courses: DENT 140 and DENT 142 and DENT 144 and DENT 148

### **DENT148 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
- Co-requisite Courses: DENT 140 and DENT 142 and DENT 144 and DENT 146

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*F=Fall; Sp=Spring; Su=Summer*

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## 2020-2021 Course Descriptions

### **DENT152      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
- Co-requisite Courses: DENT 154 and DENT 156 and DENT 158 and DENT 161

### **DENT154      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
- Co-requisite Courses: DENT 152 and DENT 156 and DENT 158 and DENT 161

### **DENT156      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
- Co-requisite Courses: DENT 152 and DENT 154 and DENT 158 and DENT 161

### **DENT158      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
- Co-requisite Courses: DENT 152 and DENT 154 and DENT 156 and DENT 161

*F=Fall; Sp=Spring; Su=Summer*

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## 2020-2021 Course Descriptions

### **DENT161 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
- Co-requisite Courses: DENT 152 and DENT 154 and DENT 156 and DENT 158

### **DENT174 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
- Co-requisite Course: DENT 176

### **DENT176 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
- Co-requisite Course: DENT 174

### **DENT240 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
- Co-requisite Courses: DENT 242 and DENT 244 and DENT 247 and DENT 248

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **DENT242      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
- Co-requisite Courses: DENT 240 and DENT 244 and DENT 247 and DENT 248

### **DENT244      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
- Co-requisite Courses: DENT 240 and DENT 242 and DENT 247 and DENT 248
- Note: \$372 of the course fee is for a dental supply kit and is non-refundable

### **DENT247      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
- Co-requisite Courses: DENT 240 and DENT 242 and DENT 244 and DENT 248

### **DENT248      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
- Co-requisite Courses: DENT 240 and DENT 242 and DENT 244 and DENT 247

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*



## 2020-2021 Course Descriptions

### **DENT252 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
- Co-requisite Courses: DENT 254 and DENT 256

### **DENT254 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
- Co-requisite Courses: DENT 252 and DENT 256

### **DENT256 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
- Co-requisite Courses: DENT 252 and DENT 254

### **DENT270 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

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **DENT280 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

### **DENT290 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

### **DMAC120 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

### **DMAC121 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

### **DMAC122 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

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **DMAC130 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

### **DMAC131 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
- Note: Students are strongly encouraged to take DMAC 131 and DMAC 132 concurrently

### **DMAC132 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
- Note: Students are strongly encouraged to take DMAC 132 concurrently with DMAC 131

### **DMAC140 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

### **DMAC141 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

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **DMAC222 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

### **DMAC231 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

### **DMAC232 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

### **DMAC234 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

### **DMAC240 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

## 2020-2021 Course Descriptions

### **DMAC244 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

### **DMAC245 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

### **DMAC246 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

### **DMAC260 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

### **DMAC295 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

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **DMAC296 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

### **ECON120 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

### **ECON201 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

### **ECON202 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

### **ECON213 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

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## 2020-2021 Course Descriptions

### **ECON260**      **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

### **EDUC204**      **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

### **EDUC220**      **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: Reading Level 5 and Writing Level 6

### **EDUC226**      **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)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: EDUC 220 and EDUC 204

### **EDUC228**      **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 and CPSC 120 or CABS 110

*F=Fall; Sp=Spring; Su=Summer*

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## 2020-2021 Course Descriptions

### **EDUC230 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

### **EDUC280 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
- 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. Instructions for conducting this online background check may be found at the [Teacher Preparation Program webpage](#) and click on the Practicum Background Check Instructions link.

### **ELTA105 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

### **ELTA106 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)]

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## 2020-2021 Course Descriptions

### **ELTA120 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
- Note: \$8 of the Course Fee is non-refundable

### **ELTA155 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
- Note: \$8 of the Course Fee is non-refundable

### **ELTA160 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
- 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.

### **ELTA180 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

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **ELTE102 Industrial/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
- Note:
  - 1) This course requires students to be certified in CPR and First Aid as part of the course grade. Training will occur as part of traditional on-campus sections. Online students have the option of attending CPR and First Aid sessions at LCC's West Campus. Students who cannot travel to LCC will need to make other arrangements to become certified. Additional costs may be incurred if the scheduled CPR and First Aid sessions are not used.
  - 2) Online 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.

### **ELTE104 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)]

### **ELTE108 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)]
- 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.

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### ELTE109 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)]
- 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.

### ELTE110 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
- Note: \$12 of the Course Fee is non-refundable

### ELTE111 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)]
- 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.

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*

## 2020-2021 Course Descriptions

### ELTE112 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
- 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.

### ELTE121 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

### ELTE122 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)
- Note: \$8 of the Course Fee is non-refundable

### ELTE123 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
- Note: \$10 of the Course Fee is non-refundable

## 2020-2021 Course Descriptions

### **ELTE129      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)]
- Note: \$8 of the Course Fee is non-refundable

### **ELTE130      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
- Note: \$8 of the Course Fee is non-refundable

### **ELTE131      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
- Note: \$10 of the Course Fee is non-refundable

### **ELTE132      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

## 2020-2021 Course Descriptions

### ELTE136 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

### ELTE141 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
- 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.

### ELTE142 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
- 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.

### ELTE145 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
- 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.

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*

## 2020-2021 Course Descriptions

### **ELTE147 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

### **ELTE150 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

### **ELTE154 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)

### **ELTE156 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)
- Note: \$10 of the Course Fee is non-refundable

### **ELTE170 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

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **ELTE171 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

### **ELTE173 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
- Note: \$10 of the Course Fee is non-refundable

### **ELTE174 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)]
- Note: \$10 of the Course Fee is non-refundable

### **ELTE181 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

### **ELTE182 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
- Placement Score: None

*F=Fall; Sp=Spring; Su=Summer*

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## 2020-2021 Course Descriptions

### **ELTE185 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

### **ELTE186 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

### **ELTE187 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

### **ELTE188 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

### **ELTE232 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
- Note: \$10 of the Course Fee is non-refundable

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **ELTE251 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
- Note: The textbook for ELTE 251 is purchased thru Electrical Generating Association (egse.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.

### **ELTE252 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

### **ELTE255 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

### **ELTE260 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
- Note: \$5 of the Course Fee is non-refundable

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*

## 2020-2021 Course Descriptions

### **ELTE261 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
- Note: Students are required to provide a 2 gigabyte memory stick (jump drive) with USB port interface. \$5 of the Course Fee is non-refundable.

### **ELTE262 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

### **ELTE270 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

### **ELTE272 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
- Note: \$60 of the Course Fee is non-refundable

### **ELTE274 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

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*

## 2020-2021 Course Descriptions

### **ELTE276 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

### **ELTE290 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

### **ELTE291 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

### **EMTA100 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 enables the student to apply for state licensure as an emergency first responder. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 4 and Writing Level 4
- 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.
- \$50 of the course fee is for medical supplies and is non-refundable.

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*

## 2020-2021 Course Descriptions

### EMTA101 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
- Co-requisite Course: EMTA 102
- Note:
  - 1) 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. See section notes for concurrent CRN numbers to enroll in.
  - 2) 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. The EMS Program is located in Room 108 of the HHS Building, 517-483-1403.
  - 3) 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.
  - 4) There will be an additional cost to students for uniforms and textbooks. Medical supplies are included in the course fees. The medical supply fees are non-refundable.
  - 5) 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.

### EMTA102 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
- Co-requisite Course: EMTA 101
- Note: \$50 of the course fee is for a medical kit and is non-refundable

### EMTA103 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 Courses: Minimum 3.0 in (EMTA 101 and EMTA 102)
- Placement Scores: Reading Level 5 and Writing Level 6
- Co-requisite Courses: EMTA 104 and EMTA 112

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*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*

## 2020-2021 Course Descriptions

### **EMTA104 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
- Co-requisite Courses: EMTA 103 and EMTA 112

### **EMTA112 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 required OSHA standards, hospital clinicals, ambulance clinicals, and may include a community service component. Classroom time in the other EMT Program courses enhances assessment, history taking skills, and report writing. (F, Sp, Su)

- Prerequisite Course: Minimum 3.0 in (EMTA 101 and EMTA 102)
- Placement Score: Reading Level 5 and Writing Level 6
- Co-requisite Courses: EMTA 103 and EMTA 104

### **EMTA222 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
- 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.

### **EMTA224 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, this course provides the opportunity to complete the required student teaching segment of the training. Students are required to complete student teaching time in both didactic and laboratory settings. All student teaching hours must be supervised and evaluated by a licensed EMS Instructor-Coordinator. (Sp)

- Prerequisite Course: Minimum 3.0 in EMTA 222
- Department Approval is required
- Placement Score: None

## 2020-2021 Course Descriptions

### **ENGL098 Integrated Reading Writing I**

**Credit Hours: 6 / Billing Hours: 6**

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 2 and Writing Level 2 Concurrent enrollment in a college-level course is required. See an academic advisor for a complete listing of college-level courses that allow concurrent enrollment with ENGL 098.

### **ENGL099 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 Co-requisite Courses: ENGL 121 (ENGL 124 or ENGL 127 may be substituted with approval from the Integrated English Department) Students enrolled in ENGL 099 may take a second college-level course in addition to ENGL 121

### **ENGL118 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

### **ENGL121 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)

*F=Fall; Sp=Spring; Su=Summer*

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## 2020-2021 Course Descriptions

### **ENGL122      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

### **ENGL124      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

### **ENGL127      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

### **ENGL131      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

### **ENGL132      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

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## 2020-2021 Course Descriptions

### **ENGL200 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

### **ENGL201 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

### **ENGL202 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

### **ENGL208 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

### **ENGL211 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

*F=Fall; Sp=Spring; Su=Summer*

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## 2020-2021 Course Descriptions

### **ENGL212      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

### **ENGL220      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

### **ENGL240      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

### **ENGL245      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

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## 2020-2021 Course Descriptions

### **ENGL255 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 Courses: None Placement Scores: Reading Level 5 and Writing Level 6 Recommended: ENGL 121 (formerly WRIT 121) or ENGL 131 (formerly WRIT 131) and ENGL 122

- 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

### **ENGL256 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 19th 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

### **ENGL260 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

### **ENGL261 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

### **ENGL266 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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## 2020-2021 Course Descriptions

### **ENGL267**      **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 late 20th 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

### **ENGL270**      **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

### **ENGL271**      **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

### **ENGL278**      **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

### **ENGL279**      **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

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## 2020-2021 Course Descriptions

### **ENGL290 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

### **ENGL295 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

### **ENVR121 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

### **ENVR122 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

### **ENVR131 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

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## 2020-2021 Course Descriptions

### ESOL098 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)
- Co-requisite Courses: MUSC 241 or PSYC 200 (excluding online and online hybrid sections) or THEA 110
- Recommended: Concurrent enrollment in NCEL 101
- 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.

### ESOL099 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)
- Co-requisite Course: ENGL 121 (ENGL 124 or ENGL 127 may be substituted with approval from the Integrated English Department)
- Recommended: Concurrent enrollment in NCEL 101

### FIRE100 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

### FIRE101 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
- Co-requisite Course(s): FIRE 102 and PFFT 119
- Note: \$800 of the Course Fee is non-refundable

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## 2020-2021 Course Descriptions

### **FIRE102**      **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
- Co-requisite Course(s): FIRE 101 and PFFT 119

### **FIRE104**      **Fire Behavior & Combustion**

**Credit Hours: 3 / Billing Hours: 3**

This course explores the theories and fundamentals of how and why fires start and spread. (F)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4

### **FIRE105**      **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

### **FIRE110**      **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

### **FIRE112**      **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: Minimum 2.0 in (FIRE 104 or concurrently)
- Placement Score: Reading Level 5 and Writing Level 4

### **FIRE115**      **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

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## 2020-2021 Course Descriptions

### **FIRE122 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

### **FIRE125 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

### **FIRE150 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
- Note: Department Approval required. Contact the Fire Technology Program at (517) 483-1394

### **FIRE210 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
- Note: Contact the Fire Technology Program advisor at (517) 483-1394 for department approval

### **FIRE215 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
- Note: Contact the Fire Technology Program advisor at (517) 483-1394 for department approval



## 2020-2021 Course Descriptions

### **FIRE220**      **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
- Note: Contact the Fire Technology Program at (517) 483-9608 for department approval

### **FIRE245**      **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
- Note: Department approval required. Contact the Fire Technology Program at (517) 483-1394

### **FIRE250**      **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
- 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

### **FIRE255**      **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
- Note: Contact the Fire Technology Program advisor at (517) 483-1394 for department approval

## 2020-2021 Course Descriptions

### **FIRE260      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
- Note: Contact the Fire Technology Program advisor at (517) 483-1394 for department approval

### **FIRE265      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
- 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

### **FIRE270      Fire Service Career Developmnt**

**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.

### **FIRE280      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
- Note: Department approval required. Contact the Fire Technology Program advisor at (517) 483-1394.

### **FIRE285      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. Department Approval is required.
- Note: Department approval required. Contact the Fire Technology Program advisor at (517) 483-1394.

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **FIRE295 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

### **FREN121 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 (ENGL 098 or ENGL 099 or NCSS 101 concurrently)

### **FREN122 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 (ENGL 098 or ENGL 099 or NCSS 101 concurrently)

### **FREN201 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 ENGL 098 or ENGL 099 or NCSS 101 concurrently

### **FREN202 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 concurrent enrollment in (ENGL 098 or ENGL 099 or NCSS 101)

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **GEOG120 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

### **GEOG200 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)]

### **GEOG202 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)]

### **GEOG220 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).

### **GEOG221 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)]

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*

## 2020-2021 Course Descriptions

### **GEOL221      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)]

### **GEOL222      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

### **GEOL230      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)]

### **GERO100      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 and their families. Students will learn to identify and utilize resources across the human services network. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### **GERO164      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

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*

## 2020-2021 Course Descriptions

### **GERO169      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

### **GERO191      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

### **GRMN121      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 (ENGL 098 or ENGL 099 or NCSS 101 concurrently)

### **GRMN122      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 (ENGL 098 or ENGL 099 or NCSS 101 concurrently)

### **GRMN201      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 ENGL 098 or ENGL 099 or NCSS 101 concurrently

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*

## 2020-2021 Course Descriptions

### **GRMN202 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 concurrent enrollment in (ENGL 098 or ENGL 099 or NCSS 101)

### **GSCI100 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)

- Prerequisite Course: None
- Placement Score: None

### **GSCI110 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. (Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 3 and [Math Level 4 or minimum 2.0 in (MATH 105 or MATH 106)]

### **GSCI120 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

### **GSCI175 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

## 2020-2021 Course Descriptions

### **GSCI210 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

### **GSCI240 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)]

### **GSCI241 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)]

### **GSCI260 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)]

### **GSCI264 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)]



## 2020-2021 Course Descriptions

### **GSCI271 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)]

### **GSCI275 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

### **GSCI290 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: None. Department Approval is required.

### **HERT110 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

### **HERT120 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

### **HERT125 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

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*

## 2020-2021 Course Descriptions

### **HERT130      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

### **HERT135      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

### **HERT140      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

### **HERT145      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

### **HERT210      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

### **HIST150      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

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **HIST210**      **Studies in American History**      **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: None
- Placement Score: Reading Level 5 and Writing Level 6

### **HIST211**      **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

### **HIST212**      **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

### **HIST214**      **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)

### **HIST220**      **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

### **HIST235**      **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

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **HIST240 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

### **HIST250 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

### **HIST295 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

### **HONR151 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

### **HONR152 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

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **HONR155 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

### **HONR156 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

### **HONR295 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

### **HSAC090 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

### **HSAH080 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: None
- CCRESA Student

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*

## 2020-2021 Course Descriptions

### **HSAH090      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: None
- ERESA Student

### **HSAH092      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: None
- ERESA Student

### **HSAM080      CRESSA 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

### **HSAM090      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

### **HSAM091      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

## 2020-2021 Course Descriptions

### **HSAT090 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

### **HSBT090 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

### **HSCD080 CCRESA Child Development**

**Credit Hours: 8 / Billing Hours: 0**

This course of instruction for C.C.R.E.S.A. students provides a broad view of essential elements in early childhood education and care including the role of the early childhood education professional. Topics include health and safety, 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. Students are enrolled both fall and spring semesters. (F,Sp)

- Prerequisite Course: None
- CCRESA Student

### **HSCJ070 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

### **HSCJ080 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

### **HSCJ082 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

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*

## 2020-2021 Course Descriptions

### **HSCJ090**      **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 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: ERESA Student

### **HSCJ091**      **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

### **HSCJ092**      **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
- Placement Score:

### **HSCJ093**      **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

### **HSCS080**      **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

### **HSCS092**      **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

### **H SCT090**      **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

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## 2020-2021 Course Descriptions

### **HSDC071 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. (F,Sp,Su)

- Prerequisite Course: H.S.D.C. Student

### **HSDM090 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

### **HSDM091 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

### **HSDM092 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

### **HSDT090 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

*F=Fall; Sp=Spring; Su=Summer*

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## 2020-2021 Course Descriptions

### **HSEC090      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

### **HSFS080      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

### **HSFS090      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

### **HSGA090      ERESA-Computer Graph-Animation      Credit Hours: 8 / Billing Hours: 0**

This course introduces high school student to careers in the visual communication in art, drawing, animation, 3d modeling, and video games . In addition to traditional drawing work, students develop projects in a technical environment with hands-on training to create images in Photoshop, animation and interactivity with Flash, and three-dimensional models in Maya. (F,Sp)

- Prerequisite Course: E.I.S.D. Student

### **HSKN090      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: None
- ERESA Student
- Placement Score: LCC Reading Level 5 and Writing Level 6
- Recommended: BIOL 145 or equivalent

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## 2020-2021 Course Descriptions

### **HSLE090 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

### **HSMA090 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

### **HSMT090 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

### **HSWD090 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

### **HSWT090 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

### **HSWT092 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

## 2020-2021 Course Descriptions

### **HTEC051      TEC Seminar**

**Credit Hours: 1 / Billing Hours: 0**

The seminar sessions will focus on mentoring, advising, academic support and intervention for each student.

- Prerequisite Course:

### **HTEC053      TEC College Prep Math A**

**Credit Hours: 1 / Billing Hours: 0**

College Prep Math I A: 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

### **HTEC061      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.

### **HTEC062      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.

### **HTEC063      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 interwoven with this course.

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## 2020-2021 Course Descriptions

### **HTEC068      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.

### **HTEC078      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.

### **HUMS120      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)
- Note: No art or music background required

### **HUMS125      Japan: Past and Present      Credit Hours: 4 / Billing Hours: 4**

This course traces the development of Japan's cultural tradition with strong emphasis on history, religion, literature, and the arts. Further, this course demonstrates that modern Japan can best be understood in light of its distinctive traditions. (Sp)

- Prerequisite Course: Reading Level 5 and Writing Level 6

### **HUMS140      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

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## 2020-2021 Course Descriptions

### **HUMS160**    **Mythology**

**Credit Hours: 4 / Billing Hours: 4**

Classical Greek and Roman myths constitute half of the course with the remainder chosen from at least two of the following areas: African, American, Far Eastern, Medieval European, Near Eastern, or Norse. Reading and analysis of primary sources in translation and their cross-cultural comparison are emphasized. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: ENGL 121 or ENGL 131

### **HUMS211**    **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

### **HUMS212**    **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

### **HUMS213**    **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

### **HUMS214**    **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

*F=Fall; Sp=Spring; Su=Summer*

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## 2020-2021 Course Descriptions

### **HUMS215 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

### **HUMS216 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

### **HUMS260 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

### **HUMS295 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

### **HUSE100 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

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## 2020-2021 Course Descriptions

### **HUSE105      Personal Dynamics/Interviewing**

**Credit Hours: 4 / Billing Hours: 4**

The nature of personal development, knowledge and values are examined. 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)

### **HUSE110      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

### **HUSE112      Understanding Substance Abuse**

**Credit Hours: 4 / Billing Hours: 4**

Students learn multiple theories, definitions and factors that describe and explain addiction. The history and legislative impact is studied. Issues and treatment regarding addiction and special populations are discussed. Ethical issues, credentialing, professional competency and responsibility, confidentiality and commitment to the respect and dignity of the consumer/client's changing paradigms and promising practice are explored across the continuum of care. (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 105

### **HUSE242      The Family: Addiction/Violence**

**Credit Hours: 3 / Billing Hours: 3**

This course provides a holistic conceptual framework to understanding the interplay of addiction with violence across the family life cycle. Attention is brought to the biological, socioeconomic, cultural and psychological factors of chemical dependency and family violence. Assessment tools, intervention techniques and the role of treatment and broad spectrum human services applications and interventions are discussed. (F, Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 4 and Writing Level 4
- Recommended: Minimum 2.5 in (HUSE 105 and HUSE 112)

*F=Fall; Sp=Spring; Su=Summer*

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## 2020-2021 Course Descriptions

### **HUSE282 Human Services Practicum I**

**Credit Hours: 4 / Billing Hours: 4**

This course combines classroom training with beginning field experience (10 hours per week) in a community agency with exposure to community structure, funding sources and the internal working of human services organizations. Emphasis is on the development of professional skills to interact effectively with systems and individuals while following professional ethics and making ethical decisions. (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

### **HUSE284 Human Services Practicum II**

**Credit Hours: 4 / Billing Hours: 4**

This course combines classroom with advanced field experience (10 hours per week) in a community agency. Emphasis is on communications in diverse settings with diverse populations. Analysis of services identifies systems, people, and resources to mobilize and link them to provide quality services. Career subjects are also discussed. (Sp)

- Prerequisite Course: Minimum 2.5 in HUSE 282
- Program Approval is required
- Placement Score: Reading Level 5 and Writing Level 6

### **HUSE293 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

### **HUSE294 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

### **HUSE295 Peer Support Specialist Trng**

**Credit Hours: 3 / Billing Hours: 0**

Mental health recovery and implementation activities are demonstrated based on knowledge, skills and values. Individuals attending have a serious mental illness, past experience in receiving public mental health services and are working in community mental health. Curriculum includes structured exercises in ethics, problem solving, effective listening facilitating recovery dialogs, wellness, Medicaid reimbursement, person-centered planning and self-determination. (F,Sp,Su)

- Prerequisite Course: None
- Requires approval of Michigan Department of Health and Human Services
- Placement Score: None

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## 2020-2021 Course Descriptions

### **HUSE297 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

### **HVAC100 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
- Note: \$4 of the Course Fee is non-refundable

### **HVAC102 Industrial/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
- Note:
  - 1) This course requires students to be certified in CPR and First Aid as part of the course grade. Training will occur as part of traditional on-campus sections. Online students have the option of attending CPR and First Aid sessions at LCC's West Campus. Students who cannot travel to LCC will need to make other arrangements to become certified. Additional costs may be incurred if the scheduled CPR and First Aid sessions are not used.
  - 2) Online 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.

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*

## 2020-2021 Course Descriptions

### **HVAC110 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)]
- Note: \$4 of the Course Fee is non-refundable

### **HVAC111 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
- Note: \$4 of the Course Fee is non-refundable

### **HVAC113 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
- Note: \$5 of the Course Fee is non-refundable

### **HVAC115 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)]
- Note: \$4 of the Course Fee is non-refundable

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **HVAC120 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
- Note: \$4 of the Course Fee is non-refundable

### **HVAC130 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
- Note: \$34 of the Course Fee is non-refundable

### **HVAC170 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

### **HVAC201 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
- Note: \$6 of the Course Fee is non-refundable

### **HVAC220 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
- Note: \$4 of the Course Fee is non-refundable

## 2020-2021 Course Descriptions

### **HVAC221 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
- Note: \$4 of the Course Fee is non-refundable

### **HVAC230 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
- Note: \$4 of the Course Fee is non-refundable

### **HVAC231 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
- Note: \$4 of the Course Fee is non-refundable

### **HVAC240 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
- Note: \$4 of the Course Fee is non-refundable

### **HVAC241 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
- Note: \$4 of the Course Fee is non-refundable

## 2020-2021 Course Descriptions

### **HVAC251 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
- Note: \$5 of the Course Fee is non-refundable

### **HVAC280 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
- Note: \$30 of the Course Fee is non-refundable

### **HVAC290 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

### **IDMS150 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

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **IDMS169**      **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
- Co-requisite Courses: IDMS 200 and IDMS 270

### **IDMS200**      **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
- Co-requisite Courses: IDMS 169 and IDMS 270

### **IDMS201**      **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
- Co-requisite Courses: IDMS 202 and IDMS 234 and IDMS 271 and IDMS 280

### **IDMS202**      **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
- Co-requisite Courses: IDMS 201 and IDMS 234 and IDMS 271 and IDMS 280

### **IDMS234**      **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
- Co-requisite Courses: IDMS 201 and IDMS 202 and IDMS 271 and IDMS 280

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## 2020-2021 Course Descriptions

### **IDMS245      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
- Co-requisite Courses: IDMS 265 and IDMS 266 and IDMS 281

### **IDMS250      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,Sp)

- Prerequisite Course: None
- Program Approval is required
- Placement Score: None
- Co-requisite Course: IDMS 255

### **IDMS251      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
- Co-requisite Course: IDMS 256

### **IDMS255      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
- Co-requisite Courses: IDMS 250



## 2020-2021 Course Descriptions

### **IDMS256      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
- Co-requisite Course: IDMS 251

### **IDMS265      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
- Co-requisite Courses: IDMS 245 and IDMS 266 and IDMS 281

### **IDMS266      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
- Co-requisite Courses: IDMS 245 and IDMS 265 and IDMS 281

### **IDMS270      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
- Co-requisite Courses: IDMS 169 and IDMS 200

### **IDMS271      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
- Co-requisite Courses: IDMS 201 and IDMS 202 and IDMS 234 and IDMS 280

*F=Fall; Sp=Spring; Su=Summer*

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## 2020-2021 Course Descriptions

### **IDMS280 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
- Co-requisite Courses: IDMS 201 and IDMS 202 and IDMS 234 and IDMS 271

### **IDMS281 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
- Co-requisite Courses: IDMS 245 and IDMS 265 and IDMS 266

### **IDMS282 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

### **IDMS295 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

### **INSU105 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. This course will be a useful tool as students prepare for the AINS 21 national exam, administered by The Institutes. (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)

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **INSU110 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. This course will be a useful tool as students prepare for the AINS 22 national exam, administered by The Institutes. (Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### **INSU125 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. This course will be a useful tool as students prepare for the AINS 23 national exam, administered by The Institutes. (Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### **INSU175 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

### **INSU250 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

### **INSU260 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

### **INSU270 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

## 2020-2021 Course Descriptions

### **INSU285 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

### **INSU295 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

### **IRXT105 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 2.0 in (MATH 119 or STAT 170 or STAT 215)]
- Note: \$10 of the course fee is for medical supplies and is non-refundable

### **IRXT111 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 the Radiologic Technology Program is required
- Placement Score: None
- Note: \$10 of the course fee is for medical supplies and is non-refundable

*F=Fall; Sp=Spring; Su=Summer*

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## 2020-2021 Course Descriptions

### **IRXT112 Radiographic Positioning II**

**Credit Hours: 5 / Billing Hours: 5**

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
- Note: \$10 of the course fee is for medical supplies and is non-refundable

### **IRXT116 Patient Care in Radiography**

**Credit Hours: 4 / Billing Hours: 4**

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
- Note: \$83 of the course fee is for medical supplies and is non-refundable

### **IRXT123 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

### **IRXT140 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
- Note: \$10 of the course fee is for medical supplies and is non-refundable

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## 2020-2021 Course Descriptions

### **IRXT144      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
- Note: \$10 of the course fee is for medical supplies and is non-refundable

### **IRXT170      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

### **IRXT172      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

### **IRXT200      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
- Note: \$10 of the course fee is for medical supplies and is non-refundable

### **IRXT214      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

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*

## 2020-2021 Course Descriptions

### **IRXT215      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

### **IRXT222      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
- Note: \$10 of the course fee is for medical supplies and is non-refundable

### **IRXT224      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
- Note: \$10 of the course fee is for medical supplies and is non-refundable

### **IRXT240      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 2.0 in BIOL 145 or (BIOL 201 and BIOL 202)
- Placement Score: Reading Level 5 and Writing Level 6 and [Math Level 5 or (minimum 2.0 in MATH 119 or STAT 170 or STAT 215)]

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **IRXT280 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
- Note: \$170 of the course fee is non-refundable

### **IRXT295 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

### **ISCI121 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 using a historical and environmental context. 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)]
- Note: One option for the required class project involves a 12-hour (1-hour per week) experience in an elementary school classroom

### **ISCI122 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: Minimum 2.0 in ISCI 121
- Placement Score: Reading Level 5 and Writing Level 6 and [Math Level 4 or minimum 2.0 in (MATH 105 or MATH 106)]
- Note: One option for the required class project involves a 12-hour (1-hour per week) experience in an elementary school classroom

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **ISCI131**      **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)]

### **ISCI245**      **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

### **JAPN121**      **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 (ENGL 098 or ENGL 099 or NCSS 101 concurrently)

### **JAPN122**      **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 (ENGL 098 or ENGL 099 or NCSS 101 concurrently)

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **JAPN201 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 ENGL 098 or ENGL 099 or NCSS 101 concurrently

### **JAPN202 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 concurrent enrollment in (ENGL 098 or ENGL 099 or NCSS 101)

### **JRNL151 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

### **JRNL254 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

### **LABR200 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

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **LABR204      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

### **LEAD110      Leadership Development I**

**Credit Hours: 2 / Billing Hours: 2**

Develop leadership skills through study, observation, and application. Assists students in increasing their understanding of themselves, and the theories and techniques of leadership. Specific skills include: understanding your personal philosophy, visioning, logic and creativity in decision making, servant leadership, ethics, building trust, empowering others, resolving conflict, leader as change-makers, leading with goals, time management, and situational leadership. (F)

- Prerequisite Course: None
- Department Approval Required
- Placement Score: None

### **LEAD111      Leadership Development II**

**Credit Hours: 2 / Billing Hours: 2**

Provides an opportunity to further develop and apply leadership skills introduced in the previous course. Students will learn and apply skills related to conference planning, implementation and evaluation. Students will serve on Lansing Community College committees and volunteer in community organizations. (Sp)

- Prerequisite Course: Minimum 2.0 in LEAD 110

### **LEAD210      Leadership Practicum I**

**Credit Hours: 2 / Billing Hours: 2**

This course provides an opportunity to apply leadership skills in on-campus and community service settings. Emphasis is placed on serving on campus committees; as Student Ambassadors involving new student orientation, on and off campus recruitment and other Enrollment Services activities and college functions. Community services is also required. (F)

- Prerequisite Course: Minimum 2.0 in LEAD 110 and LEAD 111
- Placement Score: None

### **LEAD211      Leadership Practicum II**

**Credit Hours: 2 / Billing Hours: 2**

This course provides further opportunity for students to apply leadership skills. Emphasis is placed on participation in the Student Recognition Banquet, serving on campus committees; as Student Ambassadors, on and of campus recruitment and other Enrollment Services activities and college functions. Community service is also required. (Sp)

- Prerequisite Course: Minimum 2.0 in LEAD 210

## 2020-2021 Course Descriptions

### **LEGL110      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

### **LEGL115      Paralegal Career/Ethics**

**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

### **LEGL125      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

### **LEGL160      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

### **LEGL210      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 or concurrently
- Placement Score: Reading Level 5 and Writing Level 6

*F=Fall; Sp=Spring; Su=Summer*

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## 2020-2021 Course Descriptions

### **LEGL211 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

### **LEGL215 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

### **LEGL216 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

### **LEGL217 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

### **LEGL218 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

### **LEGL219 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

*F=Fall; Sp=Spring; Su=Summer*

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## 2020-2021 Course Descriptions

### **LEGL221 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

### **LEGL222 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

### **LEGL223 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

### **LEGL224 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

### **LEGL225 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

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **LEGL227      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 Score: Reading Level 5 and Writing Level 6

### **LEGL228      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

### **LEGL229      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

### **LEGL251      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
- Note: Department approval to enroll in these CRNs can be requested by calling the Paralegal/Legal Assistant Program office at (517) 483-5228.

## 2020-2021 Course Descriptions

### **LEGL270 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
- Note: Department approval to enroll in this class can be requested by calling the Paralegal/Legal Assistant Program office at 517-483-5228.

### **LEGL280 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
- 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.

### **LEGL295 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

### **LING230 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

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*



## 2020-2021 Course Descriptions

### MASG110      **Massage for Non-Majors**

**Credit Hours: 1 / Billing Hours: 1**

This course provides instruction in basic Swedish massage skills for non-majors. Along with a brief introduction to the history and principles of massage, the student will learn to perform a professionally draped, full-body Swedish massage on a partner for health enhancement. (F,Sp,Su)

- Prerequisite Course: None
- Must be 18 years of age
- Placement Score: None
- 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 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.

### MASG131      **Massage I**

**Credit Hours: 4.5 / Billing Hours: 4.5**

This course provides information on the theory and practice of massage. Swedish massage techniques with variations are developed into a sequence for a full-body massage for healthy adults. Topics include basic anatomy and physiology of major muscle groups and bones, massage benefits and contraindications, professional ethics, 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
- 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 2020 through Summer 2021. Students enrolling in the Evening Cohort will complete the program in four consecutive semesters, Spring 2021 through Spring 2022. 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 submit a program approval form with required supporting documentation two weeks prior to the start of the semester. The program approval form can be found in the Massage Therapy Advising Guide at the [HHS Advising Guides webpage](#). A mandatory one-hour program orientation is required before program approval is given, for program orientation dates contact Mabel at 517-483-1431. Seats are limited and are awarded on a first come, first served basis. Contact Mabel or Crystal at 517-483-1410 for more information.

### MASG132      **Body Systems for Massage**

**Credit Hours: 3 / Billing Hours: 4**

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 human body systems. It is designed for students enrolled in the Massage Program to prepare for licensing exams and professional practice.

- Prerequisite Course: None
- Program Approval is required
- Placement Score: Reading Level 5 and Writing Level 6

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*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*

## 2020-2021 Course Descriptions

### **MASG132A Body Systems for Massage I**

**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 skeletal, muscular, and nervous 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: None
- Program Approval is required
- Placement Score: Reading Level 5 and Writing Level 6

### **MASG132B Body Systems for 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. (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

### **MASG137 Medical Elements of Massage**

**Credit Hours: 2 / 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

### **MASG139 Medical Conditions in Massage**

**Credit Hours: 2 / Billing Hours: 2**

This course will introduce students to the pathology of 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.

- Prerequisite Course: None
- Program Approval is required
- Placement Score: Reading Level 5 and Writing Level 6

### **MASG139A Medical Conditions Massage I**

**Credit Hours: 1 / 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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*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*

## 2020-2021 Course Descriptions

### **MASG139B Medical Conditions 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. (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

### **MASG141 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

### **MASG150 Masg Special Topics**

**Credit Hours: .25 to 4 / 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

### **MASG151 Applied Massage Techniques**

**Credit Hours: 4 / Billing Hours: 4**

This course will introduce the student to various massage techniques and how these techniques relate to individuals with specific needs. The focus will be on designing and implementing appropriate massage techniques for chair massage, infants, pregnant women, athletes, chronic and terminally ill individuals, the elderly, and clients with psychological issues.

- Prerequisite Course: Minimum 2.5 in all previous required MASG courses
- Program Approval is required.
- Placement Score: Reading Level 5 and Writing Level 6

### **MASG151A Research Literacy**

**Credit Hours: 1 / Billing Hours: 1**

Student will learn to perform a 15-minute seated massage. Students will engage in active learning about types of research used in massage and the value of research to the profession. Students will identify websites with published research literature to determine treatment outcomes for clients. (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

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **MASG151B Event Massage**

**Credit Hours: 1 / Billing Hours: 1**

This course prepares the student to perform massage prior to and following an athletic event or training session. Thermal injuries, the use of ice and heat to supplement the healing effects of massage, cross fiber friction techniques, indications, contraindications and procedures are 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

### **MASG151C Maternal/Infant Massage**

**Credit Hours: 1 / 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. (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

### **MASG151D Special Populations**

**Credit Hours: 1 / Billing Hours: 1**

The focus of this course will be on learning information needed for designing and implementing appropriate massage 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 geriatric populations. (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

### **MASG170 Message Directed/Indep Study**

**Credit Hours: .25 to 4 / 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

### **MASG231 Massage II**

**Credit Hours: 4.5 / Billing Hours: 4.5**

This course will introduce the student to clinical massage techniques to treat conditions of the upper body. Students will learn anatomy, physiology, and kinesiology of specific muscles of the head, neck, upper extremities, and torso 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 is required
- Placement Score: Reading Level 5 and Writing Level 6

## 2020-2021 Course Descriptions

### **MASG232     **Message III****

**Credit Hours: 4.5 / Billing Hours: 4.5**

This course will introduce the student to clinical massage techniques to treat conditions of the lower body. Students will learn anatomy, physiology and kinesiology of specific muscles of the torso, hips and lower extremities 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

### **MASG235     **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
- Valid CPR certification through the end of class from American Heart Association/Health Care Provider or American Red Cross/Professional Rescuer or Passing grade in NCHE 102
- Placement Score: Reading Level 5 and Writing Level 6

### **MASG241     **Message 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

### **MASG242     **Message 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

### **MASG251     **Alternative Massage Techniques****

**Credit Hours: 4 / Billing Hours: 4**

Students will be introduced to bodywork modalities that include reflexology, polarity, Shiatsu, and positional release through lecture, demonstration, and practice time. Topics will include how to locate specialized training programs in each modality and how to incorporate these techniques into a massage session.

- Prerequisite Course: Minimum 2.5 in all previous required MASG courses
- Program Approval is required
- Placement Score: Reading Level 5 and Writing Level 6

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **MASG251A 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. (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

### **MASG251B Reflexology**

**Credit Hours: 1 / Billing Hours: 1**

Reflexology is the science that teaches the principle that there are reflexes in the feet and hands that correspond to every organ, gland, and part of the body. This course teaches the student to access reflex points in the foot to allow an improvement in circulation, nerve and blood supply. (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

### **MASG251C Asian Body Therapy**

**Credit Hours: 1 / Billing Hours: 1**

Students will learn a full body Asian body therapy treatment by applying pressure along the meridians to facilitate the natural recuperative powers of the body, disperse toxins, relax muscles and balance energy. (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

### **MASG251D 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. (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

### **MASG254 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

## 2020-2021 Course Descriptions

### **MASG256 Clinical Assess for Massage**

**Credit Hours: 1 / Billing Hours: 1**

This course introduces the student to a system of dealing effectively with the client who presents a physical complaint. The principles and methods practiced by effective clinicians are identified and explained so that the student can use the problem oriented approach to analyze neuromuscular problems and complaints.

(F,Sp)

- Prerequisite Course: Minimum 2.5 in all previous required MASG courses
- Program Approval is required
- This course is restricted to Massage Majors
- Placement Score: Reading Level 5 and Writing Level 6

### **MATH097 Math 119 or Stat 170 Support**

**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 440-510 or ACT Math 17-19 or CPT Algebra 50-76 or QRAS 245-259)
- Co-requisite: Math 119 or Stat 170

### **MATH098 Support for Math 121**

**Credit Hours: 2 / Billing Hours: 2**

This course provides embedded academic support for students enrolled in Math 121. 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 Math 121. (F,Sp,Su)

- Prerequisite Course: Minimum 2.5 in (MATH 109 or MATH 112) within two years or placement scores indicated below
- Placement Score: Reading Level 5 and Writing Level 4 and (SAT Math 540-550 or ACT Math 20-22 or CPT CLM 45-54 or Accuplacer QRAS 272-300 or Accuplacer AAF 235-244)
- Co-requisite Course: MATH 121
- Note:
  - 1) Graphing calculator required. TI-83/84 series calculators recommended; TI-84 Plus CE highly recommended
  - 2) Class attendance is strongly recommended; participation is a significant and important part of the course to enable success in Math 121

*F=Fall; Sp=Spring; Su=Summer*

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## 2020-2021 Course Descriptions

### **MATH105 Mathematical Literacy**

**Credit Hours: 4 / Billing Hours: 4**

Provides the skills needed for selected Core Math courses. Topics include numeracy, mathematical thinking & investigations, proportional reasoning, basic algebraic concepts, functions (linear & 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)

- 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 235)
- Note:
  - 1) MATH 105 prepares students for MATH 109, MATH 117, MATH 118, MATH 119, STAT 170
  - 2) Information about course materials will be available to students the first day of class or earlier from your instructor. A graphing calculator from the TI-83/84 family is required for course work. TI-84 Plus CE is recommended

### **MATH106 Math Literacy with Review**

**Credit Hours: 6 / Billing Hours: 6**

Provides the skills needed for selected Core Math courses. Topics include numeracy, mathematical thinking & investigations, proportional reasoning, basic algebraic concepts, functions (linear & 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)
- Note:
  - 1) MATH 106 prepares students for MATH 109, MATH 117, MATH 118, MATH 119, and STAT 170
  - 2) Information about course materials will be available to students the first day of class or earlier from your instructor. A graphing calculator from the TI-83/84 family is required for course work. TI-84 Plus CE is recommended

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **MATH109**    **Fast Track Algebra**

**Credit Hours: 4 / Billing Hours: 6**

Topics include properties of real numbers and exponents, variable expressions, solving linear equations and inequalities, polynomial operations, graphing, solving systems of equations and inequalities, functions & relations, polynomial, rational, radical, and quadratic expressions and equations, rational exponents, and absolute value equations and inequalities with an introduction to complex numbers. (F, Sp, Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4 and [CPT Algebra 50 or ACT Math minimum 18-21 or SAT Math 480-540 or Accuplacer QRAS score minimum 250 or Minimum 3.5 in MATH 050 or Minimum 2.0 in (MATH 105 or MATH 106) within 2 years or Department Approval]
- Note:
  - 1) MATH 109 is a fast-track that combines a review of basic algebra along with the content of Intermediate Algebra designed for students who need MATH 120 or MATH 121
  - 2) MATH 109 is offered in 2 different delivery methods: Lecture and online
  - 3) 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.

### **MATH114**    **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
- Note:
  - 1) 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
  - 2) A graphing calculator from the TI 83/84 family is required for course work

### **MATH115**    **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 within 2 years or Math Level 5 within 2 years
- Placement Score: Reading Level 5
- Recommended: The TI-83-84 series calculator is recommended and the TI-84 PLUS CE is highly recommended

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*

## 2020-2021 Course Descriptions

### **MATH117 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: None
- Placement Score: Reading Level 5 and Writing Level 4 and [Math Level 5 within 2 years or Minimum 2.0 in (MATH 105 or MATH 106 or MATH 107) within 2 years]
- Recommended: The TI-83-84 series calculator is recommended and the TI-84 PLUS CE is highly recommended

### **MATH118 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 within 2 years or Minimum 2.0 in (MATH 105 or MATH 106 or MATH 107) within 2 years]
- Recommended: Graphing calculator required, TI 83/84 series calculators highly recommended.

### **MATH119 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 and Math Level 5

### **MATH120 College Algebra**

**Credit Hours: 4 / Billing Hours: 4**

This course is for students who do not intend to take MATH 122 or MATH 151, but may want to continue to MATH 141 or STAT 215. Properties and graphs of linear, quadratic, polynomial, rational, exponential and logarithmic functions, with an emphasis on applications including finance, business/industry, life and social sciences. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in (MATH 109 or MATH 112) within 2 years or Math Level 6 as noted below
- Placement Score: Reading Level 5 and Writing Level 4 and (Math Level 6 within 2 years)
- Recommended: Graphing calculator required, TI 83/84 series calculators highly recommended
- Note: If you need MATH 122 or MATH 151, take MATH 121 instead of MATH 120

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*

## 2020-2021 Course Descriptions

### **MATH121**    **Precalculus I**

**Credit Hours: 4 / Billing Hours: 4**

This course provides part of the foundation in precalculus essential for subsequent mathematics courses. Preparing students for calculus is emphasized. Topics include polynomial, rational, radical, exponential, and logarithmic functions; solving equations/inequalities algebraically and graphically; and mathematical modeling in problem solving. (F,Sp,Su)

- Prerequisite Course: Minimum 2.5 in (MATH 109 or MATH 112) within 2 years or Math placement noted below
- Placement Score: Reading Level 5 and Writing Level 4 and [(SAT Math 550 or ACT Math 22 or CPT College Level Math 55 or Accuplacer AAF minimum 245) within 2 years]
- Recommended: Graphing calculator required, TI 83/84 series calculators highly recommended

### **MATH122**    **Precalculus II**

**Credit Hours: 4 / Billing Hours: 4**

Second in two-course sequence, following MATH 121. 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. 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)

### **MATH126**    **Accelerated Pre-Calculus**

**Credit Hours: 5 / Billing Hours: 5**

MATH 126 is a 5 credit course on functions and trigonometry. Topics include definition and concept of functions, properties and graphs of polynomial, rational, exponential, logarithmic, trigonometric, and inverse trigonometric functions; polar coordinates; conic sections; parametric equations; systems of equations; and the Binomial Theorem. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 7 within 2 years or Department Approval
- Note: This is an accelerated course that prepares students for the calculus sequence. It is appropriate for students who already have some knowledge of the topics of the course

### **MATH141**    **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)

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*

## 2020-2021 Course Descriptions

### **MATH151    Calculus I**

**Credit Hours: 4 / Billing Hours: 4**

The first course in a three semester calculus sequence. Topics include limits, continuity, and derivatives of algebraic, trigonometric, exponential and logarithmic functions; linear approximation; L'Hopital's rule; Riemann sums; integration using substitution; and the fundamental theorem of calculus. Applications of calculus to problems in engineering and the natural and social sciences. (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)

### **MATH152    Calculus II**

**Credit Hours: 4 / Billing Hours: 4**

The second course in a three-semester calculus sequence. Topics include techniques and applications of integration, improper integrals, sequences and infinite series, power series representation of functions, vectors, lines, planes, and 3D rectangular system. (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

### **MATH201    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,Sp)

- 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)
- Recommended: Graphing calculator required, TI 83/84 series calculators Highly Recommended

### **MATH202    Math for Elementary Teacher II**

**Credit Hours: 4 / Billing Hours: 4**

The second course in a two-course sequence for prospective elementary teachers. Topics include data exploration, probability, descriptive statistics and geometry concepts and measurement. Emphasis is on active engagement in mathematical investigations to develop problem-solving skills and conceptual knowledge essential for teaching elementary school mathematics. (F,Sp)

- Prerequisite Course: Minimum 2.0 in MATH 201 within 2 years
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: Graphing calculator required, TI 83/84 series calculators highly recommended

### **MATH253    Calculus III**

**Credit Hours: 4 / Billing Hours: 4**

The last course in a three-semester calculus sequence. Multivariable calculus and vector analysis are studied. Topics include vector algebra, curves and surfaces in 3D-space, vector valued functions, partial derivatives, multiple integrals, vector fields, line integrals, and surface integrals. Applications of all these topics are presented. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in (MATH 152 or MATH 162) within 2 years
- Placement Score: Reading Level 5 and Writing Level 6

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*

## 2020-2021 Course Descriptions

### **MATH254**    **Intro to Differential Equation**

**Credit Hours: 4 / Billing Hours: 4**

An introduction to the basic methods for solving ordinary differential equations. Topics include the methods for solving first order equations (separable, exact, linear, Bernoulli), undetermined coefficients, variation of parameters, series, Laplace transforms, systems of DEs and numerical methods (modeled using software), Fourier series and separable PDE. Applications are emphasized. Simulation software will be used to model differential equations and separable PDE. (F,Sp)

- Prerequisite Course: Minimum 2.0 in MATH 253 within 2 years
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: TI 89 recommended

### **MATH260**    **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

### **MATH295**    **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

### **MEDA116**    **Intro:MA Clinical & Adm Skills**

**Credit Hours: 6 / Billing Hours: 8**

The student will be introduced to the basics of being a medical assistant in the ambulatory care setting. Topics such as medical terminology, anatomy and physiology, basic administrative procedures, human relations, medical asepsis, vital signs, and nutrition will be covered. (F)

- Prerequisite Course: None
- Program approval is required
- Placement Score: Reading Level 5 and Writing Level 4 and Math Level 4
- Co-requisite Courses: MEDA 126 and MEDA 135
- Note: \$70 of the course fee is for a medical kit and is non-refundable

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*

## 2020-2021 Course Descriptions

### **MEDA126 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. (F)

- Prerequisite Course: None
- Program Approval is required
- Placement Score: Reading Level 5 and Writing Level 4 and Math Level 4
- Co-requisite Courses: MEDA 116 and MEDA 135

### **MEDA135 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
- Co-requisite Courses: MEDA 116 and MEDA 126

### **MEDA145 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 116 and MEDA 126 and MEDA 135
- Placement Score: None
- Co-requisite Courses: MEDA 156 and MEDA 166

### **MEDA156 MA Clinical Procedures I**

**Credit Hours: 5 / Billing Hours: 7**

Within a clinical classroom the student medical assistant will assist with general and specialty exams, learn how to administer medications, respond to emergencies, and how to educate patients. Students will also learn to apply medical terminology to the different specialties, and learn about diagnostic and treatment modalities for each body system. (Sp)

- Prerequisite Course: Minimum 2.5 in MEDA 116 and MEDA 126 and MEDA 135
- Placement Score: None
- Co-requisite Courses: MEDA 145 and MEDA 166 and NCHE 102

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **MEDA166 MA Clinical Procedures II**

**Credit Hours: 5 / Billing Hours: 7**

Within a clinical classroom the student medical assistant will learn how medical terminology applies to the body systems, and how each body system is affected by disease, along with diagnostic tests and treatments for each. The student will learn how to obtain laboratory specimens and to perform point of care testing. (Sp)

- Prerequisite Course: Minimum 2.5 in MEDA 116 and MEDA 126 and MEDA 135
- Placement Score: None
- Co-requisite Courses: MEDA 145 and MEDA 156

### **MEDA175 MA Certification Review**

**Credit Hours: 3 / Billing Hours: 3**

In this capstone course, the medical assistant student will learn about employment skills, resume writing, interview techniques, professional dress, time management, demonstrating professional behavior, and continuing education. The student will also prepare for the RMA exam by having review and doing practice tests. (Su)

- Prerequisite Course: Minimum 2.5 in MEDA 145 and MEDA 156 and MEDA 166
- Placement Score: None
- Co-requisite Course: MEDA 177

### **MEDA177 MA Practice Immersion**

**Credit Hours: 3 / Billing Hours: 3**

The practicum experience includes placement at an ambulatory care facility that performs a balance of administrative and clinical activities to expose students to the necessary skills required of the profession. It has a minimum of 160 clock hours. Students will work under the direct supervision of a preceptor. (Su)

- Prerequisite Course: Minimum 2.5 in MEDA 145 and MEDA 156 and MEDA 166
- Program Approval is required
- Placement Score: None
- Co-requisite Course: MEDA 175

### **METD100 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)]

### **METD105 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

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **METD110 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)]

### **METD111 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

### **METD130 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)]

### **METD150 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

### **METD170 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



## 2020-2021 Course Descriptions

### **METD220 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

### **METD221 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

### **METD240 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
- Note: This course was formerly METM 240

### **METD250 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

### **METD265 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

## 2020-2021 Course Descriptions

### **METD295 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

### **METM100 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

### **METM108 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)]

### **METM112 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

### **METM150 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

### **METM170 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

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*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **METM171 Special Topics/Machining 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 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

### **METM190 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

### **METM195 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

### **METM220 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

### **METM221 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

*F=Fall; Sp=Spring; Su=Summer*

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## 2020-2021 Course Descriptions

### **METM295 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

### **METS102 Industrial/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
- Note:
  - 1) This course requires students to be certified in CPR and First Aid as part of the course grade. Training will occur as part of traditional on-campus sections. Online students have the option of attending CPR and First Aid sessions at LCC's West Campus. Students who cannot travel to LCC will need to make other arrangements to become certified. Additional costs may be incurred if the scheduled CPR and First Aid sessions are not used.
  - 2) Online 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.

### **METS110 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)]

### **METS115 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)]

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **METS120 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)]

### **METS125 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)]

### **METS130 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)]

### **METS140 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)]
- Note: \$20 of the Course Fee is non-refundable

750

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*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **METS145 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

### **METS160 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)]

### **METS170 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

### **METS210 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)]

### **METS250 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: Reading Level 3 and Writing Level 2 and [Math Level 3 or Minimum 2.0 in (MATH 105 or MATH 106)]
- Note: \$100 of the Course Fee is non-refundable

## 2020-2021 Course Descriptions

### **METS260      Advanced Robotics**

**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
- Note: \$20 of the Course Fee is non-refundable

### **METS290      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

### **METS295      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

### **MGMT150      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 customers 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

### **MGMT200      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 at least two or more BUSN or MGMT courses or have business experience

*F=Fall; Sp=Spring; Su=Summer*

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## 2020-2021 Course Descriptions

### **MGMT201 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, S, Su)

- Prerequisite Course: None
- Placement Score: Reading Level 4 and Writing Level 4

### **MGMT202 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

### **MGMT203 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

### **MGMT223 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 and Writing Level 6

### **MGMT224 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 and Writing Level 6



## 2020-2021 Course Descriptions

### **MGMT225 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

### **MGMT227 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

### **MGMT228 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 and Writing Level 6
- Recommended: MGMT 223 or MGMT 224 or MGMT 225

### **MGMT229 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

### **MGMT231 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

## 2020-2021 Course Descriptions

### **MGMT234 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

### **MGMT235 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

### **MGMT237 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,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 or (Reading Level 4 and ENGL 099 concurrently) and Writing Level 6 and Math Level 4

### **MGMT280 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 Required
- Placement Score: None
- Recommended: Have completed a minimum of 30 Credits

### **MGMT300 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

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*

## 2020-2021 Course Descriptions

### **MGMT304 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

### **MGMT329 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

### **MGMT332 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

### **MGMT335 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

### **MGMT337 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

## 2020-2021 Course Descriptions

### **MGMT338**    **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

### **MGMT345**    **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. (Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### **MGMT346**    **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

### **MILS110**    **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
- Note: Call MSU Department of Military Science at (517) 355-1913 for specific days and times

### **MILS111**    **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

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*

## 2020-2021 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
- Note: Call MSU Department of Military Science at (517) 355-1913 for specific days and times

### **MILS121 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

### **MILS210 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
- Note: Call MSU Department of Military Science at (517) 355-1913 for specific days and times

### **MILS211 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

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **MILS220**      **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
- Note: Call MSU Department of Military Science at (517) 355-1913 for specific days and times

### **MILS221**      **Mil Ldrshp/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

### **MKTG100**      **Current Issues in Business**      **Credit Hours: 3 / Billing Hours: 3**

This is an introductory course designed to enhance a student's occupational preparedness and competence by promoting a better understanding of the competitive enterprise system. Classroom instruction will be combined with relevant marketing projects and professional community involvement to give students a solid foundation of marketing knowledge and managerial "know-how." (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### **MKTG119**      **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

### **MKTG120**      **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

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **MKTG130    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

### **MKTG140    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

### **MKTG200    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

### **MKTG202    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

### **MKTG204    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: Reading Level 5 and Writing Level 6

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **MKTG210 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 Course

### **MKTG221 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

### **MKTG229 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

### **MKTG231 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

### **MKTG235 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



## 2020-2021 Course Descriptions

### **MRIT200 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 MiRIS Magnetic Resonance Imaging Program is required
- Placement Score: None
- Co-requisite Courses: MRIT 229 and MRIT 260

### **MRIT201 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
- Co-requisite Courses: MRIT 220 and MRIT 230 and MRIT 261

### **MRIT220 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
- Co-requisite Courses: MRIT 201 and MRIT 230 and MRIT 261

### **MRIT222 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
- Co-requisite Courses: MRIT 232 and MRIT 240 and MRIT 262

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*

## 2020-2021 Course Descriptions

**MRIT229      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 MiRIS Magnetic Resonance Imaging Program is required
- Placement Score: None
- Co-requisite Courses: MRIT 200 and MRIT 260

**MRIT230      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
- Co-requisite Courses: MRIT 201 and MRIT 220 and MRIT 261

**MRIT232      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
- Co-requisite Courses: MRIT 222 and MRIT 240 and MRIT 262

**MRIT240      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
- Co-requisite Courses: MRIT 222 and MRIT 232 and MRIT 262

## 2020-2021 Course Descriptions

### **MRIT260 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 MiRIS Magnetic Resonance Imaging Program is required
- Placement Score: None
- Co-requisite Courses: MRIT 200 and MRIT 229

### **MRIT261 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
- Co-requisite Courses: MRIT 201 and MRIT 220 and MRIT 230

### **MRIT262 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
- Co-requisite Courses: MRIT 222 and MRIT 232 and MRIT 240

### **MRIT263 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
- Co-requisite Course: MRIT 295

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*

## 2020-2021 Course Descriptions

### **MRIT295 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
- Co-requisite Course: MRIT 263

### **MUSC101 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)

- Recommended: Music reading skills

### **MUSC106 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
- Co-requisite Courses: MUSC 121 or MUSC 122 or MUSC 123 or MUSC 124

### **MUSC108 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
- Note: A non-credit option is available for this class at a reduced rate. See the NCCE 200 listing in the Class Schedule Search for more information.

### **MUSC109 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
- Co-requisite Courses: MUSC 157 or MUSC 158 or MUSC 257 or MUSC 258

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*

## 2020-2021 Course Descriptions

### **MUSC119**    **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

### **MUSC121**    **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

### **MUSC122**    **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
- Note: A non-credit option is available for this class at a reduced rate. See the NCCE 200 listing in the Class Schedule Search for more information.

### **MUSC123**    **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
- Note: A non-credit option is available for this class at a reduced rate. See the NCCE 200 listing in the Class Schedule Search for more information.

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **MUSC124 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
- Note: A non-credit option is available for this class at a reduced rate. See the NCCE 200 listing in the Class Schedule Search for more information.

### **MUSC138 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

### **MUSC143 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

### **MUSC144 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

### **MUSC145 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

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **MUSC155 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
- Placement Score:

### **MUSC156 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

### **MUSC157 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
- Co-requisite course: MUSC 109

### **MUSC158 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
- Co-requisite Course: MUSC 109

### **MUSC163 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

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **MUSC164**    **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 continues 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
- Co-requisite Course: MUSC 194

### **MUSC168**    **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

### **MUSC188**    **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

### **MUSC193**    **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. (F, 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 098 concurrently or ENGL 099 concurrently)

### **MUSC194**    **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 concurrent enrollment in (ENGL 098 or ENGL 099)
- Co-requisite Course: MUSC 164

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **MUSC197 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

### **MUSC199 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 098 concurrently or ENGL 099 concurrently)

### **MUSC237 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. (Sp)

- Prerequisite Course: None
- Placement Score: None
- Recommended: Music Reading Skills
- Note: A non-credit option is available for this class at a reduced rate. See the NCCE 200 listing in the Class Schedule Search for more information.

### **MUSC240 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 concurrent enrollment in (ENGL 098 or ENGL 099)

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **MUSC241 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 098 or ENGL 099 concurrently)

### **MUSC246 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

### **MUSC247 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

### **MUSC255 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

### **MUSC257 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
- Co-requisite Course: MUSC 109

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **MUSC258 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
- Co-requisite Course: MUSC 109

### **MUSC270 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

### **MUSC280 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

### **MUSC292 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. (Sp)

- Prerequisite Course: Minimum 2.0 in MUSC 193
- Placement Score: Reading Level 5

### **MUSC296 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

## 2020-2021 Course Descriptions

### **MUSC298 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.

### **NCBD050 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

### **NCCE200 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

### **NCCT600 Noncredit Public Safety Svcs**

**Credit Hours: 0 / Billing Hours: 0**

Training in this series will focus on topics within public safety services. (F,Sp)

- Prerequisite Course: None

### **NCCT800 Noncredit Career Preparation**

**Credit Hours: 0 / Billing Hours: 0**

Training in this series will focus on topics towards career preparation. (F,Sp)

- Prerequisite Course: None

### **NCEL101 ESOL Skills Lab**

**Credit Hours: 0 / Billing Hours: 0**

This is a noncredit, zero credit course/lab. The focus is on providing direct, specific instruction to help you earn a passing grade in your college-level courses. The lab embeds discipline-specific academic ESOL skills instruction focused on the content of the college-level classes in which ESOL Level 4 and 5 students may enroll. Skill areas include critical reading (text and visual information), academic writing/research processes, academic vocabulary expansion, textbook navigation, study skills, and understanding of expectations for college-level credit classes. This course is graded P/Z. A grade of P represents satisfactory participation in lab activities and does not guarantee a passing grade in either ESOL Levels 4 or 5 or in concurrent-enrollment college-level classes. This lab is open to any non-native English speaker enrolled in a college-level class.

- Prerequisite Course: Minimum 2.5 in ESOL 090 and ESOL 095 or ESOL Level 4
- Placement Score: None

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **NCIP100 Identity Development**

**Credit Hours: 0 / Billing Hours: 0**

This high-impact achievement course will highlight LCC's commitment to diversity, equity, and inclusion. It is designed to provide an opportunity to learn more about yourself (self-actuality).

- Prerequisite Course:

### **NCMA101 Math Refresher**

**Credit Hours: 0 / Billing Hours: 0**

One-week 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

### **NCRW100 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.

- Prerequisite Course: None
- Department Approval Required
- Placement Score: Reading Level 1 and Writing Level 1

### **NCRW101 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

### **NCSS101 Non-Credit Student Support**

**Credit Hours: 0 / Billing Hours: 0**

This lab embeds discipline-specific academic reading and writing skills instruction within college-level courses. Skill areas include critical reading (text and visual information), writing/research processes, vocabulary expansion, and textbook navigation. Students must participate in the lab two hours per week but may choose from these days and times to fit their schedules.

- Prerequisite Course: None
- Placement Score: Reading Level 2 and Writing Level 2
- Requires concurrent enrollment in a college-level course. See an academic advisor for a complete list of college-level courses that allow concurrent enrollment in NCSS 101. Students may not take NCSS 101 in addition to ENGL 098 or ENGL 099.

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## 2020-2021 Course Descriptions

### **NDXT100      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
- Co-requisite Courses: NDXT 101 and NDXT 102 and NDXT 120

### **NDXT101      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
- Co-requisite Courses: NDXT 100 and NDXT 102 and NDXT 120

### **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
- Co-requisite Courses: NDXT 100 and NDXT 101 and NDXT 120

### **NDXT120      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
- Co-requisite Courses: NDXT 100 and NDXT 101 and NDXT 102

## 2020-2021 Course Descriptions

### **NDXT130 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
- Co-requisite Courses: NDXT 131 and NDXT 132 and NDXT 220

### **NDXT131 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
- Co-requisite Courses: NDXT 130 and NDXT 132 and NDXT 220

### **NDXT132 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
- Co-requisite Courses: NDXT 130 and NDXT 131 and NDXT 220

### **NDXT200 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
- Co-requisite Courses: NDXT 201 and NDXT 202

### **NDXT201 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
- Co-requisite Courses: NDXT 200 and NDXT 202

## 2020-2021 Course Descriptions

### NDXT202 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
- Co-requisite Courses: NDXT 200 and NDXT 201

### NDXT220 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 200 and NDXT 201 and NDXT 202
- Placement Score: None
- Co-requisite Courses: NDXT 130 and NDXT 200

### NDXT221 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
- Co-requisite Courses: NDXT 230 and NDXT 231 and NDXT 232

### NDXT230 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
- Co-requisite Courses: NDXT 221 and NDXT 231

### NDXT231 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
- Co-requisite Courses: NDXT 221 and NDXT 230

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*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **NDXT232 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
- Co-requisite Course: NDXT 221

### **NURS101 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

### **NURS102 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

### **NURS118 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

### **NURS119 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

## 2020-2021 Course Descriptions

### **NURS200     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
- Note: All online sections of NURS 200: See section notes for the mandatory, proctored testing dates. Testing may be done at LCC's Testing Centers.

### **NURS201     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

### **NURS210     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
- Co-requisite Course: NURS 212
- Note: \$1,076 of the course fee is for a medical kit and is non-refundable

### **NURS211     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
- Co-requisite Course: NURS 212
- Note: \$1,007 of the course fee is for a medical kit and is non-refundable

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*

## 2020-2021 Course Descriptions

### **NURS212 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
- Co-requisite Courses: NURS 210 or NURS 211

### **NURS221 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
- Note: \$182 of the course fee is for a medical kit and is non-refundable

### **NURS222 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
- Note: \$77 of the course fee is for a medical kit and is non-refundable

### **NURS231 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
- Note: \$352 of the course fee is for a medical kit and is non-refundable

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*

## 2020-2021 Course Descriptions

### **NURS232 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
- Note: \$65 of the course fee is for a medical kit and is non-refundable

### **NURS241 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

### **NURS242 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

### **PARA200 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

## 2020-2021 Course Descriptions

### **PARA221 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)

- 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
- Co-requisite Courses: PARA 231 and PARA 241 and PARA 251 and PARA 261

### **PARA221A 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

### **PARA221B 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

### **PARA222 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. (Sp)

- Prerequisite Course: Minimum 3.0 in PARA 221
- Placement Score: None
- Co-requisite Courses: PARA 232 and PARA 242 and PARA 252 and PARA 262

### **PARA222A 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

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*F=Fall; Sp=Spring; Su=Summer*

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## 2020-2021 Course Descriptions

### **PARA222B 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

### **PARA222C 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

### **PARA231 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)

- Prerequisite Course: None
- Admission to Paramedic Program is required
- Placement Score: None
- Co-requisite Courses: PARA 221 and PARA 241 and PARA 251 and PARA 261

### **PARA231A 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

### **PARA231B 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

*F=Fall; Sp=Spring; Su=Summer*

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## 2020-2021 Course Descriptions

### **PARA232 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. (Sp)

- Prerequisite Course: Minimum 3.0 in PARA 231
- Placement Score: None
- Co-requisite Courses: PARA 222 and PARA 242 and PARA 252 and PARA 262

### **PARA232A 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

### **PARA232B 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

### **PARA241 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)

- Prerequisite Course: None
- Admission to Paramedic Program is required
- Placement Score: None
- Co-requisite Courses: PARA 221 and PARA 231 and PARA 251 and PARA 261

*F=Fall; Sp=Spring; Su=Summer*

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## 2020-2021 Course Descriptions

### **PARA241A 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

### **PARA241B 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

### **PARA242 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. (Sp)

- Prerequisite Course: Minimum 3.0 in PARA 241
- Placement Score: None
- Co-requisite Courses: PARA 222 and PARA 232 and PARA 252 and PARA 262

### **PARA242A 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

### **PARA242B 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

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **PARA251 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)

- Prerequisite Course: None
- Admission to Paramedic Program is required
- Placement Score: None
- Co-requisite Courses: PARA 221 and PARA 231 and PARA 241 and PARA 261

### **PARA251A 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: Admission to the Military Medic to Paramedic Program is required
- Placement Score: None

### **PARA251B 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: Admission to the Military Medic to Paramedic Program is required
- Placement Score: None

### **PARA252 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 3.0 in PARA 251
- Placement Score: None
- Co-requisite Courses: PARA 222 and PARA 232 and PARA 242 and PARA 262

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **PARA252A 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

### **PARA252B 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

### **PARA261 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)

- Prerequisite Course: None
- Admission to Paramedic Program is required
- Placement Score: None
- Co-requisite Courses: PARA 221 and PARA 231 and PARA 241 and PARA 251

### **PARA262 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 3.0 in PARA 261
- Placement Score: None
- Co-requisite Courses: PARA 222 and PARA 232 and PARA 242 and PARA 252

### **PARA262A 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

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*

## 2020-2021 Course Descriptions

### **PARA262B 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

### **PARA262C 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

### **PARA263 Paramedic Internship**

**Credit Hours: 4 / Billing Hours: 4**

This course provides a field internship component with an advanced life support agency. Students are assigned to a paramedic training officer to provide total patient care and other professional duties under direct supervision with continuous evaluation of the student's progress. Oversight is provided by the program clinical coordinator and program director. (Su)

- Prerequisite Course: Minimum 3.0 in PARA 222 and PARA 232 and PARA 242 and PARA 252 and PARA 262
- Placement Score: None

### **PFFT100 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
- Note: May attend downtown or west campus fitness center. Cannot be taken during the same semester with PFFT 101, PFFT 102, PFFT 104, or PFFT 109. PFFT 100, 101, and 109 are open workout classes. 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.

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*

## 2020-2021 Course Descriptions

### **PFFT101 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. A food journal and healthy meal planning will be included. The course features flexibility of attendance. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: None
- Note: May attend downtown or west campus fitness center. Cannot be taken during the same semester with PFFT 100, PFFT 102, PFFT 104, or PFFT 109. PFFT 100, 101, and 109 are open workout classes. 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.

### **PFFT102 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
- Note: May attend downtown or west campus fitness center. Cannot be taken during the same semester with PFFT 100, PFFT 101, PFFT 104, or PFFT 109. PFFT 100, 101, and 109 are open workout classes. 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.

### **PFFT103 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
- Note: May attend downtown or west campus facility. Cannot be taken during the same semester with PFFT 100, PFFT 101, PFFT 102 or PFFT 109.

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **PFFT104      Message Fitness Lab**

**Credit Hours: 1 / Billing Hours: 2**

This course is designed for students in the Therapeutic Massage Program. The emphasis is on general fitness (cardiovascular, flexibility, muscle strength and endurance), as well as specific exercises related to massage therapy skills. General wellness principles are addressed during this course. (F,Sp)

- Prerequisite Course: None
- Program Approval is required
- Placement Score: None
- Note: This course is for students in the Massage Program. Students may attend downtown or west campus fitness center. Cannot be taken during the same semester with PFFT 100, PFFT 101, PFFT 102 or PFFT 109.

### **PFFT109      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
- Note: May attend downtown or west campus fitness center. Cannot be taken during the same semester with PFFT 100, PFFT 101, PFFT 102, or PFFT 104. PFFT 100, 101, and 109 are open workout classes. 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.

### **PFFT113      Core Strength & Flexibility 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

### **PFFT114      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

## 2020-2021 Course Descriptions

### **PFFT119**      **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
- Co-requisite Courses: FIRE 101 and FIRE 102

### **PFFT120**      **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

### **PFFT170**      **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

### **PFFT171**      **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

### **PFFT180**      **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

### **PFFT181**      **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

*F=Fall; Sp=Spring; Su=Summer*

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## 2020-2021 Course Descriptions

### **PFFT182 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

### **PFFT183 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

### **PFHW100 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

### **PFHW120 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

### **PFHW123 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

*F=Fall; Sp=Spring; Su=Summer*

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## 2020-2021 Course Descriptions

### **PFHW163 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

### **PFHW181 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

### **PFKN106 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. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 4

### **PFKN170 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

### **PFKN200 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. (F,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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## 2020-2021 Course Descriptions

### **PFKN201      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. (F,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

### **PFKN205      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,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### **PFKN208      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,Sp)

- 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

### **PFKN210      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. (F,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6
- Recommended: BIOL 145 or equivalent

### **PFKN250      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

*F=Fall; Sp=Spring; Su=Summer*

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## 2020-2021 Course Descriptions

### **PFKN260 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

### **PFKN265 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

### **PFKN270 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,Sp)

- 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

### **PFKN280 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

### **PFKN295 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

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## 2020-2021 Course Descriptions

### **PFWT112 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

### **PFWT123 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

### **PFWT124 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

### **PHIL101 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 (NCSS 101 or ENGL 098 or ENGL 099 or concurrently)

### **PHIL151 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

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## 2020-2021 Course Descriptions

### **PHIL152 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

### **PHIL153 Knowledge and Reality**

**Credit Hours: 4 / Billing Hours: 4**

Select issues from classical and contemporary philosophy provide an introduction to differences between knowledge and opinion, ways of supporting knowledge claims, and the relationship between the knower and what exists. (F,Sp, Su)

- Prerequisite Course: Reading Level 5 and Writing Level 6

### **PHIL211 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

### **PHIL212 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

### **PHIL260 Contemporary Ethical Problems**

**Credit Hours: 4 / Billing Hours: 4**

This is an advanced course designed to examine contemporary moral issues which arise through technological and social developments. It will explore the limits of traditional ethical theories and/or their possible adaptation to a changing world. Where appropriate, course includes issues of cross-cultural importance which involve multinational concerns. (F,Sp)

- Prerequisite Course: Reading Level 5 and Writing Level 6

### **PHIL265 Ethical Issues in Medicine**

**Credit Hours: 3 / Billing Hours: 3**

This course will present some of the ethical dilemmas which arise in relation to health care and develop a framework for ethical decision-making with which to deal with these and other related problems. It is designed for both health care professionals and others who are interested in these issues. (F,Sp)

- Prerequisite Course: None
- Note: Formerly HUMS 265

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## 2020-2021 Course Descriptions

### PHIL295 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

### PHOT101 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
- Note: A digital camera is required

### PHOT111 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,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 3 and Writing Level 2 and Math Level 3
- 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 is required. See official syllabus. To finish an Associate's Degree or Certificate in Photography in the shortest possible time, you must enroll in PHOT 111, PHOT 112, PHOT 113, and ARTS 102 in your first semester.

### PHOT112 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,Sp)

- Prerequisite Course: Minimum 2.0 in PHOT 111 or concurrently
- Placement Score: Reading Level 3 and Writing Level 2 and Math Level 3
- Note: A manually-adjustable Digital SLR/or mirrorless camera is required. See official syllabus.

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## 2020-2021 Course Descriptions

### **PHOT113      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,Sp)

- Prerequisite Course: Minimum 2.0 in PHOT 111 or concurrently
- Placement Score: Reading Level 3 and Writing Level 2 and Math Level 3
- Note: A manually-adjustable Digital SLR/or mirrorless camera is required. See official syllabus.

### **PHOT114      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 be introduced to contemporary color photographic imaging processes and materials. Learners will apply color management and color image design principles in the production of professional-level color photographic images. (F,Sp)

- Prerequisite Course: Minimum 2.0 in (ARTS 102 and PHOT 111 and PHOT 112 and PHOT 113)
- Placement Score: Reading Level 5 and Writing Level 6 and Math Level 3
- Note: A manually-adjustable Digital SLR/or mirrorless camera is required. See official syllabus.

### **PHOT117      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
- Note: A manually-adjustable Digital SLR/or mirrorless camera is required. See official syllabus.

### **PHOT118      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

### **PHOT119      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. (F,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
- Note: A manually-adjustable Digital SLR/or mirrorless camera is required. See official syllabus.

## 2020-2021 Course Descriptions

### **PHOT120 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

### **PHOT190 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

### **PHOT191 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

### **PHOT212 Commercial Illustration Photo**

**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. Student will be introduced to appropriate medium format technologies as applied to professional photographic illustration. (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

### **PHOT213 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 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
- Note: A manually-adjustable Digital SLR/or mirrorless camera is required. See official syllabus.

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## 2020-2021 Course Descriptions

### PHOT214 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
- Note: A manually-adjustable Digital SLR/or mirrorless camera is required. See official syllabus.

### PHOT215 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

### PHOT228 Independent Study

Credit Hours: 1 to 3 / Billing Hours: 1 to 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. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in PHOT 117 and Approved Proposal and Reading Level 3 and Writing Level 2 and Math Level 3

### PHOT232 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

### PHOT270 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

### PHOT280 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
- Note: A manually-adjustable Digital SLR camera is required. See official syllabus.

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## 2020-2021 Course Descriptions

### PHOT290 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

### PHYS120 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

### PHYS200 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

### PHYS221 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

### PHYS222 Introductory Physics II

Credit Hours: 4 / Billing Hours: 6

Second semester continuation of algebra-based physics with laboratory, designed to present the fundamental principles of physics, with applications. Topics include electricity and magnetism, simple harmonic motion, waves, sound, light, geometric and physical optics. Experiments and hands-on activities are integrated with lecture topics. (F,Sp)

- Prerequisite Course: Minimum 2.0 in PHYS 221 or Department Approval
- Placement Score: Reading Level 5 and Writing Level 6

F=Fall; Sp=Spring; Su=Summer

An online course may require students to travel to an exam site for proctored exams.

You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).

## 2020-2021 Course Descriptions

### **PHYS251      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

### **PHYS252      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

### **PHYS260      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

### **POLS120      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

### **POLS121      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

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **POLS201      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

### **POLS205      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
- Note: After you have registered, complete the [online application](#) and bring a copy to the first day of class.

### **POLS240      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

### **POLS250      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

### **POLS260      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

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*

## 2020-2021 Course Descriptions

### **POLS270 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

### **POLS295 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

### **PSYC175 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

### **PSYC180 Intro to Positive Psychology**

**Credit Hours: 3 / Billing Hours: 3**

Examines psychological theories, concepts and research that pertain to the study of positive psychology. Topics include the empirical study of well-being, happiness, love, optimism, hope, the concept of "flow," courage, interpersonal skills, perseverance and morality. Research methods, studies, and findings will be critically analyzed. (F, Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5

### **PSYC200 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 Face-to-Face (lecture) sections of PSYC 200 allow concurrent enrollment with NCSS 101 or ENGL 098 or ENGL 099

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **PSYC202 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)

### **PSYC203 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)

### **PSYC205 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)

### **PSYC209 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

### **PSYC210 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)

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*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*

## 2020-2021 Course Descriptions

### **PSYC221 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)

### **PSYC222 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)

### **PSYC240 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

### **PSYC250 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)

### **PSYC295 Ind Study in Psychology**

**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

## 2020-2021 Course Descriptions

### **RELG150      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 world's largest religions: Christianity, Islam, Hinduism, and Buddhism. (F,Sp,S)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6
- Note: See an academic advisor for sections of RELG 150 that allow concurrent enrollment with NCSS 101, ENGL 098, or ENGL 099

### **RELG211      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

### **RELG212      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

### **RELG241      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
- Note: A survey of Christianity's Old Testament

### **RELG242      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

## 2020-2021 Course Descriptions

### **RELG250 Religions of East Asia**

**Credit Hours: 4 / Billing Hours: 4**

This course surveys the origins and development of East Asian religions. The religious beliefs and practices of Confucianism, Taoism, Buddhism (Mahayana and Vajrayana), and Shinto are examined in terms of their vital role in the development of ancient and modern East Asian civilizations. (Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### **SCIN287 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

### **SCIS297 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

### **SIGN160 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
- Note: May be taken concurrently with SIGN 161. Non-degree students may waive SIGN 160.

### **SIGN161 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
- Note: May be taken concurrently with SIGN 160.

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*



## 2020-2021 Course Descriptions

### **SIGN162 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,Su)

- Prerequisite Course: Minimum 2.0 in SIGN 161
- Placement Score: Reading Level 5 and Writing Level 4

### **SIGN163 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.(F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in SIGN 162
- Placement Score: Reading Level 5 and Writing Level 4

### **SIGN164 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,Sp)

- Prerequisite Course: Minimum 2.0 in SIGN 163
- Placement Score: Reading Level 5 and Writing Level 4

### **SIGN166 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,Su)

- Prerequisite Course: Minimum 2.0 in SIGN 161
- Placement Score: Reading Level 5 and Writing Level 4
- Recommended: SIGN 162 or concurrently

### **SIGN167 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. (F,Sp,Su)

- Prerequisite Course: Minimum 2.0 in SIGN 163 or concurrently
- Placement Score: Reading Level 5 and Writing Level 4

## 2020-2021 Course Descriptions

### **SIGN170**      **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

### **SIGN176**      **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,Su)

- Prerequisite Course: Minimum 2.0 in SIGN 166
- Placement Score: Reading Level 5 and Writing Level 4

### **SIGN200**      **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, development of a professional website/portfolio, and networking. This course will prepare students for directed observation and application of practical interpreting skills required in the consecutive semesters. Job shadow required. (F)

- Prerequisite Course: None
- Placement Score: Successfully pass ITP screening

### **SIGN240**      **Intro to Transliteration**

**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
- Department Approval Required
- Placement Score: None

### **SIGN250**      **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 2.5 in SIGN 200 or concurrently
- Placement Score: Reading Level 5 and Writing Level 4

## 2020-2021 Course Descriptions

### **SIGN260 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

### **SIGN261 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: Department Approval Required
- Placement Score: None

### **SIGN263 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.

### **SIGN266 Educational Interpreting**

**Credit Hours: 2 / Billing Hours: 2**

This course provides students with simulated testing settings using movies of hearing and Deaf individuals interacting with the purpose of developing skills necessary for interpreter evaluation. Students will develop teaming skills, feedback skills, and interpreting skills. Designed for students intending to become sign language interpreters. (Su)

- Prerequisite Course: Minimum 2.5 in SIGN 263
- Placement Score: Reading Level 5 and Writing Level 4.

### **SIGN267 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.

## 2020-2021 Course Descriptions

### **SIGN268 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.

### **SIGN270 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

### **SIGN271 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.

### **SIGN294 Sign Lang Interpreting Seminar**

**Credit Hours: 3 / Billing Hours: 3**

Special topics for intermediate and advanced interpreters. Topics cover a broad range of subjects related to the interpreting field and include preparation for state and national exams. (F,Sp)

- Prerequisite Course: Minimum 2.5 in SIGN 263 or Department Approval
- Placement Score: None

### **SIGN295 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

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*

## 2020-2021 Course Descriptions

### **SOCL120 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)
- Note: All sections of SOCL 120 allow concurrent enrollment with ENGL 099; some sections also allow concurrent enrollment with ENGL 098 or NCSS 101. See an academic advisor for sections that allow concurrent enrollment with ENGL 098 or NCSS 101.

### **SOCL185 Intro African-American Studies**

**Credit Hours: 3 / Billing Hours: 3**

A survey of culture and social structure of people of African descent and their role in the making of the US society. Theories and concepts pertinent to understanding the development and dynamics of contemporary African-American experience will be explored. Topics include slavery, multiculturalism, civil rights movement and affirmative action. (F,Sp)

- Prerequisite Course: Reading Level 5
- Recommended: (Minimum 2.0 in ENGL 121 [formerly WRIT 121] or ENGL 131 [formerly WRIT 131]) or Writing Level 6

### **SOCL254 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)

### **SOCL255 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)

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*

## 2020-2021 Course Descriptions

### **SOCL260 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)

### **SOCL295 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

### **SOWK101 Introduction to Social Work**

**Credit Hours: 3 / Billing Hours: 3**

This course introduces the principles and many facets of professional social work practice. Emphasis is on the history of social work, social welfare policy, empowerment, and human diversity while learning skills, competencies, and standards of ethical practice. There is an overview of social work roles and careers in agencies and institutions with relevance to the diverse social and client needs. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6

### **SPAN121 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 (ENGL 098 or ENGL 099 or NCSS 101 concurrently)

### **SPAN122 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 (ENGL 098 or ENGL 099 or NCSS 101 concurrently)

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **SPAN201 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 (ENGL 098 or ENGL 099 or NCSS 101 concurrently)

### **SPAN202 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 (ENGL 098 or ENGL 099 or NCSS 101 concurrently)

### **STAT170 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 and Math Level 5 Recommended: Graphing Calculator Required, TI-83/84 series is recommended, TI-84 Plus CE is highly recommended
- Note: A student should take either STAT 170 or STAT 215 (not both), depending on his/her transfer institution

### **STAT215 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 and Graphing Calculator Required, TI-83/84 series is recommended, TI-84 Plus CE is highly recommended
- Note: A student should take either STAT 170 or STAT 215 (not both), depending on his/her transfer institution

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **SURG100      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
- Co-requisite Courses: SURG 101 and SURG 108 and SURG 109 and SURG 121 and SURG 122

### **SURG101      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
- Co-requisite Courses: SURG 100 and SURG 108 and SURG 109 and SURG 121 and SURG 122

### **SURG103      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

### **SURG106      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

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **SURG108 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
- Co-requisite Courses: SURG 100 and SURG 101 and SURG 109 and SURG 121 and SURG 122

### **SURG109 Basic Operative 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
- Co-requisite Courses: SURG 100 and SURG 101 and SURG 108 and SURG 121 and SURG 122

### **SURG110 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
- Co-requisite Courses: SURG 111 and SURG 112 and SURG 123 and SURG 124

### **SURG111 Surgical Specialty/Prof Prep**

**Credit Hours: 2 / Billing Hours: 2**

This course focuses on preparing the student for life-long learning. An emphasis will be placed on advanced technologies, a look to the future of tele-surgery, the operating room ten years out, and advances in specialty surgeries. Preparation for the national certification exam will be provided in a review of core components. (Sp)

- Prerequisite Course: None
- Successful completion of 1st semester of the Surgical Technology Program is required.
- Placement Score: None
- Co-requisite Courses: SURG 110 and SURG 112 and SURG 123 and SURG 124
- Note: \$307 of the course fee is for a medical kit and is non-refundable.

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

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## 2020-2021 Course Descriptions

### **SURG112 Surgical Clinical Compliance**

**Credit Hours: 1 / Billing Hours: 1**

This course includes weekly conversations relative to the clinical experience, tracking of required surgical cases, and competencies reviewed for satisfactory compliance. The instructor will review clinical site evaluations and documentation, along with validation by students, preceptors, and faculty. A review component for surgical anatomy and surgical procedures will comprise a portion of this course. (Sp)

- Prerequisite Course: None.
- Successful completion of 1st Semester of the Surgical Technology Program is required.
- Placement Score: None
- Co-requisite Courses: SURG 110 and SURG 111 and SURG 123 and SURG 124

### **SURG121 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
- Co-requisite Courses: SURG 100 and SURG 101 and SURG 108 and SURG 109
- Note: \$400 of the course fee is for a medical kit and is non-refundable.

### **SURG122 Applied Surgical Techniques II**

**Credit Hours: 3 / Billing Hours: 6**

This course prepares students for the actual operating room experience through application of theory and clinical skills in mock surgical procedures. Basic surgical procedures will be presented, with some hands-on experience utilizing surgical simulators, along with additional competencies pertaining to circulating duties, disinfection, and sterilization. (F)

- Prerequisite Course: Pass grade in SURG 121 or concurrently
- Placement Score: None
- Co-requisite Courses: SURG 100 and SURG 101 and SURG 108 and SURG 109

### **SURG123 Applied Surgical Tech Iq III**

**Credit Hours: 4 / Billing Hours: 8**

This clinical session at a hospital provides the student with the application of theory and clinical skills in basic and advanced surgical procedures and specialty areas. (Sp)

- Prerequisite Course: None
- Successful completion of 1st semester of the Surgical Technology Program is required.
- Placement Score: None
- Co-requisite Courses: SURG 110 and SURG 111 and SURG 112

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## 2020-2021 Course Descriptions

### **SURG124 Applied Surgical Techniques IV**

**Credit Hours: 4 / Billing Hours: 8**

A continuation of SURG 123, this course is a clinical session at a hospital. It covers the application of theory and clinical skills in basic and advanced surgical procedures and surgical specialty areas. (Sp)

- Prerequisite Course: Minimum 2.5 in SURG 123 or concurrently
- Placement Score: None
- Co-requisite Courses: SURG 110 and SURG 111 and SURG 112

### **SURG150 Surgical Tech Special Topics**

**Credit Hours: .25 to 8 / Billing Hours: .25 to 11**

This course provides seminars for health professionals such as surgical technologists and operating room nurses. Specific up-to-date course content will vary with each seminar and will be related to the surgical team, surgical procedures, or surgical instrumentation. (As Needed)

- Prerequisite Course: Determined by Section
- Placement Score: Determined by Section

### **THEA110 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 098 or ENGL 099 concurrently)

### **THEA120 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

### **THEA131 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. (F,Sp)

- Prerequisite Course: Minimum 2.0 in THEA 141 or concurrently
- Placement Score: None

### **THEA132 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. (Sp,Su)

- Prerequisite Course: None
- Placement Score: None
- Department Approval Required.

*F=Fall; Sp=Spring; Su=Summer*

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## 2020-2021 Course Descriptions

### **THEA141 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. (F,Sp)

- Prerequisite Course: None
- Placement Score: None

### **THEA143 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. (F,Su)

- Prerequisite Course: None
- Placement Score: None

### **THEA150 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: None
- Placement Score: None
- Department Approval Required

### **THEA160 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. (F,Sp,Su)

- Prerequisite Course: None
- Placement Score: None
- Recommended: THEA 120

### **THEA170 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.

*F=Fall; Sp=Spring; Su=Summer*

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## 2020-2021 Course Descriptions

### **THEA171 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

### **THEA173 Movement for the Actor**

**Credit Hours: 2 / Billing Hours: 3**

Course will cover strategies developing student's physical endurance, reflect, flexibility, and grace. Students will learn the human inner experience in the sphere of human silence. Students may explore movement to music, mime, and/or dance styles and techniques from world cultures. (Sp,Su)

- Prerequisite Course: None
- Placement Score: None

### **THEA181 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. (Sp,Su)

- Prerequisite Course: None
- Placement Score: None

### **THEA210 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,Sp)

- Prerequisite Course: None
- Placement Score: Reading Level 5 and Writing Level 6 Recommended: THEA 110

### **THEA220 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. (Sp)

- Prerequisite Course: Minimum 2.0 in THEA 110 or Department Approval
- Placement Score: None

### **THEA223 Independent Study in Theater**

**Credit Hours: 1 to 3 / Billing Hours: 1 to 3**

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

## 2020-2021 Course Descriptions

### **THEA225 Building a Character**

**Credit Hours: 2 / Billing Hours: 2**

This course will focus on giving students 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. Students will practice skills to relate with others in a scene as that character. (F)

- Prerequisite Course: None
- Placement Score: None
- Co-requisites: THEA 233 and THEA 240

### **THEA233 Studio Theatre Performance III**

**Credit Hours: 2 / Billing Hours: 4**

Students will rehearse and perform a Shakespeare play. (F)

- Prerequisite Course: Minimum 2.0 in (THEA 131 and THEA 132 and THEA 141 and THEA 143) or Department Approval
- Placement Score: None
- Co-requisite Course: THEA 240

### **THEA240 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. (F)

- Prerequisite Course: Minimum 2.0 in (THEA 131 and THEA 141 and THEA 143) or Department Approval
- Placement Score: None
- Co-requisite Course: THEA 233

### **THEA283 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. (Sp)

- Prerequisite Course: None
- Placement Score: None
- Department Approval Required

### **THEA285 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. (F)

- Prerequisite Course: None
- Placement Score: None

## 2020-2021 Course Descriptions

### **WELD102 Industrial/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
- Note:
  - 1) This course requires students to be certified in CPR and First Aid as part of the course grade. Training will occur as part of traditional on-campus sections. Online students have the option of attending CPR and First Aid sessions at LCC's West Campus. Students who cannot travel to LCC will need to make other arrangements to become certified. Additional costs may be incurred if the scheduled CPR and First Aid sessions are not used.
  - 2) Online 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.

### **WELD103 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
- 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.

### **WELD105 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
- 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.

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*

## 2020-2021 Course Descriptions

### **WELD108      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
- 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.

### **WELD110      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
- 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.

### **WELD111      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
- 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.

### **WELD115      Robotic MIG Welding**

**Credit Hours: 3 / Billing Hours: 4**

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)]
- 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.



## 2020-2021 Course Descriptions

### **WELD125      Structural Blpt Reading/Weld**

**Credit Hours: 2 / Billing Hours: 2**

Blueprint and welding symbols are the universal language of the welding industry. This course is for students, apprentices, technicians and others who must develop the ability to read and accurately interpret blueprints. Teaches awareness of the advancement in metallurgy, welding processes, consumables and 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)]

### **WELD140      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
- 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.

### **WELD170      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

### **WELD191      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

### **WELD201      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
- 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.

*F=Fall; Sp=Spring; Su=Summer*

*An online course may require students to travel to an exam site for proctored exams.*

*You may also request to test at an approved proctored location (additional fees may apply). For more information, please visit the [Testing Services webpage](#).*

## 2020-2021 Course Descriptions

### **WELD205**     **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
- 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.

### **WELD220**     **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
- 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.

### **WELD250**     **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.
- Placement Score: None
- Recommended: 2.5 GPA or greater