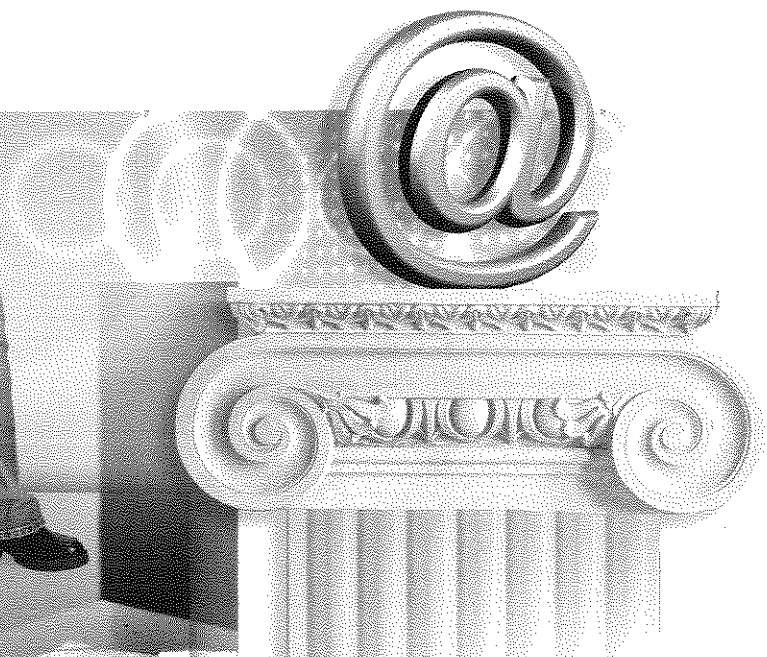
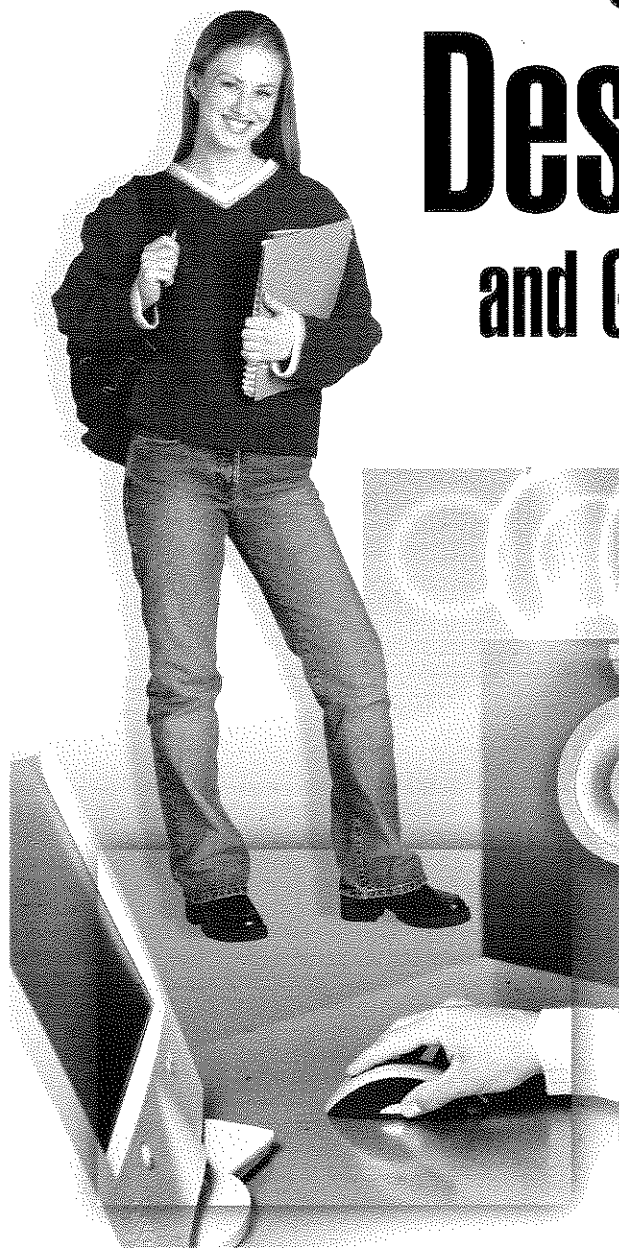


2005-07

LANSING
COMMUNITY
COLLEGE

Course Descriptions and General Information



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**Course Descriptions
and
General Information**



400-600 North Washington Square, P.O. Box 40010, Lansing, Michigan 48901-7210
Information Center (517) 483-1620 or 1-800-644-4LCC • 24-hour-a-day assistance (517) 483-1111
Office of Disability Services Telephone Device for the Deaf, TDD (517) 483-1218
World Wide Web: <http://www.lcc.edu>

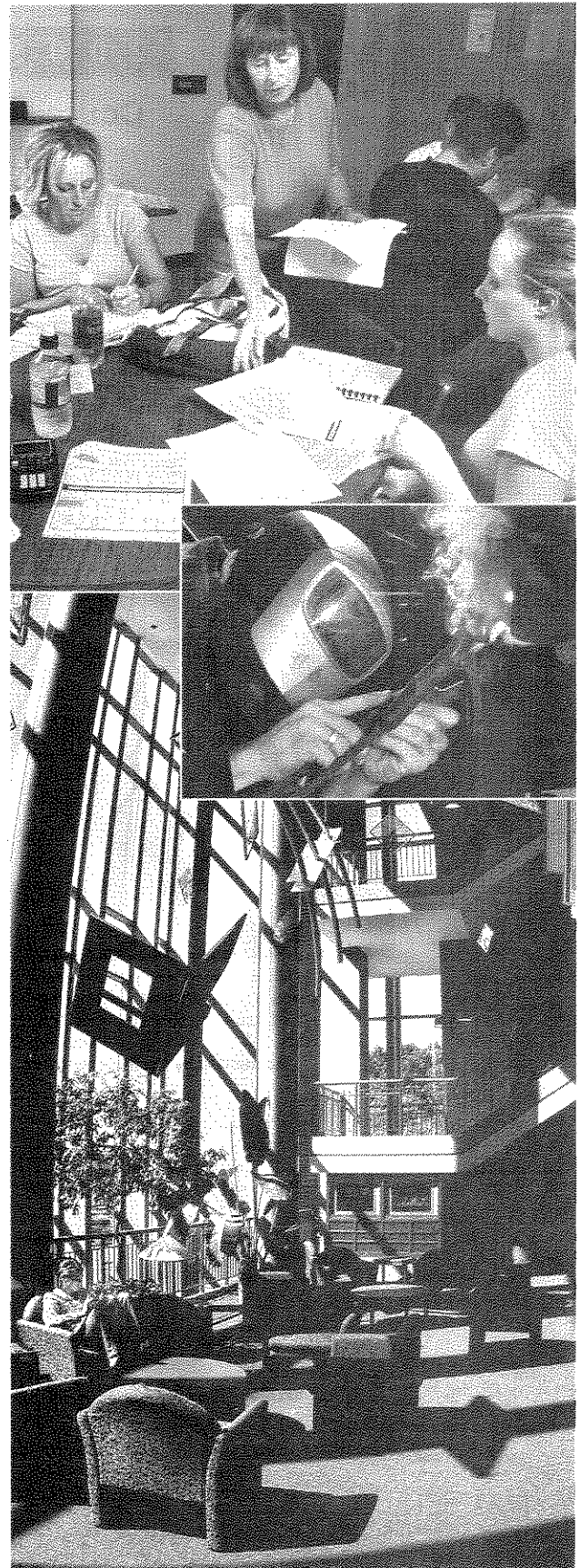
Accredited by North Central Association—The Higher Learning Commission

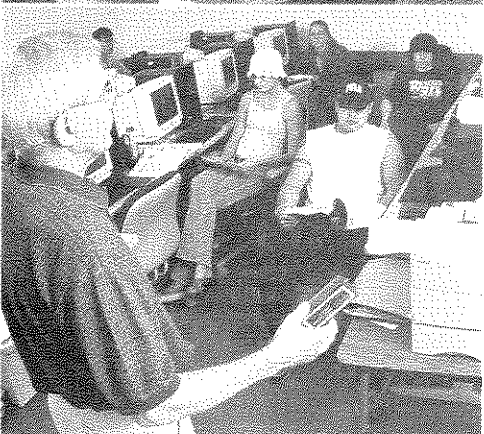
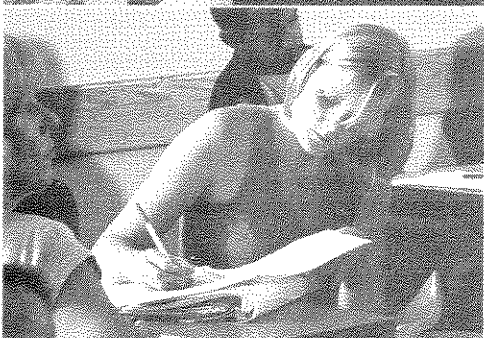
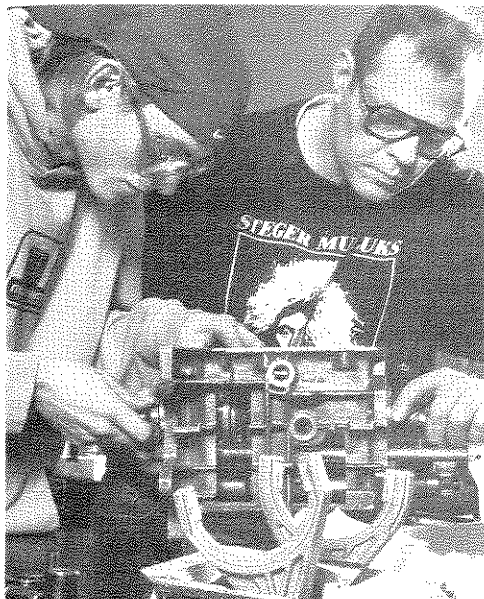


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Please keep this catalog as a reference to the learning opportunities available at Lansing Community College. Education is a lifelong process, and LCC continues to be a resource for its students throughout the nation and the world. Success begins at LCC, but continued success enriches for an entire lifetime.





LCC STATEMENTS OF PURPOSE

Statements of Purpose consist of the College's Vision, Mission, Motto, and Guiding Principles:

VISION:

Serving the learning needs of a changing community.

MISSION:

LCC exists so that the people it serves have learning and enrichment opportunities to improve their quality of life and standard of living.

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 student and the taxpayers who support its operation.
12. LCC is a dedicated community member working for the betterment of all.

Lansing
Community
College

BOARD OF TRUSTEES

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Kathy G. Pelleran, Vice Chairperson

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The Board of Trustees abides by the Open Meetings Act which allows opportunities for student and/or public comments.

MESSAGE FROM THE PRESIDENT

Welcome to Lansing Community College!

Whether you are learning new career skills, preparing to transfer to a four-year institution, or developing a personal interest, all of us at LCC are committed to meeting your needs and helping you accomplish your goals.

Lansing Community College is one of the nation's most respected higher education institutions. Our state-of-the-art technology, diverse course offerings and highly trained faculty and staff are ready to help you develop your talents and skills in the academic area of your choice.

Each year, over 31,000 students enroll in more than 327 degree and certificate programs and nearly 1,700 different courses. New classrooms, buildings, and renovated instructional space provide a quality environment to learn and succeed in the workforce and in our community. Our main campus is located in the heart of downtown Lansing, a few blocks from the State Capitol. A new Health and Human Services Building, Administration Building and renovated classrooms and labs in the Arts & Science and Gannon Buildings is transforming the campus to better serve students. West Campus is home to our technical and public service career training. West Campus also has a Michigan Technical Education Center for customized training, a fitness center and corporate conference facilities.

LCC has more than 20 convenient learning centers throughout mid-Michigan, including the Clinton County Center, the Livingston County Center and the East Lansing Center.

LCC is also a leader in on-line education. Each semester thousands of students enroll in our virtual classes.

While at LCC, I encourage you to get involved in the college experience. Whether it is on a sports team, involved in a volunteer opportunity, or participating in a cultural program, learning takes place in a variety of settings at LCC. Many extracurricular activities are designed to provide hands-on experiences to prepare students for their chosen professions. Student success and achievement are our focus at Lansing Community College.

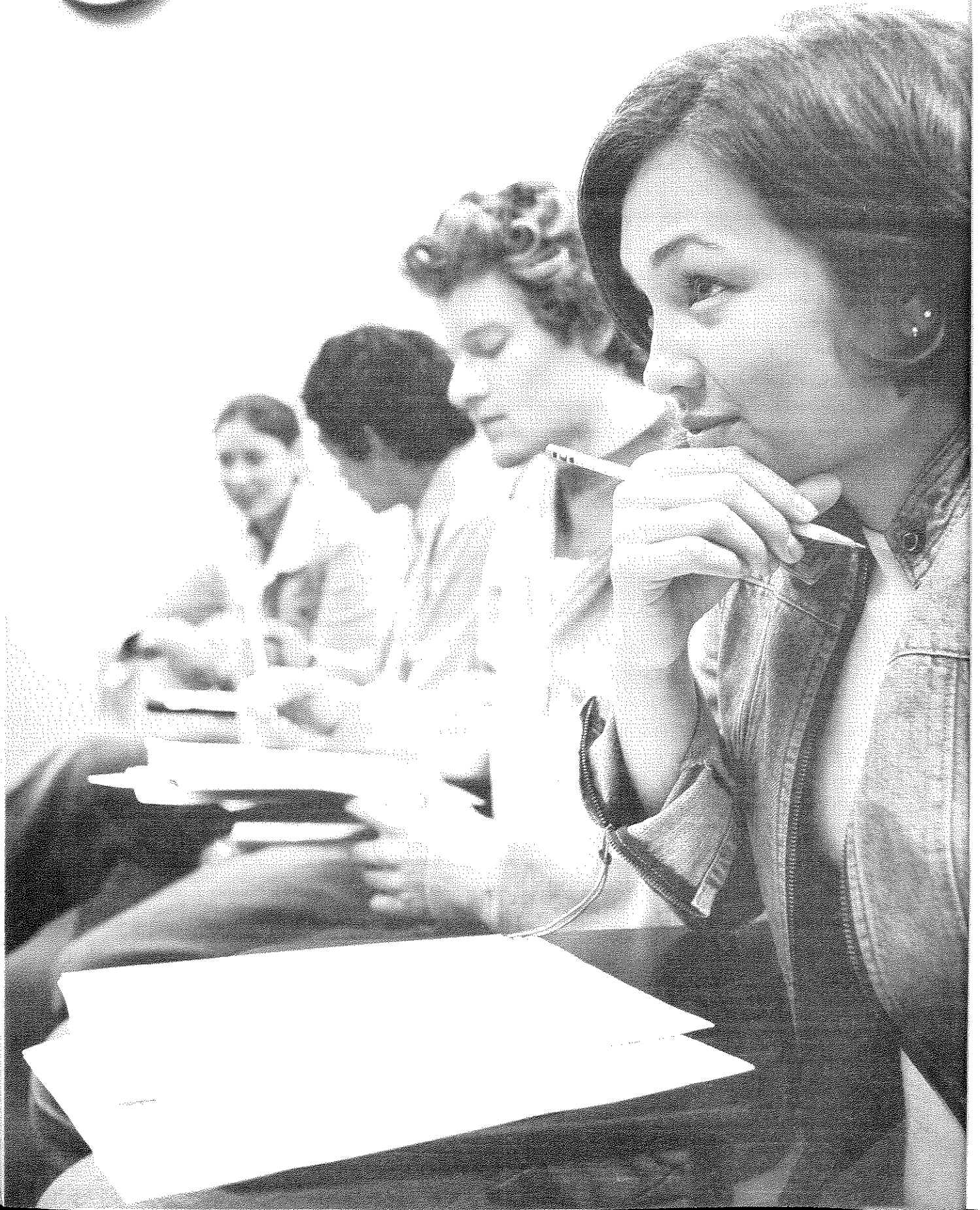
We offer a quality education that is convenient, affordable, accessible, and one that meets your needs. Join us at Lansing Community College . . . Where success begins.

Respectfully,



Paula D. Cunningham
President
Lansing Community College





General Information



DIRECTORY OF DEPARTMENTS

(Area Code 517)

**Business, Media, and Information
Technologies Division**

Business Department (OC 210)	483-1522
Accounting.....	483-1599
Credit Union.....	483-1541
Hospitality, Travel & Tourism.....	483-1522
Insurance.....	483-1599
Legal Assistant.....	483-1503
Management/Labor Relations.....	483-1532
Marketing.....	483-1532
Office Administration/Secretarial.....	483-1522
Real Estate.....	483-1532

Media, Art, and Information Technologies

Department (OC 137)	483-1546
Art, Design and Multimedia (ACF 314).....	483-1476
Computer Information Technology (OC 137).....	483-1546
Computer Support Repair and Electronics (GVT 3340).....	483-1350
Media Technology (TLC 123).....	483-1574
Motion Picture Production and Direction (TLC 123).....	483-1574
Photographic Imaging Technology (PC 122).....	483-1700

**Human, Health & Public Service Careers
Division**

Continuing Professional Education (HHS 103)	483-9680
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Health & Human Services

Department (HHS 108)	483-1410
Child Development.....	483-1410
Dental Hygiene (HHS 107).....	483-1457
Diagnostic Medical Sonography.....	483-1410
Gerontology/Aging.....	483-1410
Human Services/Social Work.....	483-1410
Radiologic Technology.....	483-1410
Surgical Technology.....	483-1410
Therapeutic Massage.....	483-1410

Nursing Careers

Department (HHS 108)	483-1410
Community Health Services.....	483-1410
Nursing.....	483-1410

Public Service Careers

Department (WCB M127)	483-1570
Corrections.....	483-1570
Criminal Justice/Law Enforcement.....	483-1570
Emergency Medical Technology.....	483-1410
Fire Science.....	483-1394
Paramedic.....	483-1410
Police Academy.....	483-1964

Technical Careers Division

Apprenticeships Programs (WCB M103)	483-1161
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**Environmental, Design & Building
Technologies (WCB M103)**

.....	483-5338
Agriculture.....	483-9675
Architecture.....	483-1627
Building Trades.....	483-1361
Civil Technology.....	483-9675
Fashion Technology.....	483-9679
Geographic Information Systems.....	483-9675
Horticulture.....	483-9675
Interior Design.....	483-9679
Landscape Architecture.....	483-9675

Manufacturing Engineering

Technologies (WCB M103)	483-1339
Alternative Energy Engineering Technology.....	483-1404
Computer-Aided Drafting & Design.....	483-9681
Electrical Technology.....	483-1360
Heating, Refrigeration & Air Conditioning.....	483-1404
Industrial Manufacturing Engineering Technology.....	483-1336
Manufacturing Maintenance Technology.....	483-1336
Precision Machinist Manufacturing Technology.....	483-1336
Welding Technology.....	483-9682

Transportation

Technologies (WCB M103)	267-5880
Automotive.....	267-5880
Aviation Flight/Ground (Airport).....	483-1406
Aviation Maint/Powerplant/ Avionics (Airport).....	483-1406
Collision Repair/Auto Body.....	267-5880
Heavy Equipment Repair/Operator.....	267-5880
Truck Driver Training (Fort Custer, Battle Creek)..... (877) 544-3126	

Business & Community Institute

Capital Quality Initiative (CQI).....	483-1363
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Small Business & Technology

Development Center.....	483-1921
STAR Institute.....	394-1956
Work First.....	483-1393
Workforce Performance Solutions.....	483-1857

Extension and Community

Education (Learning Centers)	483-1660
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International Programs	483-1006
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Japan Adventure/

Japan Horizon (OUF 228).....	483-1006
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Liberal Studies Division

Office of Instruction (A&S 111)	483-1015
Reserve Officer's Training Corps (ROTC).....	483-1015
Office of Teacher Preparation.....	483-1015
2+2+2 Engineering Program.....	483-1015
Honors Program (A&S 211).....	483-1040

Communication (A&S 211)	483-1040
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Foreign Language.....	483-1040
Linguistics.....	483-1040
Sign Language.....	483-1040
Speech.....	483-1040
Writing/Journalism.....	483-1040

Humanities &

Performing Arts (A&S 255)	483-1018
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Humanities (Art History, English/Literature, History, Humanities, Philosophy, Religion).....	483-1018
Performing Arts (Dance, Music, Theater).....	483-1018
Stage Technology.....	483-1467

Math & Computer

Science (A&S 301)	483-1087
Applied Math.....	483-1087
Computer Science.....	483-1087
Statistics.....	483-1087
Transfer Math.....	483-1087

Physical Fitness

& Wellness (GVT 3610)	483-1227
Aquatics.....	483-1227
Cardiac Rehab/Adult Fitness.....	483-1437
Fitness/Physical Conditioning.....	483-1227
Individual & Team Sports.....	483-1227
Kinesiology/Health and Wellness.....	483-1227

Science (A&S 301)	483-1092
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Biology/Molecular Biology.....	483-1092
Chemistry.....	483-1092
Geological Science.....	483-1092
Integrated Science.....	483-1092
Physics/Astronomy.....	483-1092

Social Sciences (A&S 301)	483-1126
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Economics.....	483-1126
Education/Teacher Education.....	483-1126
Geography.....	483-1126
Political Science/Government.....	483-1126
Psychology.....	483-1126
Sociology/Anthropology.....	483-1126

Police & Public Safety

Public Safety (GVT 2800).....	483-1800
TDD.....	483-9916

Student & Academic Support Division

Office of Instruction (SPS 211)	483-1635
Minority Outreach and Recruitment (GVT 2381).....	483-9755

Counseling Services

Department (GVT 2300) Academic Advising.....	483-1904
Personal and Career Counseling.....	483-1904
Disability Support Services.....	483-1904
Limited English Proficiency Program.....	483-1904
New Student Orientation.....	483-1904
TTY.....	483-1207
Women's Resource Center.....	483-1199

Assessment Center (GVT 2100)	267-5500
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Athletics (GVT 4600)	483-1610
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Center for Employment

Services (GVT 2440).....	483-1172
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Enrollment Services (GVT 2200)

Admissions.....	483-1200
Financial Aid.....	483-1200
Office of the Registrar.....	483-1200
Veterans' Services.....	483-1200

Language Skills

Department (A&S 253)	483-1061
English As a Second Language Program.....	483-1060
Language Skills Learning Center.....	483-1060
Reading Program.....	483-1061
Student Development Program.....	483-1061
Writing Program.....	483-1061

Library Information

Services (TLC 201).....	483-1657
Tutoring Services (A&S 103).....	483-1206

Mathematical Skills

Department (A&S 309A)	483-1073
Math Lab (A&S 309).....	483-1073

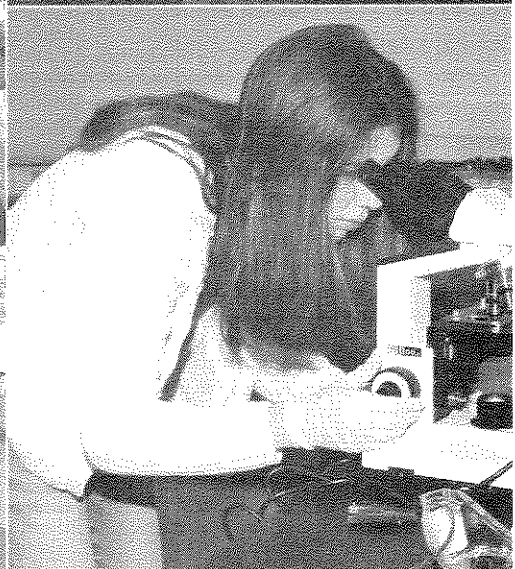
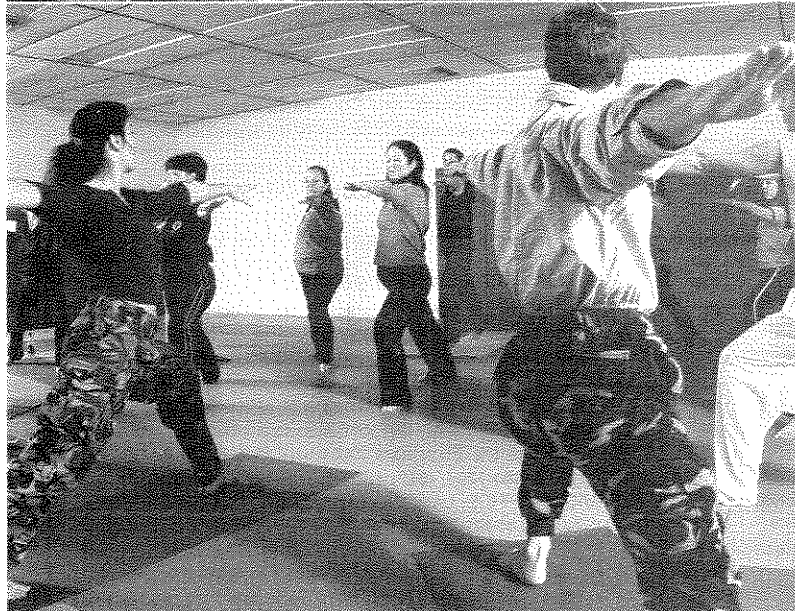
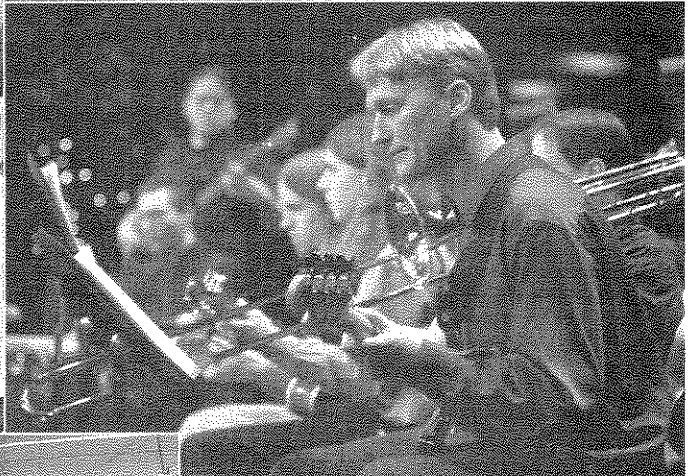
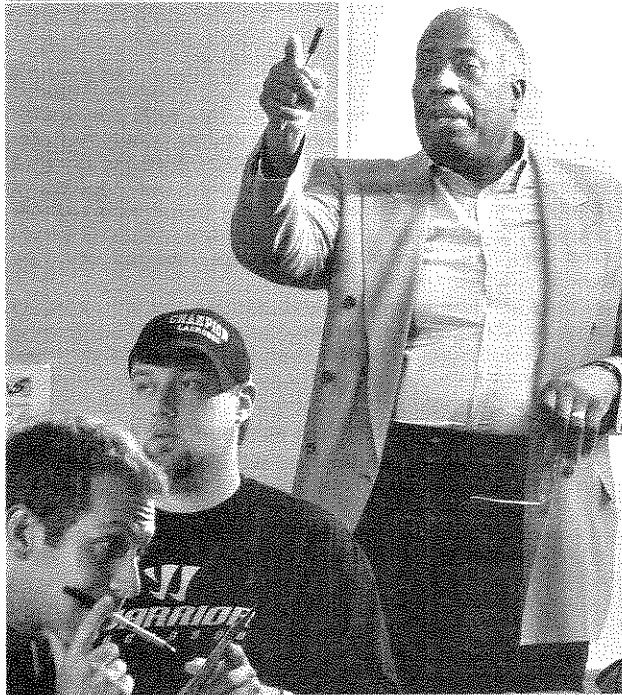
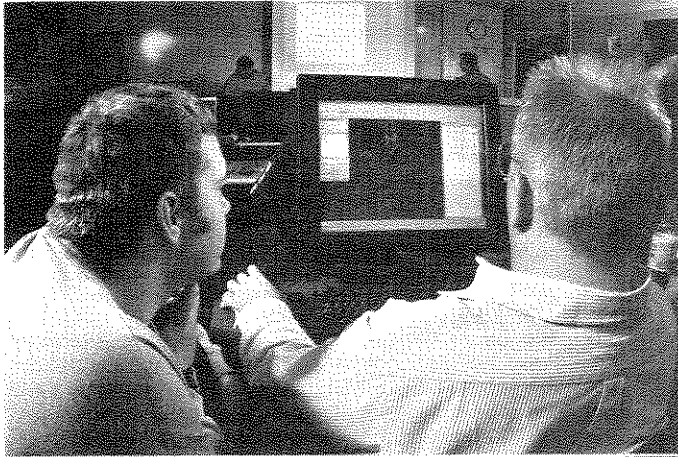
Media Services (TLC 123)	483-1670
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All Services.....	483-1000
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Multicultural Center (GVT2381)	483-1059
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Student Life and

Leadership (GVT 2473)	483-1285
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POLICIES, PROCEDURES, AND REGULATIONS

ADMISSIONS INFORMATION

GENERAL ADMISSION CRITERIA

Lansing Community College is an open-door community college designed to extend service to applicants possessing appropriate preparation to benefit from programs and courses offered at 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.

Persons who are 18 years of age or older or who have graduated from high school are eligible to attend Lansing Community College. Persons who are under 18 years of age, enrolled in high school, and working to fulfill high school graduation requirements may be admitted to LCC under the *Dual Enrollment* or *Special Admission Program* explained later in this section. Nonpublic home school applicants who are 14 years of age or older may be admitted under the *Nonpublic Home School Program* explained later in this section. Admission to the College does not guarantee admission to a particular program or class.

GENERAL ADMISSION PROCEDURES

Procedures for Completing the Admissions Application

1. Complete all items requested on the application for admission.
2. International applicants must follow the procedures outlined under *International Applicants*.
3. Applicants in high school must follow the procedures outlined under *Dual Enrollment Program* or *Special Admission Program*.
4. Nonpublic home school applicants must follow the procedures outlined under the *Nonpublic Home School Program*.
5. Guest students must follow the procedures outlined under *Guest and International Guest Applicants*.

Applicants may mail, fax (517) 483-9668, or bring applications to the Enrollment Services office located in the Gannon Vocational-Technical Building, Suite 2200. Items should be mailed to: 1121-Enrollment Services, Lansing Community College, PO Box 40010, Lansing, MI 48901-7210. For additional information call (517) 483-1200. Applicants may also submit an online application via the internet at our web address <http://www.lcc.edu/admissions/general/procedures/>. Applicants who are admitted to LCC will receive notification and information regarding registration procedures. Applicants denied admission will receive a letter stating the reason for denial and explaining the appeal process (see *Appeal Process for Denial of Admission*).

ACADEMIC ASSESSMENT AND PLACEMENT TESTING FOR STUDENT SUCCESS

General Information

Lansing Community College cares about student success and believes that strong basic academic skills are the student's passport to achieving school and job success. The following basic skill areas are particularly important: reading, writing, mathematics, computing, communicating, critical thinking, and study skills.

Many courses at LCC have minimum skill level requirements in reading, writing, and/or mathematics. These levels must be met before a student will be permitted to enroll in those courses. Skill levels are listed along with other prerequisites required for each course in the *Lansing Community College Catalog*, the *Course Schedule*, and on the College's World Wide Web home page <http://www.lcc.edu/>. Students meet these skill prerequisites either by achieving the required scores on placement tests or successfully passing specific courses at LCC. (See *Other Options to Meet Skill Prerequisites* in this section for other alternatives.) Students who have attended LCC previously may need to take or retake one or more of the placement tests. An advisor or counselor can determine if this is needed. Student orientation is available at www.lcc.edu/orientation, or by calling 483-1904. New students should complete all assessment testing prior to completing orientation.

The department offering the course determines any exceptions to prerequisites or skill levels.

What the Tests Are Like

Reading, writing, and some mathematics tests are administered on computers. The tests are adaptive and each item's difficulty is based on the student's response to the preceding question. The tests are not timed. The average amount of time spent on a test is about 30 minutes, so students should allow about two hours for all skill placement tests.

The results of the tests are available immediately.

Where Testing Centers Are Located

Drop-in placement testing is available on-campus in the Assessment Center in room 2100 Gannon Vocational-Technical Building, Suite 2100. For testing hours and information call (517) 267-5500. Placement tests are also available at the off-campus Learning Centers. Contact the off-campus Learning Centers, the LCC Extension and Community Education Office at (517) 483-1860, or contact the West Campus at (517) 267-5510 for more information.

Other Options to Meet Skill Prerequisites

Students who have taken the SAT, the ACT, or Advanced Placement courses should have their scores sent to LCC. The results may establish reading and/or writing and/or math levels, which may meet some course prerequisites. The Advanced Placement examination results may also result in the awarding of credit for a specific course(s).

Students who have earned credits from one or more accredited colleges or universities should have their official transcripts sent to the LCC Enrollment Services Office. An evaluation of transfer credits will determine if some of the courses meet skill prerequisites.

Students who have an earned degree (associate, bachelor, or higher) can have the reading and writing prerequisites waived. An official transcript from all institutions previously attended should be sent to the LCC Enrollment Services Office.

Academic Advising for Student Success

Academic advisors and counselors are available to provide information on skill prerequisites, help students plan class schedules, discuss curriculum choices, and provide academic and personal support. Students are encouraged to meet with an advisor or counselor prior to their first semester and each semester thereafter. As students progress in their program of study, advisors or counselors can identify courses that remain to be completed. Counseling and Advising Services has advisors and counselors in Room 2300 of the Gannon Vocational-Technical Building, (517) 483-1904.

In addition to these regular advising sessions, students are encouraged to confer with the advisors or counselors about transferring to another college. Advisors and counselors have information on most Michigan colleges and universities.

Academic advisors and counselors are also available during special advising times in the off-campus Learning Centers. Contact the Learning Center, the LCC Extension and Community Education office at (517) 483-1860, or West Campus at (517) 267-5510 for additional information.

SPECIAL PROGRAM/SPECIAL CIRCUMSTANCE ADMISSION

Selective Admission Programs

The programs listed in this section are selective admission programs. 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. Admission to Lansing Community College does not guarantee admission to a selective admission program. Students wishing to apply for admission to a selective admission program should contact the Enrollment Services Office for further information by calling (517) 483-1254, (517) 483-1256, or by writing 1121-ENROLLMENT SERVICES OFFICE, LANSING COMMUNITY COLLEGE, PO BOX 40010, LANSING, MI 48901-7210.

- Dental Hygienist Program, Associate in Applied Science
- Diagnostic Medical Sonography, Associate in Applied Science

- Fire Academy, Certificate of Completion
- Histologic Technician, Certificate of Completion
- Histologic Technology, Associate in Applied Science
- Mid-Michigan Police Academy, Certificate of Completion
- Music Commercial Performance, Associate in Applied Arts
- Music Management, Associate in Applied Arts
- Music Transfer, Associate in Applied Arts
- Nursing, LPN Option, Certificate of Achievement
- Nursing, RN Option, Associate in Applied Science
- Nursing, LPN/Paramedic to RN Completion, Associate in Applied Science
- Paramedic, Certificate of Achievement
- Radiologic Technology Program, Associate in Applied Science
- Sacred Music, Certificate of Achievement
- Surgical Technology, Certificate of Achievement, Associate in Applied Science
- Truck Driver Training, Certificate of Completion

International Applicants

International student admission procedures have been developed to create a positive experience for the international student, the service community, and the College community. Admissions requirements for international students are in compliance with the Student Exchange and Visitor Information System (SEVIS) as regulated by the U.S. Citizenship and Immigration Services (USCIS). In accordance with USCIS regulations, any individual who is not a United States citizen and who has been admitted to the United States in a temporary, nonresident status will be classified as an international student at Lansing Community College. Individuals who have refugee, immigrant, or resident alien status are not international students.

The visa classification of each international applicant determines the admission requirements and the attendance regulations applied to the applicant. For details on the requirements for international admission, the applicant should refer to the International Student Admissions Application Packet. To request the application packet, contact 1121-ENROLLMENT SERVICES, LANSING COMMUNITY COLLEGE, PO BOX 40010, LANSING, MI 48901-7210. International students may also visit the web site www.lcc.edu/admissions/interstu/.

Admission to the College for all visa categories requires applicants to: (1) be at least 18 years old and (2) provide additional documents as required by the applicant's USINS visa classification.

International students who would like copies of documents submitted to Lansing Community College for admission purposes must request these copies no later than one year after the last semester of attendance in international student status with the College. Lansing Community College does not keep such documents beyond legally required time limits.

Admission to LCC as an international student will be considered after receipt of the application and all required documents. Applicants outside the United States are advised to apply as early as possible to allow for mail delays, to obtain visas and exit permits, and to make travel arrangements. The College must receive all admission material from applicants outside the United States no later than ten weeks prior to the first day of international student orientation for the semester of attendance.

The Enrollment Services Office will provide to admitted applicants information regarding USINS regulations, academic advising, and College policies governing international students. Prior to registering for classes, international students will be asked to take tests administered to the general College population. If evaluation of these tests indicates a need for improvement of English language skills, the student will be required to enroll in appropriate language courses.

Admission procedures are established and reviewed by the International Student Services Committee. Any changes in the procedures will be brought to the attention of the Dean of Student and Academic Support, students, applicants, LCC staff, and the service community.

The International Student Services Committee has been established in the Division of Student and Academic Support with the following membership:

1. International Admissions Specialist (Chairperson)
2. Enrollment Services Administrator
3. Director of International Programs
4. Bilingual Coordinator
5. International Student Counselor
6. A member of the teaching faculty

Dual Enrollment Program

This program is designed to provide an opportunity for qualified high school juniors and seniors to earn college credit. High school credit may or may not be granted according to the discretion of the participating high school. Dual enrollment affords students educational enrichment in specific areas where unusual ability and interest are displayed, especially in courses and academic areas not available in the students' high school. Note: Some colleges/universities will not allow credit for college courses used to meet high school graduation requirements.

Qualifications for the Dual Enrollment Program

Applicants must:

1. Be working toward high school graduation requirements;
2. Have attained junior or senior high school standing prior to applying for the program.

Application Procedures for the Dual Enrollment Program

Applicants must:

1. Complete a College application;
2. Submit written approval from their authorized high school official each semester of attendance;
3. Mail or bring the application and letter of authorization to the LCC Enrollment Services prior to enrolling in classes. Applicants may also submit an online application via our web address http://www.lansing.cc.mi.us/lcc_application_form.htm.
4. Comply with basic skills assessment and any additional approvals or prerequisites established by the department for the course(s) in which the student wishes to enroll.

(See *Appeal Process for Denial of College Admission* for appeal procedures.)

Special Admission Program

This program is designed to provide an opportunity for qualified high school freshmen and sophomores to earn college credit. High school credit may or may not be granted according to the discretion of the participating high school. The Special Admission Program affords students educational enrichment 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 allow credit for college courses used to meet high school graduation requirements.

Qualifications for the Special Admission Program

Applicants must:

1. Be working toward high school graduation requirements;
2. Have attained freshman or sophomore high school standing prior to applying for the program.
3. Have attained 14 years of age by December 1 of the student's freshman year.

Application Procedures for the Special Admission Program

Applicants must:

1. Complete a Special Admission Supplemental Application for each class in which the student intends to enroll;
2. Submit an official high school transcript each semester of attendance;
3. Obtain written consent from the student's parent/guardian and his/her authorized high school official each semester.
4. Mail or bring the Special Admission Supplemental Application(s) and transcript to the LCC Enrollment Services prior to enrolling in classes.
5. Comply with basic skills assessment and any additional approvals or prerequisites established by the department for the course(s) in which the student wishes to enroll.

Special admission is contingent upon receiving departmental/divisional approval for each class for which the student intends to enroll.

(See *Appeal Process for Denial of College Admission* for appeal procedures.)

Nonpublic Home School Program

The Nonpublic Home School Program is designed for students who are at least 14 years old and attend a nonpublic home school. This program is provided to supplement the student's educational plan and to afford educational enrichment in courses and academic areas not available in the student's home school setting.

Qualifications for the Nonpublic Home School Program

Applicants must be at least 14 years of age prior to applying for the program.

Application Procedures for the Nonpublic Home School Program

1. Applicants 15 and 17 years of age must complete an LCC Nonpublic Home School Program Application each semester. Applicants 14 or 15 years of age must obtain department/division approval and complete an LCC Nonpublic Home School Program Application for each course in which the student wishes to enroll each semester.
2. Written consent from the student's parent/guardian and approval from the home school provider is required on the application.
3. Applicants must meet with a Counselor to discuss the student's educational plan.
4. All students must comply with basic skills assessment and any additional approvals or prerequisites established by the department for the course(s) in which the student wishes to enroll.
5. Applicants must mail or bring the completed application to the LCC Enrollment Services Office prior to enrolling in classes.

(See *Appeal Process for Denial of College Admission* for appeal procedures.)

Guest Applicants

Guest applicants must:

1. Obtain a guest application from the Registrar's Office of the student's primary college;
2. Mail or bring the guest application to the Enrollment Services Office prior to enrolling in classes.

(See *Appeal Process for Denial of College Admission* for appeal procedures.)

APPEAL PROCESS FOR DENIAL OF COLLEGE ADMISSION

Applicants who meet minimum requirements and are denied admission to the College may appeal the denial. The decision to admit or uphold denial of admission will be based upon the individual merits of the appeal. Appeals submitted with insufficient time to complete the appeal process (eight working days) by the first day of class will be reviewed for the following semester. The appeal process shall consist of the following steps:

STEP 1: Admissions Staff Member

If an Admissions staff member denies admission to an applicant, the Admissions staff member shall provide the applicant with a copy of the appeal process. If the applicant wishes to appeal the denial, the staff member shall arrange an appeal meeting with the Director of Admissions/Registrar within two working days of the denial.

STEP 2: Director of Admissions/Registrar

(If the Director of Admissions/Registrar originally denied admission, the applicant may move directly to Step 3 of the appeal process.) The applicant must submit his or her appeal in writing to the Director of Admissions/Registrar at least one working day prior to the appeal meeting. A decision shall be communicated to the applicant within two working days of the appeal meeting and provide the applicant with a written copy of the decision. If the appeal is denied, the Director of Admissions/Registrar shall discuss Step 3 of the appeal process with the applicant. If the applicant wishes to appeal the denial, the Director of Admissions/Registrar shall assist the applicant in contacting the Appeals Coordinator.

STEP 3: The Board of Appeals

The Appeals Coordinator shall convene the Board of Appeals within three working days of the applicant's appeal to the Board and advise the applicant of the date, time, and location of the appeal meeting. The Board of Appeals Chairperson shall notify the applicant of the Board's decision within three working days from the date of the applicant's appeal meeting and shall provide the applicant with a written copy of the decision. The Board of Appeals shall consist of the following members:

- A. The Director of Student Success
- B. A member of the teaching faculty

- C. A counselor
- D. Appeals Coordinator or his or her designee (as recorder and nonvoting member)

The appeals process for international students shall have the following modification in membership:

- STEP 1: International Admissions Specialist or his or her designee
- STEP 2: Enrollment Services Administrator
- STEP 3: Board of Appeals

The international Student Board of Appeals shall consist of the following members:

- A. The Dean of Student and Academic Support (Chairperson) or his or her designee
- B. A member of the teaching faculty
- C. Bilingual Coordinator or Director of International Programs
- D. Appeals Coordinator or his or her designee (as recorder and nonvoting member)

The decision of the Admissions Board of Appeals is final and will be reached by simple majority vote. A copy of the Board of Appeals decision shall be maintained in the Enrollment Services Office for two years.

HOUSING

Lansing Community College maintains no housing units for students, nor does it enter into third party contracts or supervise off-campus housing. However, the Student Life and Leadership Office offers a housing resource listing service. This service provides current available listings of Lansing area housing for sharing, sale, or lease. LCC is not involved with any contract negotiations between the landlord and the tenant. LCC is not responsible for any disputes, breaches of contract, eviction notices or any civil actions that may arise between the landlord and the tenant. The college has not inspected, approved or disapproved any of the facilities listed, and therefore can accept no responsibility for listings.

For more information, contact the Student Life and Leadership Office at (517) 483-1285, or visit Room 2473 in the Gannon Vocational-Technical Center. There is no fee for this service.

FINANCIAL AID INFORMATION

The Student Financial Aid Office in Enrollment Services at Lansing Community College is committed to providing students with financial resources for higher education. An objective method of need determination approved by the federal government is used to award need-based programs. However, some scholarships are available based on academic achievement or talent, and low interest loan programs are also available.

Students are eligible to apply for financial assistance if they have graduated from high school, have completed a GED, or have demonstrated, through testing, the ability to benefit from courses or programs at Lansing Community College. They must enroll in LCC programs of study leading to an approved educational credential and must be a U.S. citizen or eligible noncitizen. A student enrolling in a program of study abroad that is approved for credit by Lansing Community College is eligible for federal student financial aid consideration.

SOURCES OF FINANCIAL ASSISTANCE

Financial aid programs are funded from federal, state, college, and private sources. The four major sources of financial aid are scholarships, grants, loans, and employment. Most students receive a combination of these forms known as a financial aid "package." Need-based programs require the submission of the Free Application for Federal Student Aid (FAFSA). Please see "How and When to Apply."

Scholarships and Awards

Resources that do not have to be paid back, usually awarded for academic achievement or talent that may or may not be based on need.

- Board of Trustees Awards are awarded to outstanding district high school graduates. One recipient each year is selected by each in-

district high school.

- Divisional Awards are awarded to outstanding students who are residents of the district and who apply directly to the College division or department in which the student wishes to study. Students may contact the Student Financial Aid Office in Enrollment Services for an Lansing Community College Scholarship application book.
- Athletic Scholarships are awarded through the Athletic Department. Talented athletes should contact coaches in their respective sport areas.
- Michigan Competitive Scholarships are based upon a qualifying ACT examination given during the junior and senior years in high school. Students may receive an "honorary" award not based on need or a monetary award based upon need.
- Private Scholarships are available through the College or private organizations. Please contact the Student Financial Aid Office in Enrollment Services for a LCC Scholarship application book and information about private scholarships, grants, loans, employment, and college transfer scholarships available to LCC students.
- Foundation Scholarships are provided through the Lansing Community College Foundation Office.
- Michigan Merit Award Scholarships are based upon successful completion of all relevant sections of the Michigan Educational Assessment Program (MEAP test) for high school seniors.

Additional information on these as well as afree scholarship search service is available at: <http://www.lcc.edu/finaid/>.

Grants

Money that does not have to be paid back, usually based upon need.

- Federal Pell Grants are based on need and range from \$400 to \$4,050 (subject to change).
- Federal Supplemental Educational Opportunity Grants are awarded to high need students who receive Federal Pell Grants.
- Michigan Educational Opportunity Grants are awarded to needy students who have been Michigan residents for at least 12 consecutive months.
- Michigan Adult Part-time Grants are awarded to self-supporting, part-time (3-11 credits), needy students who have been out of a high school program for at least two years and who have been Michigan residents for at least 12 consecutive months.
- Michigan Tuition Incentive Program (TIP) pays in-district community college tuition and fees for students from low-income families who meet the basic criteria and low-income financial guidelines. Eligible students must be United States Citizens and residents of Michigan according to institutional criteria, must be under 20 years of age, and must apply for certification to the State of Michigan prior to graduation from high school or completing the General Education Development (GED) Certificate.
- Lansing Community College grants are awarded to needy students who do not qualify for Federal Pell Grants on a funding available basis.
- Lansing Community College's Women's Resource Center Grants are available for tuition and child care for displaced homemakers and special populations. Students apply through the Women's Resource Center, in the Counseling Services Department, Gannon Vocational-Technical Center, Suite 2300, (517) 483-1207 or (517) 483-1904.
- Center for Aging Education Tuition Assistance is available to persons 60 years of age or older for up to four (4) credits per semester. Students must meet moderate income guidelines. Students apply through the Student Financial Aid Office in Enrollment Services Department at (517) 483-1200.

Loans

Money that must be repaid beginning six months after graduation or enrollment of less than half-time (six credits for Fall and Spring semesters, three credits for Summer semesters), with the exception of the PLUS loans which must begin repayment sixty (60) days after the final disbursement.

- William D. Ford Federal Direct Student Loan Program includes both Subsidized and Unsubsidized Student Loans and the Parent Loan for Undergraduate Students (PLUS). Specific guidelines pertaining to eligibility and the application process are available in the Enrollment Services/Student Financial Aid Office.
 1. Subsidized and Unsubsidized William D. Ford Direct Student Loans are available for students who meet eligibility requirements.

Students apply by completing and submitting a Free Application for Federal Student Aid (FAFSA), an LCC Admissions Application, and an LCC application for William D. Ford Direct Subsidized and Unsubsidized Student Loans.

2. Parent Loans for Undergraduate Students (PLUS) are available to parents of undergraduate dependent students to pay college costs not covered by other financial aid. Applications for William D. Ford Direct PLUS loans are available in the Student Financial Aid Office in Enrollment Services. This is a credit-based loan.
- MI-LOAN is a Middle Income Loan provided by the State of Michigan. This is a credit-based loan. Additional information about Alternative Lenders offering credit-based loans is available at our website <http://www.lcc.edu/finaid/>
 - Lansing Community College encourages students to borrow responsibly.

Work Study (Student Employment)

Both the Federal Work Study and the Michigan Work Study programs provide access to student employment opportunities—both on- and off-campus. Students may be eligible for either the federal or state Work Study award, by indicating their interest on the FAFSA. The Work Study award is actually a "maximum eligibility amount" that the student may earn if they secure a qualified student employment position. The award is then paid-out to the student in the form of wages. These Work Study "earnings" may be used to assist with various education-related expenses. Once the student attains their maximum eligibility amount (through gross earnings), employment may be terminated; it is considered to be temporary, part-time employment only.

Student employment is based upon skills and abilities—not necessarily financial need. Therefore, Work Study eligible students are not guaranteed a job. However, Work Study eligibility does provide unique opportunities for either on-campus student employment offered by the College, for off-campus Work Study employment offered by qualified non-profit organizations, and/or local/state/federal public agencies. Contact the Center for Employment Services (CES) in room 2440 Gannon Vocational Technical (GVT) Center; visit the web site www.lcc.edu/ces, or call (517) 483-1172 to explore available opportunities. CES also provides both on- and off-campus employment opportunities to students who have not received a Work Study award.

Special Situation Funds

The Student Financial Aid Office in Enrollment Services has information regarding the availability of funds and application procedures for the following programs:

- Armed Services
- Veterans' Benefits
- Children of Disabled or Deceased Veterans
- Federal Bureau of Indian Affairs
- Michigan Indian Tuition Waiver
- Michigan Rehabilitation Services
- Clubs, Organizations, and Business Scholarships
- Private Donor Scholarships

HOW AND WHEN TO APPLY

Students wishing to receive financial aid at Lansing Community College should submit a Free Application for Federal Student Aid (FAFSA) no later than February 15 for priority State aid consideration and at least three months prior to enrollment for all other aid programs. Federal income tax information is necessary to complete the form. FAFSA forms are available at LCC or from high school counselors. There are two options available for submission:

1. The completed FAFSA form may be submitted via the Internet at <http://www.fafsa.ed.gov/>. All necessary instructions are provided. Please note all signature requirements. The STARLAB, located in the Student Financial Aid Office in Enrollment Services, is available for students to enter the application. Staff is available to assist students with filing the application. The Student Aid Report (SAR) results are then mailed to the student. Processing time is approximately 14 to 21 working days after the student enters the application. Call (517) 483-1200 to schedule an appointment.
2. The completed FAFSA form may be mailed in the enclosed envelope to the federal processor. In four to six weeks the processor will send a Student Aid Report (SAR) to the student. The Student Financial Aid

Office in Enrollment Services must receive these results to award aid. LCC must be listed as a college choice on the FAFSA in order for LCC to electronically receive the information. The Title IV code to list LCC as a college of choice is 002278.

Eligible students will receive an Award Letter no later than fourteen days after their results are received and their financial aid file is completed. Application for Financial Aid must be completed each academic year that a student plans to attend college.

To apply for financial assistance at the College, new students must also complete the LCC Application for Admission and return it to: 1121 Enrollment Services, LANSING COMMUNITY COLLEGE, PO BOX 40010, LANSING, MI, 48901-7210. All students must complete the Free Application for Federal Student Aid (FAFSA) and submit the application to the federal processor prior to being awarded.

William D. Ford Federal Direct Student Loans (Subsidized, Unsubsidized, and PLUS) are available by completing the aforementioned forms and the loan application form. Loan applications are available in the Student Financial Aid Office in Enrollment Services.

LCC Board of Trustees Scholarship forms are available through district high schools' counseling offices. Scholarship forms are also available at the Student Financial Aid Office in Enrollment Services.

Divisional Scholarships are available from the respective College division or department of the student's major area of study.

The LCC Foundation has scholarships available throughout the year. Please consult the Student Financial Aid Office in Enrollment Services or call the LCC Foundation Office at (517) 483-1985 for additional information.

Processing of the student's application for financial assistance will be completed, and the student will be notified when the student has submitted the LCC Application for Admission to the Enrollment Services Office and the results of the federal application for student financial assistance have been received. Students transferring from other colleges mid-year must submit a Financial Aid Transcript from their previous colleges when they apply for financial assistance, along with any additional documents requested by the Student Financial Aid Office in Enrollment Services.

The amount of the student's award will be based on a standardized cost of attending LCC, less the expected student's and family's contribution. The College will attempt to meet a student's need based upon available funds. All financial assistance applications are confidential.

RIGHTS AND RESPONSIBILITIES OF STUDENTS RECEIVING FINANCIAL AID

As a recipient of financial aid, a student enters into an agreement with Lansing Community College which affects the receipt and continuation of assistance. Therefore, students should be sure to read this information carefully.

NEED AND FINANCIAL AID PACKAGE

Financial need is determined by subtracting the expected family contribution (as determined by the FAFSA) and other financial resources from the appropriate College budget. The College will attempt to meet the student's need within the limitations of available resources. Also, if any errors are made by the College in determining eligibility for assistance or awarding of aid, they will be corrected. Should any major changes occur in the student's financial circumstances or should other aid be provided to the student, the student will report these changes to the Student Financial Aid Office in Enrollment Services.

EXPECTED FAMILY CONTRIBUTION

If a student is a dependent student (as determined by the FAFSA), the College and the federal government assume that parents and students have the primary obligation to provide for the student's cost of education to the extent that they are able, based on a standardized method of determining parental contribution. The second obligation falls upon the student to contribute to his or her own education from personal assets and earnings which may include the use of student loan funding.

If a student is a self-supporting or independent student (as determined by the FAFSA), the College assumes that since a student is the prime beneficiary of education, the student has a primary obligation to provide for the cost of education to the extent the student is able, based on a standardized method of determining student contribution. The student's expected contribution will

come from personal earnings, spouse's earnings, if applicable, savings and assets which may include the use of student loan funding.

SELECTION CRITERIA

Students are awarded need-based financial aid on a first-come first-served basis. Students with the highest need are selected first until available funds are exhausted. Students with bachelor's degrees are not eligible for Pell Grants and some other federal and Michigan grants, but may receive Federal Work Study if funds permit. These students may also apply for Federal Direct Student Loans.

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, billing back for assistance received, and referral to the appropriate federal authorities. If you purposely give false or misleading information, you may be fined \$10,000, sent to prison, or both by the federal government.

The Student Financial Aid Office in Enrollment Services may be required to verify information provided on the FAFSA form by requiring income tax statements or other documentation of financial status.

CREDIT HOUR LOAD

Fall and Spring Semester

Financial aid is offered to students based on enrollment as a full-time student, 12 credit hours or more per semester. However, if a student enrolls for fewer than 12 credits, certain awarded grant funds may be prorated to meet lower enrollment costs. For example, if a student enrolls for 9-11 credits, he or she would in most cases receive 75 percent of his or her Pell award. If a student enrolls for 6-8 credits, he or she would usually receive 50 percent of his or her Pell award. If a student enrolls for fewer than six credit hours, he or she may be eligible for some federal programs. An independent student enrolled for 3-11 credits may be eligible for the Michigan Adult Part-time Grant.

Summer Session

Summer Session is shorter than Fall and Spring Semesters. Six credits are considered full-time for financial aid purposes, five credits is considered three-quarter time, and three credits are considered half-time. Enrollment for fewer than three credits will make a student ineligible for most financial aid. The length of the summer session also makes a difference in the calculation for the maximum financial aid allowable for that period. Generally, the amount of financial aid will be less for a student enrolled in the summer session compared to the regular fall and spring semesters.

SHORT COURSE ELIGIBILITY

Payment for courses that are less than a semester in length is permitted. Students who enroll in a short course, receive payment for the course, and then do not attend will be required to repay any financial assistance attributed to that course. In addition, students who receive payment for a short course that is subsequently canceled will be required to repay any financial assistance attributed to that course.

STUDENT BUDGETING OF THE FINANCIAL AID PACKAGE

The student is responsible for properly budgeting all financial aid offered for each semester. The financial aid package will be distributed to the student in the following manner:

1. ALL student financial aid will be applied toward tuition and fees during registration. If sufficient funds are available after tuition and fees are paid in full, the student will receive a financial assistance advance check during the first full week of classes for part of the balance of grants, loans, or scholarships; and
2. The student will receive any remaining balance of grants, loans, or scholarships approximately 14 days after the first day of the semester.

The student must be prepared to meet his or her living expenses during the period prior to check distribution.

CHECK DISTRIBUTION

Checks are issued two times each semester. They will be mailed if financial aid awards exceed the amount of tuition and fee charges. Students use this money for books, supplies, transportation, and room and board. Book advance checks are printed during the first week of the semester. Book advance checks are automatically calculated for financial aid students if their awards are complete and if they are registered by the last day of on-campus registration. The book advance check will be calculated by subtracting the amount of tuition and fees owed for the semester from the adjusted amount based on credit enrollment and writing a check for a portion of the remainder.

Final checks are printed for delivery by the 14th day of the semester. Students who receive an advance check normally receive a final check.

FINANCIAL AID TUITION REFUNDS/WITHDRAWALS

Tuition refunds for financial aid students are based on federal regulations. In addition, federal refunds are calculated for students who completely withdraw through the 60 percent period of the semester. Effective Fall semester 2000, federal refunds are calculated by calendar days and the student will owe a portion of unearned Title IV funds. Tuition refunds and federal refunds are returned in the following order for any programs received that semester:

- a. Unsubsidized FFEL loans
- b. Subsidized FFEL loans
- c. Unsubsidized (other than parent loans) Federal Direct loans
- d. Subsidized Federal Direct loans
- e. Federal Perkins loans
- f. FFEL PLUS loans
- g. Federal Direct PLUS loans

If excess funds remain after repaying all outstanding loan amounts, then the remaining amount is credited to grant programs in the following order:

- h. Federal Pell Grants
- i. Federal SEOG
- j. Other Title IV assistance for which a return of funds is required
- k. State financial aid awards
- l. Institutional financial aid awards
- m. Private or public donor awards
- n. Other institutional awards
- o. Student

The College will hold an administrative fee of the lesser of five percent of the refund or \$100.

REPAYMENT OF GRANTS

If a student withdraws from Lansing Community College or is withdrawn by the College because of nonattendance, a portion of any grants paid to the student may have to be repaid, and grades received for these courses may affect continuation of aid. Failure to repay could result in your account being referred to a collection agency and credit bureau.

SATISFACTORY ACADEMIC PROGRESS POLICY FOR FINANCIAL AID ELIGIBILITY

To receive or continue on financial assistance, students must maintain satisfactory academic progress (SAP) each semester. Satisfactory academic progress for students receiving financial assistance is defined as follows:

1. Students must maintain a grade point average (GPA) of a 2.0 or above on a semester and cumulative basis.
2. Students must earn 70 percent or more of all credits attempted on a semester and cumulative basis. Credit "earned" is defined as a grade of 1.0 or higher or P. Grades of W, I, Z, N and 0.0 are considered attempted and not earned for determining financial aid satisfactory academic progress. Credit attempted includes all repeated courses.
3. Students must complete all requirements for their educational program within 150 percent of the minimum number of credit hours required for their educational program. This limit is further explained below under the heading *Maximum Eligibility*.

Satisfactory Academic Progress for Federal or State Loan Programs

Students applying for a federal or state loan program—including the

Federal William D. Ford Direct Student Loan and the Michigan MI-Loan—must have completed at least one semester of prerequisites or core courses with a 2.0 or higher GPA and at least 70 percent completion of attempted credits prior to applying for a loan. A student borrower must earn a minimum of six credits, maintain a 2.0 minimum GPA each semester of the loan period, and maintain at least 70 percent completion of cumulative credits attempted. Students who do not meet these minimum guidelines will have any remaining scheduled loan disbursements canceled.

Financial Aid Academic Probation

Federal regulations state that an Academic Progress Policy must include a review of all periods of enrollment whether or not aid was received. Students who fail to maintain satisfactory academic progress in accordance with GPA or completion percent may be allowed to re-enroll on financial aid under a Success Contract (educational agreement). While on a Success Contract, a student will be considered to be making satisfactory academic progress for financial aid programs, excluding loans, as long as the student abides by the terms of the educational agreement or until the student has raised his or her cumulative grade point average to a 2.0 or greater and has completed at least 70 percent of all credit hours attempted.

Students who do not successfully complete the semester of their Success Contract will have their future semesters of financial aid canceled subject to the appeals process described below.

Students with cumulative GPAs lower than 2.0 and/or students who have earned less than 70 percent of credit hours attempted and previously been on a Success Contract will have their financial aid eligibility canceled. Eligibility for financial aid may be automatically reinstated after a student completes sufficient credit hours to raise his or her cumulative GPA to a 2.0 or above and cumulative credit completion to 70 percent or higher financed with his or her own resources. This is subject to all maximum eligibility requirements.

Appeal of Unsatisfactory Academic Progress

A student failing to maintain satisfactory academic progress who is placed on probation or terminated from financial aid may appeal this action. All appeals must be submitted in writing to the Student Financial Aid Office in Enrollment Services and should document circumstances beyond the student's control. Extenuating circumstances that may be considered include personal illness or accident, serious illness or death within immediate family, long-term absence from school, or other circumstances beyond the reasonable control of the student. A letter from a physician, attorney, social services agency, licensed therapist or counselor, or clergy or an obituary notice or divorce decree must document the condition or situation. The condition or situation must have existed or occurred during a period the student was enrolled at Lansing Community College and must no longer exist.

Reinstatement of Financial Aid Eligibility

A designated financial aid advisor, in consultation with at least one other financial aid advisor or administrator, will review the appeal and supporting documentation and notify the student in writing of the decision. Results of an appeal may include denial of reinstatement, reinstatement with restrictions such as limiting credit load to part-time or requiring 100 percent completion of enrolled credits, up to full reinstatement without further probation if the student has regained satisfactory academic progress.

Maximum Eligibility

Students who have attempted 150 percent of the credit hours required for their program of study at Lansing Community College are not considered to be making satisfactory academic progress and are no longer eligible for financial assistance beyond this maximum time frame. Transfer students will not be awarded financial aid beyond 150 percent of the credit hours required for their program of study, including credits transferred into the College which meet program requirements.

Exceptions to Maximum Eligibility time frame: Since many programs of study require substantially more than the minimum number of credit hours for a general associate degree, financial aid applicants will be reviewed on an individual basis if and when they approach 150 percent of their program, including any transfer credits. Students who have had to complete prerequisite, developmental, or English as a second language (ESL) course work as part of their regular academic program requirements may be eligible to have some of these credits excluded in the measurement of the 150 percent maximum time frame.

Students requesting financial aid consideration for semester(s) beyond 150 percent of their program will be required to document in an academic completion plan (ACP), approved by a lead academic advisor, reason(s) why they need additional credits to complete their program of study.

APPEALS

It is the student's right to appeal in writing or in person any decisions made regarding the assistance application or package. The student may meet with a financial assistance advisor to discuss his or her package. The student may meet with a financial assistance advisor to discuss extenuating circumstances to above policies or any other policies affecting the student as an assistance recipient. Extenuating circumstances are those considered beyond the student's control and must be documented. A financial assistance review committee will meet periodically to consider written appeals.

RIGHTS TO INFORMATION

It is the student's right to obtain information pertaining to financial aid programs available through the College and to discuss with a financial aid advisor information pertinent to the student's assistance application, file folder (records), and assistance package. However, all student information is confidential and will not be released over the telephone or to anyone other than the student.

RENEWAL OF FINANCIAL ASSISTANCE

Financial assistance is not automatically renewed. Awards are granted for one academic year only. A student must reapply for assistance for the following year by completing all required application forms by stated deadlines on the application. For renewal, a student must be enrolled in a certificate or degree program.

To continue on financial assistance, the student must not be in default on any past educational loans at LCC or other colleges. Also, the student must not owe any repayments for educational grants due to withdrawing from college or being withdrawn from college because of nonattendance.

A student will not be awarded federal financial assistance at Lansing Community College beyond the maximum time frame of 150 percent of the credit hours required for his or her program of study. A transfer student will not be awarded federal financial assistance beyond the maximum time frame of 150 percent of the credit hours required for his or her program of study, including transfer credits accepted by LCC.

VETERANS INFORMATION

Veteran Services Office in Enrollment Services helps veterans/dependents file applications for educational benefits, counseling, loans, tutorial assistance, and/or any other entitlements allowed through the Veterans Administration. Lansing Community College is approved as a school for veterans of military service under provisions of Chapters 30, 31, 32, 35, and 1606 of the U.S. Code.

Lansing Community College cautions veterans manipulating under this program to be prepared to pay their expenses for at least two months after the beginning of the academic year. **ALL TUITION AND FEES MUST BE PAID AT THE TIME OF REGISTRATION.** Once the veteran's application is approved and the award processed, monthly checks will be issued if the veteran is prompt in maintaining satisfactory academic progress and following a chosen curriculum.

New student veterans and veterans wishing advance payment should apply at the Enrollment Services/Veteran Services Office at least five (5) weeks prior to the beginning of a semester. Monetary allowances provided for by the G.I. Bill vary according to the level at which the veteran is pursuing an academic program as indicated by the following schedule:

LEVEL OF ATTENDANCE	REQUIRED CREDIT HOURS
Full time	Minimum of 12
Three-quarter time	9, 10, or 11
Half time	6, 7, or 8
One-quarter time	5 or less credits — Tuition and fees reimbursement only

After enrollment, veterans should direct their inquiries concerning eligibility to the Veteran Services Office in Enrollment Services.

Lansing Community College, in recognition of the special needs of active-

duty service persons in having access to and completing programs, has been designated as a Servicemember's Opportunity College.

In addition, the College participates in the Army College Fund, Michigan National Guard Co-op, Air Force ROTC Program, Army ROTC Program, and USMC Open Admissions Program.

Satisfactory Progress for Veterans' Benefits Eligibility

In compliance with Veterans Administration statutory requirements of sub-paragraph 56, section 1775 of chapter 36, Title 38 U.S. Code, Lansing Community College ~~states~~ ^{states} veterans' benefits recipients will not be certified as eligible for benefits when their ~~academic progress~~ ^{academic progress} (cumulative grade point average) places them in the academic warning range (probation) beyond two semesters of enrollment. Re-certification of eligibility for benefits will not be considered unless the veteran submits a Success Contract or until after the semester in which the student regains academic good standing (see *Satisfactory Academic Progress Policy*). Veterans must submit signed documentation that they have met with a Counselor by midterm as agreed to on the Success Contract.

Certification Policy for Veterans Administration Educational Benefit Recipients

Lansing Community College will notify the U.S. Department of Veterans Affairs if a student receiving a veteran's educational benefits is awarded a grade of O.G., "I," "W" or "Z" for course work pursued. It is the recipient's responsibility to notify the Veteran Services Office in Enrollment Services of all enrollment changes (drops) including the non-attendance of any or all courses. In the event that a recipient fails to report these changes, the College will report the first day of the certified attendance period as the last date of attendance (in absence of other documentation). Recipients appealing this determination ~~may~~ provide documentation such as a statement signed by the instructor verifying course attendance. Veterans' educational benefit recipients neglecting to request an official evaluation for credits earned at colleges other than Lansing Community College and for active duty military service will not have their enrollment certified beyond their second semester of attendance.

REGISTRATION INFORMATION

REGISTRATION PROCEDURES

Each semester Lansing Community College publishes the *Course Schedule* which identifies courses offered for that semester. This booklet includes general information on the dates, times, and location of registration. Students may register for classes according to instructions which are published in the booklet.

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.

ONLINE LEARNING

The Online Learning option allows students to earn associate degrees utilizing the power and connectivity of the Internet. These programs present a learning option for students. Independent, highly motivated learners, including those who face time and place constraints, will find this option especially attractive. Students enrolled in LCC's Online Learning program will be guided by a dedicated staff of instructors whose courses have been specifically designed to deliver all the benefits of traditional learning along with technology enhancements that may not otherwise be available. There is an online course fee applied to all Online Learning sections. See the current *Course Schedule* or visit the eCampus/Online Learning at: <http://www.lcc.edu/online/> for more information about programs and registration.

TUITION AND FEES

Residency

1. Eligibility for Paying Resident Tuition

- A student must be an American citizen, refugee, immigrant, or permanent resident and meet one of the following qualifications before being eligible to pay resident tuition.

1. The following applies to students under 18 years of age:
 - a. The student's parents or legal guardians have resided within the LCC district for at least six months immediately prior to the first day of the semester.
 - b. The student is married and has resided within the LCC district at least six months immediately prior to the first day of the semester.
 - c. The student is unmarried and is recognized as "emancipated" (receives no financial support from parent or legal guardian) and has resided within the LCC district for at least six months immediately prior to the first day of the semester.
 - d. The student is enrolled under the provisions of Act 245, Public Acts of 1935, as amended by Act 371, Public Acts of 1965 (students receiving benefits under the Michigan Veterans' Trust Fund).
 - e. The student is an employee of a business or industrial firm within the LCC district, and the employer agrees in writing to pay directly to the College all tuition and fees of the sponsored student for employer-approved classes.
2. The following applies to students 18 years of age or older:
 - a. The student has resided within the LCC district at least six months immediately prior to the first day of the semester.
 - b. The student is an employee of a business or industrial firm within the LCC district, and the employer agrees to pay directly to the College all tuition and fees of the sponsored student for employer-approved classes.
 - c. The student is enrolled under the provisions of Act 245, Public Acts of 1935, as amended by Act 371, Public Acts of 1965 (students receiving benefits under the Michigan Veterans' Trust Fund).

II. Proof of Residency

Lansing Community College verifies the residency status of each student each semester by mailings sent to the current residence the student has on file with the college. Residency status may be adjusted for those students whose mail is returned to the college. Students petitioning for a change of status will be required to provide proof of residency. Lansing Community College reserves the right to make the final decision on residency eligibility.

Residency is based on where a student has resided for the six months immediately prior to the first day of the semester of enrollment. Any one of the following documents is acceptable as proof of residency, providing that the six months prior to the first day of the semester for which residency is being sought is covered.

- A. Current Michigan driver's license or State Identification card issued not less than six months prior to the first day of the semester in which residency is being sought
- B. Paid property tax receipts for the current year
- C. Current rental or lease agreement indicating six months residency immediately prior to the first day of the semester in which residency is sought. The student's name and signature must be on the lease agreement.
- D. Utility bills with the student's name and address for each of the six months prior to the first day of the semester.

III. Residency Classification

- A. Resident Students* — Students who provide proof of residency within the LCC district for the six months immediately prior to the first day of the semester of enrollment are charged resident tuition.
- B. Nonresident Students* — Students who provide proof of residency within the State of Michigan, but outside the LCC district for the six months immediately prior to the first day of the semester of enrollment are charged nonresident tuition.
- C. Out-of-State* — Students who provide proof of residency in a state other than Michigan for the six months immediately prior to the first day of the semester of enrollment are charged out-of-state tuition.
- D. International Students — Students who have been admitted to the United States in a temporary, nonresident status are charged international tuition. Individuals who have refugee, immigrant, or resident alien status are not international students.
- E. Foreign nationals who are enrolling in Virtual College courses and reside outside the United States or are admitted to the United States in a temporary, nonresident status will be charged international tuition.

U.S. Nationals who are enrolling in Virtual College courses and are outside the United States will be charged domestic tuition.
 *International Students are not eligible for the resident, nonresident, or out-of-state residency classifications.

IV. Residency Status for Military Personnel and Dependents

Residency is based on the location of the present domicile of the applicant with the six-month requirement waived, if the applicant can provide any of the documents listed below. This waiver is extended to the dependents (spouse and children) of the person named on the Department of Defense 214 or 899 who reside at the same address.

- A. Department of Defense 214, Separation from Active Duty Form, showing separation date within 120 days from the first day of the semester;
- B. Department of Defense 899, Change of Station Form, showing the Lansing area as the duty station;
- C. Department of Defense 899, Change of Station Form, showing a change of duty station for the head-of-household to an overseas destination or as the result of an emergency mobilization.

V. Petitioning for a Change in Residency Status

- A. If the student feels that his or her residency status is not correct, the student may furnish the required proof of residency and the residency status will be corrected.
- B. After acceptance into the College as a nonresident or out-of-state resident, a student who has resided in the College district for six (6) months and furnishes the required proof of residency can have his or her residency status changed.
- C. If a change of residency status is approved by the published deadline date and the student is eligible for a refund, the difference between the previous residency status and the new residency status shall be refunded.
- D. Adjustments in tuition due to a change in residency are not retroactive to previous semesters.

VI. Nonresident Owners of In-District Property

Nonresident students or their guardians owning property in the LCC district will receive credit once a year for property taxes paid in support of the College by himself or herself or his or her guardian. The taxes paid must be in support of the current academic year and the credit cannot exceed the differential between resident and nonresident tuition rates for the current academic year. To obtain this credit, the student must provide Enrollment Services with the paid property tax receipt.

Payment of Tuition and Fees*

All students attending Lansing Community College must pay tuition and fees at the time of registration or by the published payment deadline. Failure to pay could result in your account being referred to a collection agency and credit bureau. Current tuition and fees are as follows:

TUITION PER BILLING HOUR*	
Resident Students	\$ 65.00
Nonresident Students	\$105.00
Out-of-State Students	\$145.00
International Students	\$145.00

Tuition for apprenticeship students varies according to the program of study.

FEES FOR ALL STUDENTS*	
Registration Fee (all students, each semester, not refundable)	\$25.00

Tuition for apprenticeship students varies according to the program of study.

A fee will be charged for dishonored check or credit card transactions. Course fees vary and are published in the *Course Schedule* booklet each semester.

*TUITION AND FEES ARE SUBJECT TO CHANGE THROUGH THE ACTION OF THE BOARD OF TRUSTEES.

Refund Policy for Semester-Length Courses

Fall and Spring Semesters and Summer Session

Withdrawal during first week of semester	100% of tuition and fees
Withdrawal during second week of semester	50% of tuition only
Withdrawal after second week of semester	No refund

Students receiving financial aid will receive refunds only if repayment to financial aid sources is not required.

Refunds are not retroactive to previous semesters. Questions relating to refunds should be addressed to the Cash Operation Office.

VARIABLE DATE COURSES

It is the student's responsibility to process all drops by the established deadline dates. To withdraw from class, the student must fill out a Drop Form in the Enrollment Services Office or through the department offering the course. Refunds are automatically issued for courses canceled by the College. The application and registration fees are nonrefundable.

UP TO AND INCLUDING THREE-DAY COURSES

100% Refund*	Prior to start of course
Drop with no course shown	Prior to start of course
.....	Students with a valid reason for exception to this policy may fax, mail, or present their support documentation to Enrollment Services.
Change credit/audit status	Prior to end of course meeting

FOUR-DAY - LESS THAN EIGHT-WEEK COURSES

100% Refund*	Prior to start of course
Drop with no course shown	Prior to start of course
.....	Students with a valid reason for exception to this policy may fax, mail, or present their support documentation to Enrollment Services.
Change credit/audit status	Through midpoint of course (using calendar date—beginning through ending dates of course)

EIGHT-WEEK - LESS THAN 12-WEEK COURSES

100% Refund*	During the first week of the course
50% Refund (of tuition only)	During the second week of the course
Drop with no course shown	During the third week of the course
Change credit/audit status	Prior to the end of the fourth week of the course

12-WEEK - LESS THAN 16-WEEK COURSES

100% Refund*	During the first week of the course
50% Refund (of tuition only)	During the second week of the course
Drop with no course shown	During the fifth week of the course
Change credit/audit status	Prior to the end of the sixth week of the course

OPEN ENTRY COURSES

100% Refund*	Day before the semester begins
50% Refund	Not applicable
Drop with no course shown	Day before the semester begins
Change credit/audit status	Day before the semester begins

*The 100% refund period for courses offered by BCI is seven (7) working days (or more) before the first day of class. The refund amount for classes dropped from two (2) to six (6) working days before the class begins is 70%. For classes dropped one (1) working day before the first day of class or later, there is no refund.

Students dropping a West Campus open entry module prior to the module start date will receive a 100% refund. Students dropping an open entry module after the module start date will receive 0% refund, no matter when they enrolled in the course. Students who are administratively dropped for non-completion of the Student Learning Contract will receive 0% refund.

STUDENT CREDIT REQUIREMENTS

Student credit requirements are as follows:

FALL AND SPRING SEMESTERS

Full-time enrollment	12 credits
Three-quarters enrollment	9 credits
One-half enrollment	6 credits

SUMMER SESSION (8 WEEKS)

Full-time enrollment	6 credits
Three-quarters enrollment	5 credits
One-half enrollment	3 credits

CANCELED CLASSES

The College reserves the right to cancel classes which do not have sufficient enrollment. Students enrolled in classes that are canceled will have the opportunity to add another class or receive a refund.

SCHEDULE CHANGES

During the schedule change period, and in accordance with procedures specified in the *Course Schedule*, a student may make changes in his or her schedule. A student may withdraw from a course before the end of the sixth week of the semester without academic penalty. Drops will not be processed after the last day of the semester.

Schedule changes involve the following procedures which must be completely carried out by the student, so that the student's records in the Enrollment Services Office may be accurately maintained:

1. Pick up a Drop-Add Form during the registration process or at the Enrollment Services Office.
2. Fill out the form completely with information requested.
3. Return the form to the registration assistant or to the Enrollment Services Office for proper recording. Do not leave until processing of the form has been completed and a copy has been received.

Departmental signatures and grade at time of drop are required on all drop forms after the sixth week of the semester or other equivalent dates as specified for variable length courses.

AUDITING COURSES

A student who registers as an audit, attends class regularly but does not take the final examination, does not receive an achievement grade, and does not receive credit for the course. Students wishing to audit must meet all prerequisites required for the course and indicate their intention to audit at the time they register for the course. Audited courses cannot be applied toward a degree or certificate and cannot be used to meet prerequisites.

The College allows students to change from *credit* to *audit* or from *audit* to *credit* by the end of the sixth week for 16-week classes (and other equivalent dates as specified for variable length courses). Students electing to change from *audit* to *credit* are responsible for having course work up to date at the time the change is made and must have instructor approval after the first week of the semester. Changes from *credit* to *audit* through the end of the sixth week for 16-week courses (and other equivalent dates as specified for variable length courses) do not require instructor approval. In addition, students should be aware that exercising this option may have an impact on their financial assistance or on student employment at the College. Any student balance due created by a change in total number of enrolled credits or change of course(s) to audit status must be paid by the student. Changes in audit or credit status must be requested by the student through the Enrollment Services Office.

WITHDRAWAL

I. Student-Initiated Withdrawal

- A. If a student finds it necessary to withdraw from the College, he or she should contact the Enrollment Services Office immediately and complete a Drop-Add Form.
- B. If the withdrawal takes place within the established refund period for each semester, a student withdrawing will receive a refund.
- C. If a student withdraws from a semester-length class prior to the end of

the sixth week of the semester (or other equivalent dates as specified for variable length courses), instructor approval is not needed, a final grade is not issued, and the withdrawn class is not recorded on the academic record. A copy of the student-initiated Drop-Add Form is maintained in the Enrollment Services Office.

- D. A student may request to withdraw from a semester-length class after the end of the sixth week of the semester (or other equivalent dates as specified for variable length courses) only if he or she is completing the course requirements at a passing level (1.0 or higher) at the time the W is requested. Approval of the withdrawal is at the instructor's discretion. If the instructor finds that the student was not able to apply for the W in a timely fashion, the instructor may grant the student's request for a W if the student was passing the course on the date of the event that caused the application for withdrawal. A student may request to withdraw from a class up until the last week of the class unless a different date is specified in the course syllabus. The instructor's signature is required for the student to receive a grade of W.

II. Administrative Withdrawal

The ultimate responsibility for withdrawal from a class rests with the student. However, it may be in the best interest of the student and/or the College community that a student be withdrawn from a class or a group of classes. This process is known as "administrative withdrawal."

An administrative withdrawal may be initiated by a classroom instructor in accordance with written procedures established by each department. An administrative withdrawal may be based on the following: (1) student nonattendance/nonparticipation; (2) lack of prerequisites for a particular course; and/or (3) student behavior that interferes with the instructional process.

- A. When a student fails to attend or participate in the class, the instructor may initiate an administrative withdrawal through the Enrollment Services Office.
- B. When a student does not have the prerequisites for a particular course, the classroom instructor consults with the student regarding the potential of administrative withdrawal. The instructor has the right to initiate an administrative withdrawal through the Enrollment Services Office.
- C. When a student behaves in a manner that interferes with the instructional process, the classroom instructor consults with the student regarding the potential of administrative withdrawal and establishes guidelines in writing for retaining enrollment in the class. If the student does not satisfactorily meet the guidelines or if the student does not respond to an invitation to meet with the classroom instructor, the classroom instructor, with the co-recommendation of the appropriate departmental chairperson, may initiate an administrative withdrawal. The classroom instructor, with the co-recommendation of the appropriate departmental chairperson, may also recommend that a member of the counseling staff meet with the instructor and the student to review the circumstances of the student's behavior and to work out a possible alternative.

In all cases of administrative withdrawal, a student who is withdrawn from a semester-length class prior to the end of the sixth week of the semester (or other equivalent dates as specified for variable length courses) will not receive a grade and a record of attempting the class will not appear on the academic record. A copy of the administrative withdrawal form is maintained in the Enrollment Services. After the sixth week of the semester (or equivalent date as specified for variable length courses), the student will receive a W grade only if he or she was completing the course requirements at a passing level (1.0 or higher) up until the date of the event that caused the administrative withdrawal. If the student has not done passing work, he or she will receive a 0.0.

Any student who is administratively withdrawn may appeal the withdrawal. Lines of appeal for administrative withdrawal are presented in the catalog in the section entitled *Due Process* under the heading entitled *Student Appeals*.

III. Procedure for Resolving Health-Related Student Problems

In a situation in which a serious (physical or emotional) health-related problem becomes evident in a student, the College's responsibilities are to

assist the student and take necessary action to maintain order consistent with a positive learning environment for other students. If a student's health-related behavior becomes disruptive or clearly inappropriate, the following procedures shall be followed:

- A. Call the Department of Public Safety and the Office of the Dean of the Student and Academic Support Division if:
 1. Emergency health services are required or
 2. It appears that there has been or is likely to be a violation of the law.
- B. Call only the Office of the Dean of Student and Academic Support if it appears that there has been a violation of a College regulation that is not also a violation of the law.
- C. If there is no apparent violation of the law or College regulation and no emergency exists, the student should be encouraged to seek help from an appropriate health or counseling office or agency, on or off campus. Assistance from the Office of the Dean of Student and Academic Support and/or College counselors should be sought if needed.
- D. If there appears to be a violation of the law or a College regulation, the student may be subject to discipline under the Due Process procedures of the College. In addition, the Office of the Dean of Student and Academic Support (or designee) may contact the counseling staff in order for a member of the counseling staff to meet with the student and recommend:
 1. Continued counseling if the problem is within the ability of the Counseling Services Department to handle.
 2. Referral back to the Office of the Dean of Student and Academic Support when no health-related problem is evident or when it is determined that the Counseling Services Department can be of no further service.
 3. Referral to other appropriate professional assistance if the problem is beyond the scope and ability of the Counseling Services Department to handle. If the problem significantly compromises the rights or safety of other persons at the College or if a professional recommendation to withdraw the student is made, the Office of the Dean of Student and Academic Support may institute procedures for administrative withdrawal of the student from the College until he or she provides evidence from a licensed and appropriate health care professional stating that the student is able to function effectively with the stresses and demands of a College setting. The student may appeal the withdrawal decision to the Board of Appeals.
 4. Whenever possible, the counseling staff, working with the student's physician and/or relatives, shall make a recommendation to the student as to his or her future course of action.

ACADEMIC INFORMATION

ACADEMIC DEFINITIONS

The following are definitions of academic terms commonly used at Lansing Community College.

Associate Degree: The associate degree consists of a minimum of 60 semester credits in designated courses. It is earned with a minimum of a 2.0 cumulative GPA, successful completion of the LCC General Education Core, and is recorded on the official academic record. At least 20 semester credits must be earned in attendance at Lansing Community College.

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. 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.

Certificate of Achievement: The certificate of achievement consists of a minimum of 30 specifically designated semester credits in occupational areas. It is earned with a minimum of a 2.0 cumulative GPA and is recorded on the official academic record. At least 10 semester credits must be earned in attendance at Lansing Community College.

Certificate of Completion: The certificate of completion consists of fewer than 30 specifically designated semester credits in occupational areas. It is earned with a minimum of a 2.0 cumulative GPA and is recorded on the official academic record. At least one-third of the credits required for this certificate must be earned in attendance at Lansing Community College.

Credit Hour: A credit hour is an instructional unit carried out for the expressed purpose of eliciting some measure of educational change in a learner or group of learners. A credit can be awarded on a student's academic transcript when he or she successfully completes a unit of instruction of not fewer than 800 instructional minutes.

Corequisite Course: A corequisite course is a course that must be taken concurrently with another course.

Course: A course is a sequence of planned learning experiences leading to a set of expected learning outcomes. Course activities are normally scheduled over an academic semester. A student's successful completion of a course earns academic credit based on contact hours in class or in laboratories. The student also earns an academic grade which evaluates the student's success in achieving the expected outcomes. A course routinely includes tests, quizzes, a final examination, and regular out-of-class assignments. At Lansing Community College, a standard college-wide course syllabus has been created for each course. A course is publicized in the *College Catalog* and the *Course Schedule*. A seminar, workshop, or fee-for-service learning/training unit is not a course.

Curriculum: A curriculum is a structured program of study. Each curriculum is assigned a number and is valid for a predetermined timeframe.

Major: A major is the predominant subject area within a curriculum.

Module: A module is a component of a course offered as a separate educational package, which includes learning objectives, learning activities, and assessment procedures designed to guide learners through a specific unit of instruction.

Prerequisite: A prerequisite is a course or other requirement that must be successfully fulfilled prior to participation in a subsequent course or activity. It may also be a skill or behavior that is judged essential to learning a subsequent, more complex skill or behavior.

Program: A program is the organizational structure of the College which provides or delivers instruction and/or services.

GRADING SYSTEM

The following numerical system is used at Lansing Community College to evaluate academic work:

COLLEGE STANDARD	RECOMMENDED		GUIDELINE FOR PERFORMANCE ACHIEVEMENT OF OBJECTIVES*
	NARRATIVE EQUIVALENT		
4.0	Excellent		91% to 100%
3.5			86% to 90%
3.0	Good		81% to 85%
2.5			76% to 80%
2.0	Satisfactory		71% to 75%
1.5			66% to 70%
1.0	Poor		60% to 65%
0.0	Failure		0% to 59%

* THIS GUIDELINE IS RECOMMENDED ONLY. STUDENTS SHOULD SEE THEIR INSTRUCTOR REGARDING THE GRADING SYSTEM USED FOR A SPECIFIC COURSE.

Ins. 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

"W", "X", and "I" 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).

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 only, 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 P-Z 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* above).

REPEATING A COURSE

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.

REPEAT ENROLLMENT POLICY

Lansing Community College has a proven commitment to student success. For that reason, the following policy has been enacted to help students who have been unable to succeed in a specific course.

When a student receives a grade of "0.0" or "W" for the same course reported on the transcript twice, and remains academically eligible to continue taking classes, the student may not enroll in the same course a third time without a permission form signed by an LCC Counselor, or a specially designated Advisor, as part of a plan to help the student be successful. (Distance students may arrange an electronic consultation.)

If the student fails or receives a "W" after the intervention, the student may not enroll again without another permission form signed by both the Counselor/Advisor AND the Dean of the Student and Academic Support Division.

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.

GRADES

Grades are available on the web to students approximately 7 to 10 business days after the close of each semester. Students who have an overdue indebtedness to the College will not have access to their grades.

GRADE CHANGES

Students may petition an instructor for a grade change of a final grade in a course. The line of formal appeal for grade change petitions can be found in the College's Due Process statement. A student's final grade in a course may be changed by the course instructor. Grade changes by instructors are initiated by submitting signed Grade Change Forms to the departmental office for review and approval by the departmental chair or lead faculty member. The completed Grade Change Form is then forwarded to the Enrollment Services Office for posting on the student's permanent academic record. Completed Grade Change Forms are not to be carried by the petitioning student to the Enrollment Services. The form will not be processed if received from the student. Students will be sent an e-mail notification after a grade change has been completed.

ACADEMIC STANDING POLICY

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 either "Warning" or "Probationary" standing, which indicate unsatisfactory academic progress. While on Warning or Probationary standing, the student may have limits on registration for classes. In addition, students on Warning or Probationary standing may be required to meet with a counselor and sign a Success Contract prior to registering. Students can return to Good Standing by earning a cumulative GPA of 2.0 or higher. Continuing to earn a GPA below 2.0 may result in being academically recessed from LCC.

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
- **Warning:** Cumulative GPA below 2.0; suggested that the student meet with a counselor
- **Probation:** 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
- **Academic Recess:** Continued cumulative GPA below 2.0; student not eligible to register and must sit out one semester or Summer Session. Upon return following the semester of recess, a student must meet with a counselor 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.

Students receiving financial aid or veterans benefits are required to satisfy specific additional academic standards to continue receiving financial assistance. See the *Financial Aid* section of this Catalog.

Students in certain selective admission programs may have different standards for academic standing.

President's List: GPA of 3.81 or above and completion of at least 6 credits for the calculated term, excluding any "I" (Incompletes) or "W" (withdrawals). Calculations are based on LCC classes only (no transfer credits).

Dean's List: GPA between 3.50 to 3.80 and completion of at least 5 credits for the calculated term, excluding any "I" (Incompletes) or "W" (withdrawals). Calculations are based on LCC classes only (no transfer credits).

ACADEMIC AMNESTY

Lansing Community College recognizes that students are unsuccessful academically for a variety of reasons. Those students may return years later to find 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. Qualified students may receive academic amnesty for a maximum of eighteen semester hours (or the quarter/term equivalent) of grades of 0.0. They will no longer be calculated into the student's GPA, and the "forgiven" grades will remain on the transcript along with a special notation explaining the Academic Amnesty Policy at LCC. The student must apply to the Registrar for academic amnesty, and an academic advisor or counselor must sign the application. In order for a student to qualify for academic am-

nesty, the following conditions must be met

1. Five or more years must have elapsed since the last grade for which amnesty is requested.
2. The student must have earned twelve semester credit hours in courses numbered 100 or above at LCC and have a cumulative GPA of at least 2.0 since the last grade for which amnesty is requested.
3. Academic amnesty may be granted only once to any student and is irrevocable.
4. The Petition/Application for Academic Amnesty must be received by the Enrollment Services Office by the 10th week of the semester for consideration and action by the end of the semester.

Academic amnesty, when granted, applies only to LCC courses—not to any courses at other institutions. Further, there is no guarantee, expressed or implied, any other college, university, or employer will recognize academic amnesty.

STUDENT RECORDS

STUDENT TRANSCRIPTS

The Enrollment Services 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.

Students may request that a copy of the official transcript be given or mailed to any party by submitting a request in writing to the Enrollment Services Office. Transcript requests require three working days to process, and a fee is charged for each transcript. A hold may be applied to the release of the transcript of any student or former student who has indebtedness to the College.

RECORDS POLICY

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

In compliance with the Family Educational Rights and Privacy Act of 1974, Lansing Community College provides the following information:

1. Students and/or a parent of a student, if the student is a dependent, have the right to access, inspect, and review all educational records directly related to the student. Upon presentation of pictured identification and a written request from the student to the Enrollment Services Office, Suite 2200, Gannon Vocational-Technical Center, access to all educational records shall be provided within a reasonable period of time (not to exceed 45 days from the date the request is submitted).
2. Educational records include all information maintained by the College that is directly related to the student with the exception of:
 - a. Financial records of the student's parents
 - b. Confidential letters of recommendation prior to January 1, 1975.
 - c. Confidential letters and recommendations associated with admissions, application for employment, or receipt of an honor or honorary recognition to which students have waived rights of inspection and review
 - d. Educational records containing information about more than one student. Note that the College must permit access to that part of the record which pertains only to the inquiring student.
 - e. Reports made by physicians, psychiatrists, or psychologists in connection with their treatment.
 - f. Records of instructional, supervisory, administrative, and certain educational personnel which are in the sole possession of the originator.
 - g. Records of the law enforcement unit of the College if compiled for law enforcement purposes
 - h. Records which relate exclusively to individuals in their capacity as College employees
3. Directory information may be released at the discretion of College officials for any student who has not submitted a completed Request

to Prevent Disclosure of Directory Information form to the Enrollment Services Office. The disclosure prevention form remains in effect until the student provides a written release to the Enrollment Services Office. Directory information includes but is not limited to:

- a. Name of student
 - b. Dates of attendance
 - c. Enrollment status
 - d. Awards, degrees, or certificates received
 - e. Participation in officially recognized activities
 - f. Sport, weight, and height of members of athletic teams
 - g. Previous educational agency or institution attended
- Copies of the Request to Prevent Disclosure of Directory Information form and the Family Educational Rights and Privacy Act are available upon request in the Enrollment Services Office and the Office of the Dean of Student and Academic Support.
4. Lansing Community College prohibits the release of personally identifiable information other than directory information from educational records without the student's written consent. Exceptions to this statement are listed below:
 - a. Academic and administrative officials, staff, and persons who have entered into a partnership or contract with Lansing Community College and whom the College has determined to have legitimate educational interest. An official has a legitimate educational interest if the official needs to review an educational record in order to fulfill his or her professional responsibility.
 - b. Other educational institutions in which the student is enrolled or intends to enroll.
 - c. Individuals and organizations who provide financial aid or scholarships to the student.
 - d. Authorized representatives of the Comptroller General of the United States, the Secretary of the Department of Health and Human Services, the Department of Veterans Administration, the Department of Education, and administrative heads of state and federal educational agencies authorized by law.
 - e. Accrediting organizations to carry out their accrediting functions.
 - f. Appropriate authorities in compliance with judicial orders and pursuant to lawfully issued subpoenas. The College shall notify the student of any such orders or subpoenas unless the subpoena or order prohibits notification. The College shall comply with the subpoena ten (10) days after an attempt to notify the student of the request.
 - g. Appropriate parties in an emergency if knowledge of the information is necessary to protect the health or safety of the student or other individuals.
 - h. Parents who have established the student's status as a dependent according to Internal Revenue Code of 1954, Section 152.
 - i. An alleged victim of any crime of violence of the results of any disciplinary proceeding conducted by the College against the alleged perpetrator of the crime.
 - j. Military recruiters for the purpose of federal military recruiting as stated in Public Law 104-206, Section 509(2).

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

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

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

GUIDELINES AND PROCEDURES FOR THE EVALUATION OF INCOMING TRANSFER CREDITS

Only official transcripts will be evaluated for transfer credit. Lansing Community College will determine the credit value of each of the courses. The College will accept as official transcripts only incoming transcripts that have appropriate signatures and/or official college seals and that are mailed directly to the Lansing Community College Enrollment Services from an issuing institution. Transcripts or copies of transcripts carried by individuals may be used for academic advising or counseling, but transfer credits will NOT be posted to the Lansing Community College academic record from transcripts that are not received directly from the issuing institution. It is the function of the Enrollment Services Office of the College to verify the official status of all incoming transcripts prior to the evaluation and posting of transfer credit. All transcripts submitted to LCC for evaluation become the property of LCC. Students will receive official notification of transcript evaluation results upon completion of the process.

Course work which is similar in nature, content, and level to that offered by Lansing Community College will be accepted in transfer. Transfer credit will be accepted at full value in transfer if earned:

1. In a program, college, or university which offers programs that are comparable to programs offered by Lansing Community College, and the program or institution is either accredited or a candidate for accreditation by an accrediting association which is a member of Council for Higher Education Accreditation (CHEA), or
2. From institutions with professional accreditation but lacking regional accreditation, with attainment of a final grade of 2.0 or higher, providing an evaluation has been completed by appropriate program officials at Lansing Community College.

CREDITS EARNED AT ACCREDITED INSTITUTIONS

1. Freshman and sophomore level courses are reviewed for credit, provided the student has declared a curriculum (major or program of study). Higher-level credits may be accepted if they correspond to a specific course at Lansing Community College. In most cases, an accepted course will be considered as an equivalent of a corresponding Lansing Community College course or as general credit in a corresponding Lansing Community College program. Course equivalence to an LCC course will be granted if LCC Guidelines for Course Equivalence stated below (in 9.) are satisfied. In cases where Lansing Community College does not have a department or program similar to the courses on incoming transcripts, credit may be denied. Credits in courses graded Pass/Fail will be accepted in transfer only if it can be documented that "Pass" represents competency at a 2.0 level or higher and will be recorded as P-Z course credits. With departmental approval, the limitation on the use of P-Z course credits for an LCC degree or certificate may be waived when incoming P-Z credits are directly related to the degree or certificate in a course of study.
2. Evaluation of courses will be implemented on a consistent basis. Changes in students' curricula will not justify a change in how a course has been evaluated by the Enrollment Services Office. For example, should a student bring in credit for ACG 210, that evaluation is permanent. If the student's curriculum requires a different ACG course from that evaluated, if appropriate, a Course Substitution/Waiver form will be filled out at the department level.
3. General Education courses (college-level Writing/English, Science, Social Science, Humanities) are routinely accepted in transfer.
4. Physical Education courses may transfer, depending upon the program at Lansing Community College.
5. In some programs of study, credits earned in Math, Science, Technology, Health Careers, and/or other rapidly evolving fields may not be accepted in transfer due to age and/or content of courses and will be evaluated by appropriate program officials.
6. Independent study, field experience, and internships may transfer depending upon the level and appropriateness of the learning experience.
7. Study abroad courses may transfer depending upon the international institution offering the courses, the relationship between the international institution and the domestic institution from which the student is transferring, and the level and appropriateness of the learning experience.

8. Remedial or developmental courses are not considered college level and do not transfer.
9. Credit equivalencies will be converted using the following guidelines:
 - a. Quarter credits should be converted to semester credits (quarter credits $\times 2/3$ = semester credits), without rounding up.
 - b. A transfer course, which equates to an LCC course, and is lacking one credit or less, should be designated as the equivalent LCC course. However, a transfer course must be at least three credits to be designated as equivalent to an LCC General Education Core course. Transfer students with fewer credits than those awarded for an LCC equivalent course may not have met all requirements of the equivalent course, and should meet with a program advisor.
 - c. Credits only, not grades, are transferred. When the overall grade point average of a transferring student is at or above a 2.0 on a 4.0 scale, the 1.0–1.5 or "D" grades may be accepted. Credits transferred in to specifically fulfill LCC General Education Core requirements and MACRAO requirements must be graded 2.0 ("C") or higher. When the transferring overall grade point average is below 2.0 on a 4.0 scale, only courses graded 2.0 ("C") or higher will be accepted. With the exception of credits transferred in to fulfill LCC General Education Core requirements, the student may petition the departmental chairperson of his or her academic department to waive a degree or certificate course requirement(s) in which he or she has previously earned the 1.0–1.5 or "D." Waiver of a course requirement does not provide credit for a course. The department chair will notify the Enrollment Services Office of waivers.
 - d. No evaluation is made when a student has received a two- or four-year degree from another institution. This may be done upon request, but it is assumed that the student is pursuing an entirely different curriculum and will not need previous course work.
 - e. A student may request a review of the evaluation if he or she feels that a course description differs from the way in which it was evaluated. The department chairperson, in conjunction with the Registrar, will review the evaluation. Any resulting change(s) to the evaluation may be verified through the Enrollment Services Office.

CREDITS EARNED AT NON-ACCREDITED INSTITUTIONS

The following evaluation information applies to transcripts from non-accredited institutions:

1. The Enrollment Services Office will forward a transcript from a non-accredited institution to the departmental chairperson of the department in which the student has enrolled.
2. The departmental chairperson has the following four prerogatives in evaluating transcripts issued by non-accredited institutions:
 - a. Credit may be granted with demonstration by the student of skills commensurate with the performance required for satisfactory completion of existing courses.
 - b. Credit may be granted upon review of the content, goals, and objectives of a particular course with determination of whether the course is on par with existing courses of the College. It is the responsibility of the student to provide requested materials to enable proper evaluation.
 - c. Credit may be granted upon demonstration of proficiency in a particular existing course by a comprehensive examination.
 - d. Credit may not be granted.
3. Course equivalence will be granted using the same procedures that are used for credits earned at accredited institutions. However, credits earned at non-accredited institutions will not be granted course equivalence to LCC General Education Core courses.
4. The departmental chairperson will return the transcript to the Enrollment Services Office and indicate in writing the credits granted and the course equivalency at Lansing Community College. The final transcript evaluation will have the signature of the appropriate divisional dean.
5. When two or more instructional departments are involved, the departmental chairperson of the department offering the student's program will be responsible for consulting with the additional departmental chairpersons. When two or more departments are involved, the written reply to the Enrollment Services Office will include the

signatures of each respective departmental chairperson and the respective dean or their designee(s).

6. Credits from non-accredited institutions are evaluated by the departmental chairperson of the area in which the student is enrolled. If the student changes his or her curriculum, he or she should notify the Enrollment Services Office because there may be a difference in the evaluation.

CREDITS EARNED IN FOREIGN INSTITUTIONS

Students with foreign education credentials (other than credits at Lansing Community College sister institutions) should contact one of the following National Association of Credential Evaluation Services, Inc. (NACES) member credential evaluation services and request a course-specific evaluation. (A course-specific evaluation converts grades, educational experiences, and levels of study into U.S. equivalents.)

- Educational Credential Evaluators, Inc., P.O. Box 92970, Milwaukee, WI 53202-0970; e-mail: eval@ece.org
- World Education Services, Inc., P.O. Box 746 Old Chelsea Station, New York, NY 10113-0745; e-mail: info@wes.org
- International Education Research Foundation, Inc. (medically-related credentials), P.O. Box 66940, Los Angeles, CA 90066; e-mail: info@ierf.org

When LCC receives a NACES evaluation report, the Enrollment Services Office will compare it to the course requirements for the program indicated on the application. If LCC grants credit based on this report, it will become part of the student transcript at LCC.

Mini-grants in the amount of \$70-\$80 for foreign credit evaluations conducted by a professional credit evaluation service are available for international students who demonstrate critical financial need. Students must meet the following criteria in order to be eligible for a grant:

1. Must be enrolled as a student at Lansing Community College
2. Must be approved for federal financial aid
3. Must be recommended by an LCC counselor

OR

The international student's circumstances have changed enough to warrant consideration for assistance with this fee as determined by the counselor responsible for international students, e.g., students who are currently receiving Special Student Relief because of economic crises in their countries; students whose circumstances have changed since their original financial documents were submitted; students who have experienced a drastic devaluation of currency in their home country; and students who receive permission from the USINS for employment authorization due to severe economic hardship.

A Foreign Credit Evaluation Mini-Grant Application will be completed by an LCC counselor and submitted to the Lansing Community College Foundation.

CREDITS EARNED AT MILITARY SCHOOLS

Military Schools – Credit may be granted for degree programs. Recommendations found in Guide to the Evaluation of Educational Experiences in the Armed Services, published by the American Council on Education, and available online at <http://www.militaryguides.acenet.edu> are forwarded to the appropriate program for evaluation. If the experience is determined to provide appropriate preparation, credit is granted. For course work completed by the Defense Language Institute, Foreign Language Center at the Presidio of Monterey in California, credit is routinely granted.

EXAMINATIONS AND AP COURSES

AP (Advanced Placement Program of the College Board) (<http://apcentral.collegeboard.com/>) – Credit or waiver of courses may be granted for the successful completion of AP courses and examinations. Specific recommendations will be determined by the AP grades received. Official high school transcripts listing AP grades should be sent to the Lansing Community College Enrollment Services Office.

CLEP (College Level Examination Program) (<http://www.collegeboard.com/clep/>) – Credit or waiver of courses may be granted for the successful completion of General Examinations and/or Subject Examinations. Specific recommendations will be determined by the scores received. CLEP transcripts should be forwarded directly to the Lansing Community College

Enrollment Services Office from the CLEP Transcript Service, P. O. Box 6600, Princeton, NJ 08541-6600.

DSST (DANTES Subject Standardized Test) (<http://www.getcollegecredit.com>) – Credit or waiver of courses may be granted for the successful completion of DSST examinations. Specific recommendations will be determined by the DSST grades received. DSST transcripts should be forwarded directly to the Lansing Community College Enrollment Services Office.

OTHER EXPERIENCES (WORKSHOPS, WORK EXPERIENCES, SEMINARS, ETC.)

For credit to be granted for a non-collegiate course, workshop, or seminar, the student must demonstrate the quality of their learning achievement through measurable means, e.g. course final examination, comprehensive examination, the completion of "Credit for Previously Acquired Knowledge and Learning Experience" as outlined in the College catalog, approved state or national licensure or certification, or other means specified in a formal, articulated agreement. Contact the Enrollment Services Office for specific details.

CREDIT FOR APPROVED STATE OR NATIONAL LICENSURE OR CERTIFICATION

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. Contact the Enrollment Services Office, Gannon Vocational-Technical Building, (517) 483-1200 to determine which college department will perform the assessment.

Note: Lansing Community College's decision to award credit for licensure or certification does not obligate any other institution to accept such credits in transfer. Receiving institutions reserve the right to assess transcripts of incoming students and award credit as they see fit. Credits received by students that are based on licensure or certification may not be used for financial aid or veteran's benefits eligibility. Some Lansing Community College courses are excluded from licensure or certification consideration. Lansing Community College does not accept the transfer of credit for licensure or certification awarded at other institutions.

APPEAL PROCEDURE

Students who believe these Guidelines and Procedures have not been implemented accurately in the evaluation of their transfer credits may initiate an appeal with the Enrollment Services Office in conjunction with the appropriate area or department. If dissatisfied with appeal results, the standard academic appeal process is available. (See the Lansing Community College catalog for more information.)

CREDIT FOR PREVIOUSLY ACQUIRED KNOWLEDGE AND LEARNING EXPERIENCE

Lansing Community College recognizes that learning outside of the classroom is valid. Therefore, the College assesses extra-institutional learning as part of its credentialing function. Any student who has applied to Lansing Community College may apply for experiential learning credit by obtaining an Experiential Learning Processing Form from the Enrollment Services Office, Gannon Vocational-Technical Building, (517) 483-1200.

NOTE: Lansing Community College's decision to award credit for experiential learning does not obligate any other institution to accept such credits in transfer. Receiving institutions reserve the right to assess transcripts of incoming students and award credit as they see fit. Credits received by students that are based on experiential learning may not be used for financial aid or veteran's benefits eligibility. Some Lansing Community College courses are excluded from experiential learning consideration.

Lansing Community College does not accept the transfer of credit for experiential learning awarded at other institutions.

Application Procedures

Relevant aspects of personal and professional experience gained through actual job-related activities and special training experiences may be applied to an academic program at Lansing Community College. Learning experiences must directly relate to a specific course or courses required within

a Lansing Community College program (curriculum) or the LCC General Associate Degree. These experiences must have been obtained from a non-academic source or not otherwise be available for academic credit through the transfer process outlined earlier. The student will be asked to declare his or her program of study on the Experiential Learning Application.

Prior to payment of a \$25.00 processing fee and submission of a portfolio of supporting documents, the student is advised to review with the academic department in which credit is being sought the probability of credit being granted. Students must then submit the completed Experiential Learning Processing Form to the Enrollment Services Office including as much supporting documentation as possible. The student must also attest by his or her signature that the information submitted is true to the best of his or her knowledge. The processing fee must accompany submission of the form and portfolio. The processing fee is not refundable.

Upon completion of the portfolio assessment, a fee of the resident tuition rate per credit hour will be charged for those credits which are determined awardable and which apply to the student's program (curriculum). Fees are subject to change by the Board of Trustees without prior notice. A student will have three (3) months from the date of credit authorization to make selections and pay all fees in full.

Documentation

The student must document all experiential learning. The purpose of the documentation is to substantiate that a student's knowledge and/or experience equates to specific Lansing Community College courses. The documentation must therefore be arranged within the application portfolio on a course-by-course basis and should demonstrate knowledge and/or skill equivalent to at least 80 percent of the course objectives. Documentation may be defined as, but not limited to, complete job descriptions, copies of course materials and outlines, certificates, training reports, signed supervisory verifications and evaluations on letterhead, and any other descriptive information that may provide a clear understanding of a student's background and competencies. Lansing Community College requires certification that the work or training experience is the student's own. The College will retain the portfolio containing the Experiential Learning Processing Form and all supporting documents.

Assessment of Portfolio

The completed Experiential Learning Processing Form and portfolio of supporting documents will be forwarded by the Enrollment Services Office to the appropriate divisional academic leader. The academic leader will assign the portfolio to an appropriate and impartial assessor for review and credit assessment. Assessors have the responsibility for evaluation and assignment of academic credit for experiential learning.

In the evaluation process, the assessor will verify the relevance of the information stated on the Experiential Learning Processing Form and the accompanying documentation as it equates to the courses requested. The authorization of credit must be stated in terms of equivalent courses that are offered by LCC.

Applicability of Credit

In determining whether it is appropriate to accept a student's experiential learning for credit, the major considerations should be the student's educational objective and extra-institutional learning achievement. The assessor will determine from documentation submitted the courses for which the student can be granted experiential learning credit. The student is responsible for determining how these courses may fit within their academic program (curriculum). Credit for experiential learning will be recorded on a student's official transcript on the basis of course-by-course equivalency and shall be prominently identified as credit for experiential learning. A maximum of 40 semester hours of experiential learning credit may be applied towards an LCC associate degree. (Twenty credits must be earned in attendance at Lansing Community College.)

Student Appeal Procedures

Students who believe the evaluation of their experiential learning is incorrect may file a written appeal to the dean of the division in which the experiential learning credit is being sought. Appeals must be received within six months from the date the credit application was assessed. In such instances, the dean will conduct a procedural review to ensure that the stu-

dent has been treated in a fair and nondiscriminatory manner. The decision of the dean shall be final.

CREDIT BY EXAMINATION

Comprehensive Exams

A student may obtain credit for certain courses at the discretion of an instructor and department head by passing comprehensive examinations only during the semester in which the student is enrolled. The procedure a student uses to obtain comprehensive examination credit is as follows:

1. The student picks up an application for credit by examination at the Enrollment Services Office.
2. The student completes the required information on the application and takes the application to the department for instructor and departmental chairperson signatures of approval.
3. After obtaining the required signatures, the student returns the signed application to the Cashier's Office for payment of tuition.
4. The student will complete an examination for each course in which he or she hopes to receive credit.
5. An examination will not be given by the instructor until the student presents the appropriate payment receipt. No more than one examination will be given for a single payment.
6. The examination, after being evaluated by the instructor, will be maintained on file in the departmental office.
7. The Enrollment Services Office will contact the department and request the grade which was earned upon completion of the examination. A grade will be recorded for each comprehensive examination given.
8. The student will receive an official notice of the grade earned at the end of the semester in which the examination was taken or when processing has been completed.

GRADUATION REQUIREMENTS, CERTIFICATES, AND DEGREES

INSTITUTIONAL REQUIREMENTS FOR CERTIFICATES OF ACHIEVEMENT AND CERTIFICATES OF COMPLETION

Certificates of achievement and certificates of completion are groups of designated courses or a designated course in occupational areas. 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 course 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 the *Degree and Certificate Programs* section of the catalog.)
2. Maintain a cumulative grade point average of 2.0 or above in all courses taken at the college.
3. Earn toward the curriculum at least one-third 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.
4. File an application for graduation with the Enrollment Services/Registrar's Office one semester preceding the semester of graduation.
5. Satisfy all general and specific requirements of Lansing Community College.

NOTE: Students seeking a certificate of achievement or certificate of completion may not follow curricular guides which predate their first semester of enrollment.

INSTITUTIONAL REQUIREMENTS FOR ASSOCIATE DEGREES

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

1. Complete a course 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 the *Degree and Certificate Programs* section of this catalog.)
2. Maintain a cumulative grade point average of 2.0 or above.
3. Earn toward the curriculum at least 20 semester credits for the Associate degree in attendance at Lansing Community College. Credits earned through comprehensive exams will not be counted toward this requirement.
4. Satisfy the College's General Education Core Area Requirements.
5. Satisfy all general and specific requirements of Lansing Community College.
6. File an application for graduation with the Enrollment Services Office one semester preceding the semester of graduation.

NOTE: Students seeking an associate degree may not follow curricular guides which predate their first semester of enrollment.

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.

General requirements for associate degrees offered by Lansing Community College are presented below. (For specific degree requirements, see the *Degree and Certificate Programs* section of this catalog.)

Associate in Arts: This is primarily a transfer degree. It is designed for students who intend to transfer to a four-year institution to pursue a baccalaureate degree in such fields as liberal arts, education, humanities, or the social sciences. Requirements: 60–63 credits, including a minimum of 17 LCC General Education Core credits, additional general education MACRAO requirements, subject matter concentrations (humanities, for example), and institutional associate degree requirements.

Associate in Science: This is primarily a transfer degree. It is designed for students who intend to transfer to a four-year institution to pursue a baccalaureate degree in such fields as mathematics, engineering, or the sciences. Requirements: 60–63 credits, including a minimum of 17 LCC General Education Core credits, additional general education MACRAO requirements, subject matter concentrations (mathematics, for example), and institutional associate degree requirements.

Associate in Applied Arts: This degree is designed for students who seek education and the acquisition of skills needed to enter the job market or to advance their current careers. This degree includes a concentration of courses in fields such as the visual arts or the performing arts. Requirements: 60–72 credits, including a minimum of 17 LCC General Education Core credits, specific career program requirements, and institutional associate degree requirements.

Associate in Applied Science: This degree is designed for students who seek education and the acquisition of skills needed to enter the job market or to advance in their current careers. This degree includes a concentration of courses in fields such as health care, manufacturing, and construction. Requirements: 60–72 credits, including a minimum of 17 LCC General Education Core credits, specific career program requirements, and institutional associate degree requirements.

Associate in Business: This degree is designed for students who seek business education and the acquisition of business-related skills needed to enter the job market or to advance in their current careers. This degree includes a concentration of courses in areas such as marketing, management, and office administration. Requirements: 60–72 credits, including a minimum of 17 LCC General Education Core credits, specific career program requirements in business-related areas (marketing, for example), and institutional associate degree requirements.

General Associate Degree: This degree is a customized program of study that should be approved by an academic advisor or counselor. A minimum of 60 credits is required and includes the LCC General Education Core requirements. Students must also complete EITHER a minimum of 12 related credits in an area of study of their own choosing OR they must complete the credits listed on a transfer guide. (See *Transfer Information* in the catalog for a list of institutions for which transfer guides are available.) Students planning to transfer should see an academic advisor or counselor before enrolling in any course.

LCC GENERAL EDUCATION REQUIREMENTS

In order to meet the needs of life-long learners in a constantly changing world, Lansing Community College believes that a common core of skills, knowledge, understanding, and reasoning is indispensable for all students granted an associate degree. This background is essential to every person as a productive worker and citizen and is a foundation upon which an individual can build a life-long pursuit of knowledge and education. In keeping with these beliefs, the College has established General Education Core requirements at the college level in the areas of communication, global perspectives and diversity, mathematics, science, and writing for students seeking an LCC associate degree. The student outcomes expected for each of the Core areas are presented below.

1. Communication

- Define and explain the nature of the communication process.
- Use language and nonverbal behavior to express ideas and feelings clearly and responsibly.
- Participate constructively in group/team discussions/activities.
- Research, prepare, and present oral and/or visual information effectively.
- Listen/interpret, with both literal and critical comprehension, in a variety of communication situations.

2. Global Perspectives and Diversity

- Describe and analyze the ways in which societies and/or world civilizations establish socio-cultural order and the effects of these on individuals and the societies and/or world civilizations.
- Describe and analyze how different societies and/or world civilizations have searched for truth, justice, and an understanding of what it means to be human.
- Describe and analyze how major ideologies within societies and/or world civilizations have resulted in peaceful and/or violent solutions to conflicts.
- Describe and analyze how major ideas, issues, values, and institutions in societies and/or world civilizations have shaped cultures and the effects these have on individuals.
- Describe, analyze, and examine the impact of the inclusion and/or exclusion of diverse perspectives of gender and ethnicity by societies and/or world civilizations.

3. Mathematics

- Use the strategies of arithmetic, geometry, and algebra to solve problems and effectively communicate the solutions in a variety of disciplines.
- Use, interpret and produce one or more representations of a function, including graphs in one or more variables.

4. Science

- Discuss and summarize basic knowledge of the nature, scope, purposes, and limitations of science and technology.
- Explain and apply the fundamental concepts of one of the sciences.
- Gather, analyze, interpret, and draw conclusions from empirical data.
- Use scientific knowledge and methods as tools to make decisions about contemporary issues involving science and technology.

5. Writing

- Use reading, writing, and critical thinking skills to analyze, synthesize, and evaluate abstract concepts and concrete information.
- Use the stages of the writing process effectively.
- Properly locate, incorporate, and attribute sources of information.
- Produce effective writings that are targeted to various academic, community, and/or professional audiences.
- Conform to conventions of grammar, punctuation, and spelling.

HOW STUDENTS CAN SATISFY LCC GENERAL EDUCATION CORE REQUIREMENTS

All students must fulfill LCC General Education Core requirements in order to be awarded an associate degree. The ways in which students can satisfy these requirements are presented below. Because these may be revised each academic year, students should consult an academic advisor or

the most recent catalog information to stay informed of current options for satisfying Core requirements. Students should also be aware that not all courses that satisfy the LCC Core transfer to all colleges. Students planning to transfer should see an academic advisor or counselor before enrolling in any course.

Effective Fall 2005, students can satisfy the General Education Core requirements for the areas of communication, global perspectives and diversity, mathematics, science, and writing in any of the following ways (a minimum of three credits is required for each of the areas):

1. Achieve a grade of 2.0 or higher in an approved Core course (credits in parentheses):

a. Communication

ARTS 102	Design & Communication	(3)
FREN 121	Elementary French I	(4)
GRMN 121	Elementary German I	(4)
JAPN 121	Elementary Japanese I	(4)
SIGN 160	Orientation to Deafness	(3)
SPCH 110	Oral Communication in the Workplace	(3)
SPCH 120	Dynamics of Communication	(3)
SPCH 130	Fundamentals of Public Speaking	(3)
THEA 110	Introduction to Theatre	(3)

b. Global Perspectives and Diversity

ECON 120	Power, Authority & Exchange	(4)
ECON 260	Comparative Economic Systems	(3)
ENGL 211	World Literature I	(4)
ENGL 212	World Literature II	(4)
GEOG 200	World Regional Geography	(4)
HUMS 160	Mythology	(4)
HUMS 211	History of Art I	(4)
HUMS 212	History of Art II	(4)
HUMS 213	World Civilizations I	(4)
HUMS 214	World Civilizations II	(4)
MGMT 234	Diversity in the Workplace	(3)
MUSC 240	World Music History I	(4)
MUSC 241	World Music History II	(4)
OADM 275	Cultural Differences in Business	(3)
PHIL 211	World Philosophies I	(4)
PHIL 212	World Philosophies II	(4)
POLS 260	Comparative Political Systems	(3)
POLS 270	International Relations	(3)
SOCL 120	Introduction to Sociology	(4)
SOCL 260	Race and Ethnicity	(3)
SPCH 280	Intercultural Communication	(3)

c. Mathematics

MATH 112	Intermediate Algebra	(4)
MATH 115	Technical Math II	(4)
MATH 117	Math for Business	(4)
MATH 118	The Art of Geometry	(3)
MATH 119	Investigations with Math	(3)

Or achieve a grade of 2.0 or better in a non-Core mathematics course (MATH 121 or higher)

d. Science

ASTR 201	Introductory Astronomy	(4)
BIOL 120	Environmental Science	(4)
BIOL 127	Cell Biology	(4)
BIOL 145	Intro Anatomy and Physiology	(4)
BIOL 202	Human Physiology	(4)
CHEM 135	Chemistry in Society	(4)
CHEM 151 and 161	General Chemistry Lecture I and Laboratory I	(4/1)
GEOL 230	Environmental Geology	(4)
ISCI 121	Integrated Science for Education I	(4)
ISCI 131	Integrated Science – Physical	(4)
PHYS 120	The Art of Physics	(4)
PHYS 200	Applied Physics	(4)
PHYS 221	Introductory Physics I	(4)
PHYS 251	Physics I: Mechanics	(5)

e. Writing

ENGL 122	Writing about Literature and Ideas	(4)
ENGL 132	Honors Writing about Literature and Ideas	(4)
WRIT 121	Composition I	(4)
WRIT 122	Composition II	(4)
WRIT 124	Technical Writing	(3)
WRIT 127	Business Writing	(3)
WRIT 131	Honors Composition I	(4)
WRIT 132	Honors Composition II	(4)

Descriptions for each of the above courses can be found at <http://www.lcc.edu/courses/>

2. Achieve a grade of 2.0 or higher on a Comprehensive Examination (where appropriate and available) for an approved course in a Core 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".)
3. Achieve a grade of 2.0 or higher on a Core Area Proficiency Examination, where appropriate and available. The Core proficiency examination must be passed at a 2.0 (71%) level or higher. Each exam is specific to a single core area and is administered for a \$50 fee in the Assessment Center, Suite 2100, Gannon Vocational-Technical Building. Core Area Proficiency Examinations may only be taken once to satisfy the core area.
4. In mathematics, achieve a grade of 2.0 or higher in any non-Core mathematics course, at MATH 121 or above.
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 documentation for the Core area learning outcomes is provided and approved by the Vice President of Academic Affairs.
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"

The following do NOT satisfy General Education Core requirements:

- LCC placement test scores
- A waiver of any course that is also a Core course
- Completion of higher-level courses that are not approved Core courses (see mathematics information in #4 above for mathematics exception)

HOW TO APPLY FOR THE ASSOCIATE DEGREE, CERTIFICATE OF ACHIEVEMENT, OR CERTIFICATE OF COMPLETION

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 or certificate requirements. See *Institutional Requirements for Certificates of Achievement and Certificates of Completion and Institutional Requirements for Associate Degrees* in this section.) The process of applying for a degree or certificate takes approximately one semester, so students should apply one semester in advance of the semester they plan to graduate.

Procedures are as follows:

1. Complete an Application for Diploma/Certificate. This application is available in the Enrollment Services Office.
2. Attach a copy of the curricular guide (program of study) for the degree or certificate being sought. 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. Return the application and the curricular guide to the Enrollment Ser-

vices Office. If a department has authorized program substitutions or waivers, the completed and signed form(s) must accompany the application.

4. If the Enrollment Services Office determines that there are requirements NOT met, the student will receive a report specifying the unmet requirements which must be completed.
5. If all the requirements are met, the student will receive a letter indicating that the degree or certificate will be awarded.
6. The LCC transcript will show the degree or certificate awarded.
7. Diplomas and certificates are mailed to students during the semester after degrees or certificates have been awarded.

SEMESTER TRANSITION PROGRAM COMPLETION INFORMATION

In the fall of 1993, Lansing Community College changed from a quarter to a semester system. Students who first enrolled at the College for Fall Semester 1993 and thereafter are considered semester students.

Students who were in attendance at LCC prior to Fall Semester 1993 and are continuing their studies on the semester system are considered transition students. In order to complete college requirements or curriculum requirements for their declared major, transition students should meet with an academic advisor to complete a Curriculum Completion Plan.

PLEASE NOTE: All Curriculum Completion Plans must be approved by departmental chairpersons. All students must follow a semester curricular guide.

Most Lansing Community College curricular guides are valid for a period of five years. The inclusive dates are printed on each guide. All quarter-based curricular guides expired at the end of Summer Session 1997.

TRANSFER

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 or counselor. (See the Transfer *Information* section of this catalog for more information about transfer programs.)

REGULATION FOR THE GRANTING OF ADDITIONAL ASSOCIATE DEGREES

Any student who received an associate degree from Lansing Community College or any other accredited community college may be awarded a second associate degree subject to the following stipulations:

1. For each additional associate degree, a minimum of 10 semester credit hours must be completed at LCC in the division in which the degree is sought, non-repetitive of previously earned credits. (Note: The institutional associate degree requirement of 20 credits earned at LCC must be met by those students not receiving their first degree at LCC.)
2. All requirements for an associate degree in either arts, applied arts, business, science, or applied science must be met.
3. The College's General Education Core requirements must be satisfied.
4. No additional degree will be granted in the same curriculum in which the first degree was earned.
6. Exceptions to the above should be appealed to the Academic Affairs Office.

REGULATION FOR GRANTING AN ASSOCIATE DEGREE WHEN THE STUDENT HAS AN EARNED BACHELOR'S DEGREE

A student who has earned a bachelor's degree from an accredited American college or university which has a general education requirement 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. The Lansing Community College cumulative grade point average must be at or above a 2.0 level.

2. All requirements for an associate degree in arts, applied arts, business, science, or applied science must be met.
3. The College's General Education Core requirements are waived.
4. The associate degree must be within a specific program or curriculum.
5. Exceptions to the above should be appealed to the office of the dean of the division in which the associate degree is sought.

ASSURANCE OF QUALITY

Lansing Community College offers assurance—a guarantee—to its students, prospective employers, and receiving transfer colleges, universities, and technical training institutions, those individuals who have earned LCC degrees or certificates are competent to perform in their areas of major study.

Transferring students who have earned an official Lansing Community College certificate or degree should be able to perform competently in the area in which they majored or specialized at Lansing Community College.

Non-transferring students who have earned an official Lansing Community College certificate or degree should be able to perform competently in the area in which they majored or specialized at Lansing Community College.

A Lansing Community College graduate may be permitted to retake a specified course or courses, when next offered, with no tuition or fee charge by submitting his or her request to the Enrollment Services Office along with supporting documentation from the institution to which he or she has transferred or from his or her employer, whichever is appropriate.

Because unused skills and knowledge can decay rapidly, the assurances offered herein will be in effect for one year from the date the course or courses in question were taken at Lansing Community College.

STUDENT RIGHTS, RESPONSIBILITIES, AND CONDUCT

The College adheres to the principle that the campus climate provides for students' maximum freedom and necessary order. In order to ensure this principle, the College has established procedures for the redress of grievances by individuals accused in such proceedings. In addition, general rules and regulations and a Student Code of Conduct have been established by the College to ensure the protection of student rights and the efficient operation of College programs. In cases of noncompliance with these regulations or a violation of the Student Code of Conduct, the College will impose discipline that is consistent with the impact of the offense on the College community (See SANCTIONS below). The College also reserves the right to pursue criminal and/or civil action where warranted. The College rules and regulations and Student Code of Conduct shall apply from the time of admission to the college and continue as long as the student remains enrolled at the college. They shall also be applicable to a student's conduct even if the student withdraws from school while a disciplinary matter is pending.

GENERAL RULES AND REGULATIONS

Access to College Building

Access to College buildings after normal hours of operation is restricted. Students are not allowed in buildings after hours unless specific written permission has been given to a student to use a specific room or laboratory by the College department overseeing that room or laboratory. Students found in buildings after hours could be subject to College discipline, as well as criminal trespassing charges.

Access to some areas of College buildings are restricted even when a building is open for normal operation. These areas include, but are not limited to mechanical rooms, communication closets, storage areas, construction areas, or classrooms or laboratories that are closed. Any student found in a restricted area without permission could be subject to College discipline, as well as criminal trespassing charges.

Assembly

No person or persons shall assemble in a manner that obstructs the free movement of persons about the campus or the free and normal use of Col-

lege buildings and facilities or prevents or obstructs the normal operations of the College.

Attendance

Students are expected to attend all sessions of each course in which they are enrolled. Failure to do so will result in academic penalty or withdrawal from the class. Absence for any reason, including illness or late registration, in no way relieves the student of the responsibility for completing all work in the course to the satisfaction of the instructor in charge. When a student receives a faculty-initiated notice of nonattendance, it is the student's responsibility to contact the instructor.

When a student cannot attend class due to illness or other extenuating reasons, the class instructor should be notified.

Cell Phones

The use of cell phones during class interferes with the instructional process and is therefore prohibited. Camera cell phones and video cell phones are prohibited in locker rooms and restrooms. (See Administrative Withdrawal policy C)

Children on Campus

Children under the age of 16 must be accompanied by a parent or guardian at all times while on campus. Exceptions are made only for enrolled students whose parent or guardian has signed a written release of responsibility. The learning environment of classrooms and labs must remain free of distractions for students. Children must remain out of these areas. Children enrolled in LCC classes requiring access to labs and classrooms where there is equipment and/or supplies that might prove dangerous will need to provide a signed release form from their parent or guardian.

Computer Resources – Acceptable Use

The *LCC Acceptable Use Policy* describes the policies and guidelines for the use of the College's computer resources. Use of College-owned computer resources is a privilege extended by the College to students, employees, and other authorized users as a tool to promote the mission of the College. All users agree to be bound by the terms and conditions of the *LCC Acceptable Use Policy* at the time they complete an account application form. Copies of the *LCC Acceptable Use Policy* are available at the Library Circulation Desk and may also be accessed on the World Wide Web. The URL is http://www.lcc.edu/policies/policies_1.htm#ACCEPTABLE_USE_POLICY.

Disclosure of Health Concerns

Lansing Community College takes appropriate and reasonable precautions to protect the health and safety of students in the classroom. Some courses may require students to complete federal, state and college regulatory training and testing as mandated by law. Students must be in compliance with regulations and laws at both LCC and any off-campus site(s) where they are assigned. Additionally, some courses may require students to work with chemicals and/or equipment which may be hazardous to some students, such as those with certain medical conditions. Students should inform instructors of any special health-related conditions which may be negatively affected by instructional materials or equipment used in the classroom. Students with special health concerns are strongly encouraged to raise any questions about such matters prior to their enrolling in a class.

Dress

Students are expected to dress in an appropriate fashion, having in mind the activity in which they are engaged, while on College property and when attending College-sponsored events. Specific attire, not limited to but including appropriate footwear, safety glasses, safety hats, shields and aprons, may be required when the health and safety of the individual student or other members of the College community are to be protected.

Examinations

Students are required to take examinations at the appointed time and place in order to receive credit for a course. Generally, examinations are given during the regularly scheduled class period during the last week of the semester.

Field Trips

Students participating in all College-sponsored activities, including field trips and athletic events, must abide by all College rules. Student organization field trips must be planned, organized, and approved according to the Student Life Policies and Procedures for Student Organizations, and, where applicable, the parking and transportation services unit of the Police and Public Safety Department. Organizations which function outside of these policies and procedures may be put on probation and suspended if appropriate.

Financial Responsibility

Students shall remain current on their financial obligations to the College. Students owing money to the College in respect to such matters as fees, loans, library fines, driving or parking penalties, etc., at the end of an academic semester, will have the publication of their grade report and/or official transcripts delayed, and the student will not be permitted to register for a succeeding semester until such accounts are paid.

Games and Recreational Activities

Games of any kind may only be played in the recreational or athletic facilities which have been designated for such games. Applications for permission to play any game other than in an area designated for that purpose must be obtained from the Director of Student Life and Leadership.

Guest Speakers

College regulations with respect to the participation of guest speakers are outlined in the Policy for Guest Speakers. The College requires orderly conduct, noninterference with College functions or activities, and identification of the sponsoring groups or individuals. Under no circumstances are members of the College community to be forced to be involuntary audiences.

Identification Cards

All Lansing Community College students are issued an identification card. Students are required to show their current I.D. card whenever they check out books at the College libraries, use the Abel B. Sykes TLC Computer Lab, etc., or when they are requested by a member of the faculty or staff of the College. Misuse of College identification to obtain privileges to which the student or to which others are not entitled under existing regulations is a College offense that may result in suspension or dismissal. In addition, refusal to provide government issued identification to a police officer could result in arrest and prosecution.

Media Materials

The federal copyright law, Title 17 of the United States Code, provides copyright protection of "original works of authorship," including "motion pictures and other audiovisual works." Thus, the use of video cassettes, DVD's, CD's and other digital media is restricted to private showings, and public showings are prohibited without the copyright owner's consent. Under the "fair use" limitation, copyrighted material may be used for purposes such as "teaching (including multiple copies for classroom use), scholarship, or research" without violation, and media materials purchased or rented by the College have the written consent of the copyright owners and, therefore, are legally appropriate for classroom use.

Organizations

No student or student organization may use campus facilities, solicit funds, business, or support on the College campus unless such a student or student organization has been authorized by the Director of Student Life and Leadership. Approval of College clubs and organizations must be in accordance with guidelines documented in the Student Life and Leadership Office.

Pets

In order to protect the health and safety of the members of the College community and preserve order on the campus, no pets, including but not limited to, dogs, cats, birds, and rodents shall be permitted within the buildings of Lansing Community College. This is not intended to exclude properly documented service animals or animals designated for laboratory experimentation purposes.

Records

It is the responsibility of the student to give honest and complete replies to all questions included in application forms and other documents required by the College. Alteration, duplication, or falsification of a College document, form, or authorized signature is considered by the College to be an extremely serious offense and will be subject to disciplinary action.

Smoking

Lansing Community College is a "Smoke-Free and Tobacco Free Zone." Except in designated areas, smoking or the use of tobacco products are prohibited on Lansing Community College property, including in any building, facility, or structure and on real estate that is owned or leased. This policy applies to all persons, including all students, staff and visitors.

Student Evaluation of Instructional Quality

Because students expect quality in their learning experiences, Lansing Community College provides opportunities for students to participate in the evaluation and improvement of instruction. These opportunities include the following:

1. Periodically completing Student Evaluation Forms at the conclusion of courses. The forms are distributed by a person other than the instructor, and the instructor is not present at the time the students complete the forms.
2. Serving on various councils, boards, and committees of the College in order to provide input and student perspective in the development and evaluation of both instructional and support-service programs. These councils, boards, and committees are located in the various divisions of the College. Those students who have interest in serving on or contacting members of these bodies may contact the Student Life Office or the office of the dean in the appropriate divisions.

Specific questions regarding student participation in the evaluation of instruction may be directed to the Office of the Dean of Student and Academic Support for clarification or appropriate referral.

STUDENT CODE OF CONDUCT

The College hereby adopts the following Code of Conduct and prohibits all persons from engaging or participating in any of the practices or behavior listed below. Specific examples are used by way of illustration and are not meant to limit the practices or behaviors that may be deemed to violate the Code of Conduct.

Assaults and Threats

Threats or violence to the health and safety of others. Engaging in any act, such as fighting, physical assault, unlawful detention, interference with the freedom of movement of another person, verbal abuse, threats, stalking, intimidation, harassment, coercion or any other conduct through any mode of communication including, but not limited to, in person, in writing, through telephone, electronic mail or instant messaging, which endangers or has the reasonable potential to endanger the health or safety of any person on the College premises or at a College-sponsored function or any College student or employee in connection with the performance of his or her College duties is prohibited.

Discrimination and Harassment

Discrimination, harassment and offensive conduct against any person, student, or staff member on the basis of race, color, religion, sex, national origin, creed, ancestry, familial status, age or disability, marital status, height, weight, sexual orientation, disability or veteran's status or other protected status (See the College's Discrimination and Harassment Complaint Process available in the catalog and at <http://www.lcc.edu/catalog/policies...procedures/equalopp.htm>) through any mode of communication including, but not limited to, in person, in writing, through telephone, electronic mail or instant messaging.

Dishonesty

Acts of dishonesty, including, but not limited to the following:

1. Cheating: Each student is expected to be honest in his or her work. Cheating is dishonest. The term "cheating" includes but is not limited

- to: (1) use of any unauthorized assistance in taking quizzes, tests, or examinations; (2) dependence upon the aid of sources beyond those authorized by the instructor in writing papers, preparing reports, solving problems, or carrying out other assignments; or (3) the acquisition, without permission, of tests or other academic material belonging to a member of the College faculty or staff. Any interaction between students in a testing situation may be interpreted as cheating. Academic honesty is twofold on the part of the student: first, not to cheat, and second, not to enable others to cheat.
2. **Plagiarism:** Each student is required to be honest in his or her work. Plagiarism is dishonest. Plagiarism includes, but is not limited to, the use, by paraphrase or direct quotation, of the published or unpublished work of another person without full and clear acknowledgment. It also includes the unacknowledged use of materials prepared by another person or agency engaged in the selling of term papers and/or other academic materials.

Disruptive Behavior

Behavior that interferes with normal college-sponsored activities, including, but not limited to, the instructional process, the classroom—both on-campus and virtual, studying, teaching, research, college administration, disciplinary procedures, extracurricular and co-curricular activities, designated areas of activities, fire, security, or emergency services; or inciting others to commit disruptive behavior.

Lewd Behavior

Behavior that is lewd or indecent is prohibited. Such behavior includes, but is not limited to the following: including obscene remarks, exposing oneself in an indecent manner, entering restrooms against the gender designation, engaging in sexual activities in public places.

Drug and Alcohol Regulations

In recognition of (1) the serious health risks associated with the illegal use of controlled substances and (2) the abuse of alcohol, and in conformance with the Board of Trustees policies 4416 and 7820, as well as the Drug-Free Schools and Communities Act Amendments of 1989 (20 U.S.C. 3171, et seq.), the following regulations are effective immediately:

- Students, employees, and guests may not manufacture, distribute, dispense, possess, or use alcoholic beverages on College premises.
- Students, employees, and guests may not unlawfully possess, use, or distribute controlled substances and alcohol on College premises or when engaged in College activities such as conferences or field trips.
- Students will not use College funds for the purpose of purchasing alcoholic beverages or controlled substances.
- Being under the influence of alcohol or any controlled substance while on College premises or engaged in College activities is prohibited.
- Students, employees, and guests are personally accountable for knowledge of federal, state, and local laws relating to alcoholic beverages and controlled substances, the minimum drinking age, transporting open containers of alcoholic beverages, and false representation of age by a minor.
- As a condition of his or her employment, each employee of the College shall agree to abide by the terms contained within this policy. Violation of any of these terms by College employees may result in disciplinary action, up to and including termination. The College may require satisfactory participation in a substance or alcohol abuse assistance or rehabilitation program for an employee who violates any of the prohibitions listed above.
- As a further condition of his or her employment, each employee of the College shall agree to notify the College of any criminal drug statute conviction for a violation occurring on College premises or while engaged in College activities, no later than five (5) days after such a conviction. Upon receiving notice of such conviction, the College shall take appropriate disciplinary action within thirty (30) days thereafter.
- Violation of this regulation by students may result in disciplinary action up to and including expulsion from the College and referral for prosecution. A lack of legal conviction or relevant laws is not a defense in a charged violation of this regulation.
- Guests on College premises are expected to follow the above requirements. Failure to do so may result in a request to leave College property or College activities.

- In the spirit of providing a safe, healthy and drug-free environment, the College will:
 - Continue to offer educational programs that support a drug-free campus and workplace as a normative social value;
 - Continue to offer opportunities for substance abuse counseling accessible by students and College employees;
 - Continue to make referrals to appropriate counseling professionals and/or agencies within the community to help students and employees who may benefit from such counseling;
 - Incorporate in classes throughout the curriculum, where appropriate, references and class-related assignments related to the medical, legal, social, and wellness issues inherent in a drug-free campus and workplace;
 - Distribute copies of this regulation to all new students and employees.
- Substance abuse is a serious but treatable condition or disease that can lead to short-term or long-term physical and psychological consequences, including but not limited to dependence, damage to the nervous system, heart and respiratory conditions, and death.
- A "controlled substance" is defined as one: 1) which is not legally obtainable; 2) which is being used in a manner different from that prescribed; or 3) which is legally obtainable but has not legally been obtained. (21 U.S.C. 821; MCLA, 333.7161, et. seq.)
- A "conviction" under this policy is defined as a defendant pleading guilty or no contest and/or a guilty finding by a court of law.

Failure to comply with College officials

Failure to comply with directions of College officials, Police and Public Safety Staff, or any other law enforcement officers acting in the performance of their duties is prohibited. Furnishing false information to any College official, faculty member, or officer is prohibited.

Fighting

Fighting on College property is prohibited except for contests or exhibitions held or sponsored by the College or a recognized College organization.

Laws

Students shall obey the laws enacted by federal, state, and local governments. Violations of such laws on the College premises or at a College-sponsored function are a violation of the Code of Conduct.

It is appropriate that the students be aware of Act 26 of the Public Acts of 1970:

- Sec. 1.** A person is guilty of a misdemeanor, punishable by a fine of not more than \$500.00, or by incarceration in the county jail for not more than 30 days, or both:
- When the chief administrative officer of a publicly owned and operated institution of higher education, or his or her designee, notifies the person that he or she is such an officer or designee and that the person is in violation of the properly promulgated rules of the institution; and
 - When the person is in fact in violation of such rules; and
 - When, thereafter, such officer or designee directs the person to vacate the premises, building, or other structure of the institution; and
 - When the person thereafter willfully remains in or on such premises, building, or other structure; and
 - When, in so remaining therein or thereon, the person constitutes:
 - A clear and substantial risk of physical harm or injury to other persons or of damage to or destruction of the property of the institution; or
 - An unreasonable prevention or disruption of the customary and lawful functions of the institution, by occupying space necessary therefore or by use of force or by threat of force.
- Sec. 2.** A person is guilty of a misdemeanor, punishable by a fine of not less than \$200.00 and not more than \$1,000.00, or by incarceration in the county jail for not more than 90 days, or both, who enters on the premises, building, or other structure of a publicly owned and operated institution of higher education, with the intention to, and therein or thereon does in fact, constitute (a) a clear and substantial risk of physical harm or injury to other persons or of damage to or destruction of the property of the institution, or (b) an unreasonable prevention or disruption of the customary and lawful

function of the institution, by occupying space necessary therefore or by use of force or by threat of force.

Sec. 3. This act shall take effect August 1, 1970.

Theft or other abuse of computer facilities and resources, including but not limited to:

- Unauthorized entry into a file, to use, read, or change the contents, or for any other purpose.
- Unauthorized transfer of a file.
- Use of another individual's identification and/or password.
- Use of computing facilities and resources to interfere with the work of another student, faculty member or college official.
- Use of computing facilities and resources to send obscene or abusive messages.
- Use of computing facilities and resources to interfere with normal operation of the college computing system.
- Use of computing facilities and resources in violation of copyright laws.
- Any violation of the college's Acceptable Use Policy (http://www.lcc.edu/policies/policies_1.htm#ACCEPTABLE_USE_POLICY).

Unauthorized use or possession of College keys

Unauthorized possession, duplication, or use of College keys is prohibited. Unauthorized use of or presence on college premises, facilities or property is prohibited.

Unauthorized use of college property

Unauthorized use of or presence on college premises, facilities or property.

Vandalism/Theft

Property of the College, as well as that of individuals, should be respected. Vandalism or theft of any kind, the destruction or mutilation of computer or media resources, materials, equipment, buildings, or grounds of the College, is inconsistent with the objectives of the College and good citizenship and will result in disciplinary action.

Weapons and Explosives

The possession of weapons, or explosives on the property of the Lansing Community College is prohibited. (This does not apply to authorized law enforcement officers.) The definition of a weapon includes but is not limited to a pistol or other firearm or dagger, dirk, razor, stiletto, or knife having a blade over 3 inches in length, or any other dangerous or deadly weapon or instrument.

"College Property" covered by this policy includes, without limitation, all College owned or leased buildings and surrounding areas such as sidewalks, driveways and parking lots under the College's ownership or control. College vehicles are covered by this policy at all times regardless of whether they are on College property.

CRIMINAL AND/OR CIVIL ACTIONS

When the actions or conduct of a student warrant the involvement of the Police and Public Safety Department, a complaint report may be initiated. Should a student initiate the complaint and the Police and Public Safety Department is involved, a complaint report is taken.

A crime committed on the College campus is investigated and referred to the appropriate government office for prosecution. The decision to prosecute is made by the Prosecutor's Office. This action is separate from the Due Process procedure of the College. Proceedings under the College's Due Process Procedures may be carried out prior to, simultaneously with, or following civil or criminal proceedings off campus.

Any violation of City, County, State or Federal laws while on LCC property or attending LCC sponsored events is considered a violation of the Student Code of Conduct.

DUE PROCESS

Lansing Community College holds firm to the philosophy that matriculation in college does not deny any rights of citizenship to a student. At the same time, matriculation in college does not relieve a student of the essential responsibilities of citizenship. Thus, 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.

It is the College's intention to foster and promote an environment of cooperation among faculty, staff, and students. However, conflicts that require third-party intervention sometimes exist. While there are formal processes for resolving conflicts, it is the goal of the College to achieve resolution as rapidly and as close to the origin of conflict as possible through mediation. To this end, the Director of Student Success and the Director of Equal Opportunity are available to assist with mediating situations at their lowest level or to direct the parties involved to the person(s) or department(s) that can best mediate the occurrence. This mediation is predicated on the voluntary agreement of both parties. Matters that are considered too extreme may require immediate referral to the formal process.

Due Process is the guarantee of student civil rights under the Constitution of the United States and the laws and regulations of Michigan and Lansing Community College. Due Process is that process which prevents rights from being taken away from an individual without a fair hearing. Any questions regarding Due Process should be directed to the office of Director of Student Success at (517) 483-1046.

Interim Due Process Suspension

If a student's misconduct gives cause for belief that the physical or emotional safety of any member of the College community is threatened or that any personal or public property is jeopardized, the student's right to be on campus can be immediately suspended. A suspension of this type is called an Interim Due Process Suspension. Interim Due Process Suspensions will take effect immediately upon direction of the Director of Student Success or the Dean of the division where the misconduct occurred and will last for no more than 10 days. A procedural due process hearing with proper notifications will be conducted during this 10-day period. The 10-day period may be extended for good cause by the Director of Student Success, Dean of the division imposing the suspension or by agreement with the student. (See section entitled *Due Process*.)

Sanctions

In cases of noncompliance with College rules and regulations or a violation of the Student Code of Conduct, the College will impose discipline that is consistent with the impact of the offense on the College community. Progressive discipline principles will be followed in that the student's prior discipline history at the College will be taken into account. Disciplinary action taken against a student may include, but is not limited to, one or more of the following:

- Grade or academic penalties – A reduction of course or assignment grade or credit.
- Oral Warning – A verbal warning to the student that the student is violating or has violated College rules, regulations or Code of Conduct.
- Written Warning – A written warning to the student that the student is violating or has violated College rules, regulations or Code of Conduct.
- Probation – Probation is for a designated period of time and includes the probability of more severe disciplinary sanctions if the student is found to be violating any college rule, regulation(s) or Code of Conduct during the probationary period. A judicial hold will be placed on the student's account during the probationary period but may be removed temporarily at the discretion of the Director of Student Success.
- Loss or Restriction of Activities or Privileges – The restriction or denial of specified activities or privileges for a designated period of time.
- Restitution – Compensation for loss, damage, or injury. This may take the form of appropriate service and/or monetary or material replacement.
- Suspension – Separation of the student from the College for a definite period of time after which the student is eligible to return. Conditions for readmission may be specified.
- Dismissal – Separation of the student from the College for an indefinite period of time. Conditions of readmission may be specified.
- Permanent Dismissal – Permanent separation of the student from the College.

STUDENT APPEALS AND COMPLAINTS

LCC students may initiate Due Process through established appeal and complaint procedures. In the appeal process, students may appeal disciplin-

ary action or academic decisions. In the complaint process, students may lodge complaints regarding persons, policies, or procedures at the College. The Judicial Board will hear cases referred to it by administrative officers of the College or by individual students through the established appeal and complaint processes. The student has the right to request a public or private hearing, but the decision rests with the College, after considering the wishes of the parties involved.

Student Appeals

A "line of appeal" is defined as the appropriate sequence of communication to be followed when appealing a decision or action. An "appeal" is defined as a request to review a previous decision and/or the process used in reaching the decision. The line of appeal to be followed will depend upon the type of case involved. In all cases, students are required to state their appeal in writing at the time they begin the appeal process. The following describes the different types of cases and the appropriate lines of appeal to be used in each case.

1. Student Appeal of Disciplinary Action for Violation of General Rules and Regulations and Student Code of Conduct

When a student is accused of violating the general rules and regulations of the College or the Student Code of Conduct, except those involving academic rules and regulations, the procedures described below will be followed:

The student will receive written notification that an alleged violation has occurred. In the letter, the student will be directed to make an appointment with the appropriate College official to review the facts concerning the alleged violation in order to determine if formal charges should be prepared. After reviewing the facts with the student, a decision will be made whether to prepare formal charges.

In the event that the student fails to contact the appropriate College official within 5 (five) class days of receiving written notification (excluding Saturday and Sunday), a "hold" will be placed on the student's record which will result in the student's enrollment being delayed. The College official will then review the facts available without the student and make a decision whether to prepare formal charges.

If a decision is made to prepare formal charges, the student shall be notified in writing by an appropriate College official that he or she is being accused of violating a regulation and that he or she may elect to do one of the following:

- a. The student may admit the alleged violation and request, in writing, that the administrative officer take whatever action seems necessary;
- b. The student may admit the alleged violation and request a hearing before the Judicial Board regarding the discipline imposed;
- c. The student may deny the alleged violation, in which case the administrative officer shall refer him or her to the Judicial Board.

In the event that the student does not make an election of the three options available within 10 (ten) days, the administrative officer will take whatever actions seem necessary, including the imposition of appropriate sanctions.

When formally appealing a disciplinary action based on a violation of general rules and regulations of the College or the Student Code of Conduct, the student shall use the following line of appeal:

- a. The Director of Student Success (or his or her designee);
- b. The Judicial Board of the College;
- c. The President (or his or her designee).

Note: At each level of the appeal process, a student will have up to 10 (ten) calendar days (excluding Saturday and Sunday) to appeal a decision after notification of that decision at a prior level.

2. Student Grade Appeals

The student shall use the following line of appeal:

- a. The person who initiated the decision or action in question and request reconsideration
- b. The Chair or head of the department involved (or his or her designee)
- c. The Dean of the division involved (or his or her designee)
- d. The Vice President of Academic Affairs (or his or her designee)

After review of the appeal, if the Vice President determines that there is insufficient justification to warrant further review, the appeal will be rejected. If the Vice President determines that the appeal warrants further review,

the matter will be referred to a subcommittee of the Deans Council. The Vice President will inform the instructor, dean and student in writing of his or the Deans Council's decision within 30 days of the date the appeal was submitted.

- e. The President (or his or her designee).

If a student appeals beyond the initial decision maker, they shall submit their appeal in writing and include:

- a. Student's full name
- b. Student number
- c. Student's complete current address
- d. Student's current phone number
- e. Semester and year enrolled
- f. Course number and name
- g. Name of instructor
- h. Grade received
- i. Reason for appeal
- j. Supporting documents

Note: At each level of the appeal process, a student will have up to 10 (ten) calendar days (excluding Saturday and Sunday) to appeal a decision after notification of that decision at a prior level. When a student wishes to appeal a grade, he or she must do so by the end of the sixth week of the following semester or summer session.

3. Student Academic Appeals, other than Grade Appeals (Appeals of a Violation of Academic Rules and Regulations, or of Academic Disciplinary Action)

When formally appealing an academic decision or action—such as an academic charge based on a violation of the academic rules and regulations (cheating or plagiarism, for example), or an academic disciplinary action (loss of credit, for example)—the student shall use the following line of appeal:

- a. The person who initiated the decision or action in question and request reconsideration
- b. The Chair or head of the department involved (or his or her designee)
- c. The dean of the division involved (or his or her designee)
- d. The Judicial Board of the College
- e. The President (or his or her designee)

Note: At each level of the appeal process, a student will have up to 10 (ten) calendar days (excluding Saturday and Sunday) to appeal a decision after notification of that decision at a prior level.

4. Student Appeal of Administrative Withdrawal from Classes (for Nonattendance, Lack of Course Prerequisites, or Inappropriate Classroom Behavior)

Whenever the Enrollment Services Office receives a recommendation for an administrative withdrawal, the Enrollment Services Office will notify the student in writing that he or she is being administratively withdrawn. The lines of appeal for administrative withdrawal decisions are as follows:

- a. The dean of the division involved (or his or her designee)
- b. Judicial Board of the College
- c. President (or his or her designee)

Note: In cases of administrative withdrawal, a student will have up to 5 (five) calendar days (excluding Saturday and Sunday) to appeal a decision after notification of that decision at a prior level.

5. Student Appeal of Educational Records

Students have the right to request correction or amendment of information on educational records that are inaccurate, misleading, or which violate privacy rights or other rights as stated in the Family Education Rights and Privacy Act of 1974, as amended. The student shall use the following line of appeal:

- a. The director or leader of the department responsible for the record (or his or her designee)
- b. The dean of the division involved (or his or her designee)
- c. The Judicial Board of the College
- d. The President (or his or her designee)

If the request for correction or amendment of information is denied after the appeal process has been completed, the student may place a brief statement in the record commenting on the decision of the College.

Note: A student will have up to five (5) calendar days (excluding

Saturday and Sunday) to appeal a decision after notification of that decision at a prior level.

Student Complaints

Before initiating the formal appeal process at the divisional level, students are encouraged to first meet with the initial decision-maker involved (the instructor, for example) to attempt to resolve issues in an informal manner. When a student wishes to lodge a formal complaint regarding a person—except in cases of sexual harassment/discrimination (which is found in this catalog under *Student and Staff Sexual Harassment and Discrimination*)—the student is encouraged to use the following line of appeal:

- Chair or head of the department involved (or his or her designee)
- The dean of the division involved (or his or her designee)
- The Judicial Board of the College
- The President (or his or her designee)

Note: At each level of the complaint process, a student will have up to 10 (ten) calendar days (excluding Saturday and Sunday) to appeal a decision after notification of that decision at a prior level.

Judicial Board

Due Process is the guarantee of student civil rights under the Constitution of the United States and the laws and regulations of Michigan and Lansing Community College. Due Process is that process which prevents rights from being taken away from an individual without a fair hearing. The student has the right to request a public or private hearing, but the decision rests with the College, after considering the wishes of the parties involved.

The Judicial Board shall hear the case and render a decision.

- Prior to a Judicial Board hearing, the student shall be entitled to the following:
 - Written notification of the time and place of the hearing;
 - A written statement of a decision rendered and/or charges so that the student may prepare his or her defense;
 - Written notification of the names of the witnesses directly responsible for having reported the alleged violation (unless to do so would compromise their safety) OR written notification of how the alleged violation came to the College's attention.
- In hearings involving more than one student, the Chairperson of the Judicial Board, at his or her discretion, may permit the hearings concerning each student to be conducted separately.
- The student shall be entitled to appear in person and present his or her defense to the Judicial Board and may call witnesses on his or her behalf. The student is also entitled to ask questions of any witnesses present at the hearing. Questions from the student to witnesses will be directed through the Chair of the Judicial Board.
- Pertinent records, exhibits, and written statements may be accepted as information for consideration by the Judicial Board at the discretion of the chairperson.
- The student may waive the right to appear before the Judicial Board. Should he or she elect not to appear, the student shall be considered to have waived the right to appeal, and the decision at the prior level stands. If the Judicial Board is the initial decision maker, the hearing will still take place in the student's absence. The student may still request review by the President of the College (or his or her designee; See No. 14 below).
- The student shall be entitled to be accompanied by a person of his or her choice. If this person is in the form of legal counsel, the student must notify the Office of the Director of Student Success at least 2 (two) days prior to the scheduled hearing date.
- The student has the right to be assisted by any advisor he or she chooses, at his or her own expense. The student is responsible for presenting his or her own case and, therefore, advisors are not permitted to speak or to participate directly in any hearing before a Judicial Board.
- All procedural questions are subject to the final decision of the chairperson of the Judicial Board. Formal rules of process, procedure, and/or technical rules of evidence such as those applied in criminal or civil court, are not used in Judicial Board Hearings.
- Admission of any person to the hearing shall be at the discretion of the Chair of the Judicial Board.
- The student shall be entitled to an expeditious hearing of his or her case.

- Requests for a continuance shall be at the discretion of the Chair of the Judicial Board. A student should select an advisor whose schedule allows attendance at the scheduled date and time for the hearing, because delays will not normally be allowed due to the scheduling conflicts of an advisor.
- The student shall be entitled to receive the decision of the Judicial Board in writing.
- The College shall make a record of the hearing. The record shall be the property of the College. No other recording devices will be allowed.
- A student who wishes to contest the decision of the Judicial Board may request that the President of the College (or his or her designee) review the decision of the Judicial Board. The student must request this review within 10 (ten) scheduled class days (excluding Saturday and Sunday) of notification of the Judicial Board's decision. Decisions rendered by the President (or his or her designee) will be final.

The Judicial Board's determination shall be made on the basis of whether it is more likely than not that the earlier determination is appropriate. If the Judicial Board is the initial decision maker, their decision shall be made on the basis of whether it is more likely than not that the accused student violated the college's rules and regulations or the Student Code of Conduct. Decisions rendered by the Judicial Board will be made by a simple majority vote of the total membership of the Judicial Board. Decisions rendered by the Judicial Board will be final unless appealed to the President. In addition, the Judicial Board is empowered to make recommendations based on decisions rendered.

Membership of the Judicial Board

The Judicial Board will consist of the following members:

- The Director of Student Success or his or her designee; (NOTE: This member will serve as chairperson. However, when the Judicial Board is hearing an appeal based on a disciplinary decision of the Office of the Director of Student Success, the Director of Student Success will relinquish the chair, and a temporary chairperson will be appointed.)
- One College administrator appointed by the Director of Student Success;
- Two students from the student body;
- Two faculty members appointed by the dean of the division in which the decision or action in question was initiated, with one alternate faculty member appointed in the same way, to serve in absence of any faculty member. If the decision or action in question took place within the college at large, the faculty members will be appointed by the Dean of Student and Academic Success (or his or her designee) from the college at large;
- In the event two or more divisions are involved, one faculty representative from each division and an equal number of student representatives will be in attendance.

REGULATION REVISIONS AND ADDITIONS

Lansing Community College reserves the right to change or add to the rules and regulations at any time.

EQUAL OPPORTUNITY AND NONDISCRIMINATION POLICY STATEMENT

I. Purpose

Lansing Community College is committed to a policy of providing equal employment opportunity and equal education for all persons regardless of race, color, sex, age, religion, national origin, creed, ancestry, familial status, marital status, height, weight, sexual orientation, disability or veteran's status or other status as protected by law.

Equal employment opportunity is a legal, social and economic responsibility of the college and is provided in accordance with applicable federal

and state laws and Lansing Community College policy. The college policy and practice at all levels assures the active and positive implementation of federal and state equal employment opportunity laws, executive orders, rules and regulations and College equal employment opportunity policies and guidelines.

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.

II. Scope

This nondiscrimination policy applies to admissions, employment, access to and treatment in the college programs and activities. This policy applies to all persons employed by LCC, enrolled as a student, seeking admission to the college and/or requesting employment at or having contracts with the College.

III. General

The College is committed to and reaffirms support of equal opportunity in employment, education and non-discrimination in employment and academic policies, practices and procedures and will examine periodically all employment and academic policies for discrimination on the basis of race, color, religion, sex, national origin, creed, ancestry, familial status, age or disability, marital status, height, weight, sexual orientation, disability or veteran's status or other protected status and take remedial action to correct such discrimination if it is found to exist.

The College values diversity and seeks talented students, faculty and staff from diverse backgrounds. The College does not discriminate in the administration of educational policies, programs or activities; admissions policies; scholarship and loan awards; athletic, or other college administered programs or employment.

IV. Responsibility

The College's Vice President of Academic Affairs (517) 483-1475 is responsible for preparing procedures to implement this policy.

Failure to follow this policy may result in disciplinary action up to and including termination or expulsion.

HARASSMENT PREVENTION

I. Purpose

Lansing Community College is an Equal Opportunity Employer and does not condone unlawful discrimination or related harassment on the basis of race, color, sex, age, religion, national origin, creed, ancestry, familial status, disability, marital status, height, weight, sexual orientation, or veteran's status in any employment or educational opportunity. Such harassment is unlawful and expressly prohibited, and the College will make all reasonable efforts to prevent it.

II. Scope

This policy applies to all persons who are employed at the college as well as all students.

III. General

General discriminatory harassment is any conduct which has the purpose or effect of unreasonably interfering with an individual's work or education performance, or of creating an intimidating, hostile, or offensive environment for work or learning.

Sexual harassment has been more specifically defined by state and federal law, and regulations to generally mean unwelcome attention of a sexual nature from someone in the workplace or classroom that substantially interferes with work or academic performance. It may include, but is not limited to, sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature when:

- Submission to or rejection of such conduct is made either explicitly or implicitly a term or condition of an individual's employment, academic standing or status in a course, participation in a program or activity or other term or condition of employment or education;
- Submission to or rejection of such conduct is used as the basis for evaluating or impacting academic or employment conditions affecting a person; or
- Such conduct has the purpose or effect of unreasonably interfering with an individual's work or education performance, or of creating an intimidating, hostile, or offensive environment for work or learning.

Examples of Harassment

Prohibited or unlawful harassment may take many forms. The following

types of conduct are given as examples of harassment:

- Physical assault;
- Direct or implied threats that submission to sexual advances will be a condition of employment, work status, promotion, graduation, or letters of recommendation;
- Direct unwelcome propositions of a sexual nature;
- Unwelcome pressure for sexual activity;
- A pattern of conduct (not legitimately related to the appropriate subject matter of a course if one is involved) intended to discomfort or humiliate, or both, that includes one or more of the following:

Comments of a sexual nature: or

- Sexually, racially, or discriminatory explicit statements, questions, jokes, or anecdotes;
- A pattern of conduct that would discomfort or humiliate (or both) a reasonable person at whom the conduct was directed that includes one or more of the following: unnecessary touching, patting, hugging, or brushing against a person's body;
- Insults or slurs based upon one's race, sex, ethnic origin, disability, religion, etc.

NOTE: The list above is not considered to be exhaustive or exact; rather, it contains illustrative potential examples of prohibited harassing behavior.

COMPLAINTS OF DISCRIMINATION

All complaints of harassment prohibited by this policy must be reported. When allegations of harassment are made, the Office of Equal Opportunity and Diversity Programs will conduct a fair and objective investigation. If the allegations of harassment are substantiated, the college will take prompt and appropriate corrective action.

Allegations of harassment will be dealt with promptly and appropriately. Where it is found to occur, appropriate correction action, including appropriate disciplinary measures, will be taken. We encourage students and staff to utilize LCC's complaint process. However, multiple avenues for resolution and redress are available, including filing a complaint with the Michigan Department of Civil Rights, the Equal Employment Opportunity Commission, or other appropriate government agency.

Anyone who experiences harassment prohibited by this policy, or becomes aware that such harassment is directed toward another person should report it using the College's harassment Complaint Process or by reporting the harassment to the Human Resources Department and/or the Office of Equal Opportunity and Diversity Programs.

Prevention of prohibited harassment is the responsibility of all employees. However, managers, supervisors, and faculty must set the example in treating all students, employees, and persons connected to Lansing Community College with mutual respect and dignity, in fostering a positive climate for learning and working, refraining from unprofessional conduct, and in taking appropriate action when conduct is disruptive, provoking, discriminatory, or otherwise unprofessional.

IV. Responsibility

The College's Vice President of Academic Affairs is responsible for preparing procedures to implement this policy. Engaging in conduct, which constitutes prohibited harassment, may result in disciplinary action up to and including termination.

V. Where To File A Complaint

Any employees or students who believe that discrimination has occurred against themselves or others are urged to report the matter as soon as possible to:

Office of Equal Opportunity and Diversity Programs
Lansing Community College
Mail Code: 6000
Room 108 Seymour Building
(517) 483-1030

The Office of Equal Opportunity and Diversity Programs coordinates the investigation of complaints of discrimination. Title IX, ADA and 504 issues and concerns can be directed to the Office of Student Success, 483-9671.

Students may file non-discrimination complaints, allegations of harassment and appeals with the Director of Student Success. The college's appeal process for non-discrimination complaints will be utilized to resolve these matters. For copies of the appeal form or further information contact:

Director, Student Success
Lansing Community College
Mail Code: 1130
2300 Gannon Vocational Technical Building
(517) 483-9671

Failure to follow this policy may result in disciplinary action up to and including termination or expulsion.

AMERICANS WITH DISABILITY ACT, REASONABLE ACCOMMODATIONS AND SECTION 504 OF THE REHABILITATION ACT

I. Purpose

Lansing Community College is 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 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.

II. Scope

This policy applies to all persons seeking reasonable accommodations from the college.

III. General

A. Students who are seeking classroom and academic accommodations should be directed to the Office of Disability Support Services (ODSS) Staff. The ODSS staff also serves as a resource for answering questions that LCC faculty and staff have when working with students with disabilities. ODSS is located in the Counseling Services Department, 2300 GVT and can be contacted by calling (517) 483-1904.

Students alleging discrimination based on a disability and/or failure to accommodate a disability should be directed to the Office of Equal Opportunity and Diversity Programs

B. Faculty and staff at Lansing Community College shall follow these three steps to request an accommodation:

1. The faculty and staff must self-identify himself/herself to EODP as a person with a disability.
2. The faculty and staff should make a written request to EODP for an accommodation, and
3. The faculty and staff must provide appropriate documentation of his or her disability and the need for an accommodation if so requested by the College.

Nothing in this document shall be construed to waive the College's right to contest whether an employee or applicant is disabled or is entitled to an accommodation.

Employees may self-identify as a person with a disability. Self-identification as a person with a disability alone is not sufficient to obtain an accommodation. Rather, the appropriate procedures must be followed to request and, if appropriate, obtain an accommodation.

C. Requests For Accommodation

A person with a disability may or may not need an accommodation. If a faculty or staff member believes that he/she needs an accommodation, he/she may request an accommodation by completing a Faculty/ Staff Request for Accommodation form (Attachment A) and an Employee Medical/Documentation form (Attachment B). (Documents A and B may be obtained in the Office of Human Resources or the Office of Equal Opportunity and Diversity Programs.

D. Medical Documentation

At any time during the accommodation request process, the College may ask the faculty or staff member for documentation (or additional documentation) of the disability and/or of the need for an accommodation. The faculty or staff will be required to provide that documentation.

E. Confidentiality

Medical documentation, as well as Faculty/Staff Request for Accommodation forms, will be maintained in a separate, confidential file apart from the main personnel file(s). Such documentation will be kept confidential, except as necessary to administer the accommodation process. Accordingly, such documentation will be shared only with those individuals involved in the accommodation process, on an as needed basis, except as otherwise authorized by law.

F. Supervisor

When a faculty or staff member approaches his/her supervisor with a request for accommodation, the supervisor should discuss the need for accommodation with the employee. In addition to discussing the specific accommodation requested by the employee, the supervisor should discuss other possible accommodations and assess the effectiveness each would have in allowing the employee to perform the essential functions of the position.

The faculty or staff and the supervisor should discuss the following issues:

1. The essential job functions;
2. The faculty or staff's ability to accomplish essential job functions with or without a reasonable accommodation; and,
3. If an accommodation is needed, possible types of reasonable accommodation.

The supervisor should not request information regarding:

1. How the employee became a person with a disability.
2. Disabilities for which the employee is not seeking accommodation, or
3. Information, which is unrelated to whether, the person has a disability or what accommodation is needed.

The supervisor should make sure the employee has completed the appropriate request and accommodation forms. These forms should be forwarded to the Office of Equal Opportunity and Diversity Programs. The Director of EODP will review the request with the employee, supervisor, and Human Resources Representative. What constitutes a reasonable accommodation will vary depending on the circumstances of each case. In evaluating alternatives for accommodation, the preferences of the employee will be considered, but the ultimate decision regarding what type of accommodation, if any, will be provided is made by the College.

G. Office of Equal Opportunity and Diversity (EODP)

The Office of Equal Opportunity and Diversity maintains records of accommodations made for persons with a disability. The staff is available for consultations with faculty, staff or supervisors who are making assessments of accommodation requests. In cases where a requested accommodation involves action or expenses beyond the supervisor's authority or in cases in which the faculty, staff and supervisor cannot agree on an accommodation, the College may do the following:

1. Identify additional alternatives;
2. Gather necessary medical documentation;
3. Where appropriate, gather cost or other technical impact information from resources including:
 - The department and/or employee,
 - Physical Plant Office,
 - The Human Resources Office,
 - The EEOC, Department of Justice, or
 - Rehabilitation agencies.
4. Evaluate whether any accommodation is needed and, if it is, whether an accommodation is reasonable and should be made (this evaluation may include preparing cost estimates);
5. Recommend a reasonable accommodation, if appropriate;
6. Discuss the recommendation with the department/unit;
7. Obtain appropriate funding for the accepted accommodation, if needed; and/or
8. Follow up on approved requests.

H. Appeals

If an employee disagrees with the department's accommodation determination, the employee may appeal the determination to the Office of Equal Opportunity and Diversity Programs.

I. Retaliation

Retaliation against an employee or applicant who requests an accommodation is prohibited. Individuals who feel that they have been retaliated against may contact the Office of Equal Opportunity and Diversity Programs.

J. Responsibility

The Office of Human Resources facilitates placement of employees with work restrictions and/or in rehabilitation situations. Such placements may exceed the College's legal duties under the ADA, the MPDCRA and/or the Rehabilitation Act. The nature of the relevant work restrictions may be shared with employing departments so that

appropriate discussions about placement can take place. The College does not guarantee such placements nor does it waive its right to limit its responsibility to accommodate a person with a disability to the duties imposed by the applicable state and federal statutes.

The College's Vice President of Academic Affairs is responsible for preparing procedures to implementing this policy.

Failure to follow this policy may result in disciplinary action up to and including termination or expulsion.

STUDENT LIFE AND LEADERSHIP PROCEDURES

POSTER REGULATIONS FOR STUDENTS AND STUDENT ORGANIZATIONS

Lansing Community College is continually sensitive to the fact that there is a need for students, staff, and offices to communicate regarding various activities, events, and services. The College is also sensitive to the right of freedom of expression, particularly as provided for in the First Amendment of the Constitution of the United States. At the same time, the College is responsible for providing reasonable procedures and regulations to protect public and private property, and provide for the general safety and welfare of all members of the College community, and which preclude disruption of the normal functions of the College.

The following statements are designed to regulate the use of posters within the College facilities while providing students, College personnel, and College properties reasonable protection from commercial exploitation and court suits. While the courts have said that College property is considered a "public trust," these same courts have ruled that College property is not "public property" subject to unregulated use by any and all individuals. This regulation is designed to facilitate communication through the use of posters while complying with the legislated instructional mission of the College.

DEFINITION: A poster is any written communication designed to apply to a wall or other surface for the purpose of relating information about an event, service, idea, or activity. A poster may be in the format of, but not limited to, a sign, an announcement, or banner.

General Poster Regulations

1. Within any and all buildings, placement of all signs and posters is restricted to approved bulletin boards.
2. Each poster must identify the sponsoring organization, department, or individual (no abbreviations). Each poster must display a telephone number or an office location where more complete information can be obtained.
3. Each poster is required to have in the lower left-hand corner, its posting date (month, day, and year) and, in the lower right-hand corner, its date (month, day, and year) to be removed. Each poster should be up for a reasonable length of time depending upon the activity.
4. Designated bulletin boards are available in each building for the posting of student and staff personal notices. All student and staff personal notices will be confined to these designated bulletin boards.
5. A poster shall not exceed 18 inches by 24 inches.
6. No poster shall be placed in such a way that it covers all or part of a previously posted approved poster whose take-down date has not expired.
7. The removal of posters at or prior to the take-down date shall be the responsibility of the sponsoring organization or individual. Unauthorized individuals shall remove no posters prior to the take-down date.
8. Lansing Community College respects the constitutional rights of freedom of expression. There are, however, responsibilities, which are attendant to the exercising of these constitutional rights. The following statement is made to provide an operational balance between the rights and responsibilities of the freedom of expression regarding the contents of posters: The content of posters shall avoid the liabilities of libel; obscenity; invasion of privacy; and incitement of disorder, violence, and disruption of the normal operation of the College.
9. Students and student organizations wanting to post posters must gain

approval in the Office of Student Life and Leadership for compliance with general regulations.

10. College staff and faculty must gain approval in their departmental office or from the office of their administrative supervisor.
11. Student and College staff personal notices placed in designated bulletin boards within the College buildings do not need approval. Examples of personal notices are selling used books, sharing a ride, sharing an apartment, and selling personal articles. Profit-making commercial notices are not considered personal and will be removed.

Student or Student Organization Appeal of Poster Denial or Removal

If a student or student organization feels that a denial of posting or removal of a poster infringes upon their First Amendment rights or is in violation of this regulation, an informal appeal may be made by the poster sponsor to the Director of Student Life and Leadership. A meeting will be held between the appealing poster sponsor or sponsors with the Director of Student Life and Leadership to discuss the appeal. If the appeal is not resolved, a formal appeal may be presented to the Director of Student Success. This appeal must be in writing, must indicate the reason(s) for the appeal, and must be dated and signed by the appealing party. The Director of Student Success will gather information and respond to the appealing party within five (5) days of receipt of the appeal. If the student or student organization is not satisfied with the response of the Director of Student Success, a second written appeal may be made to the Director of Student Success. This written appeal must contain the reason(s) for the appeal, and a copy of the poster must be made available to the Dean of Student and Academic Support for review. The appeal to the Dean of Student and Academic Support must be dated and signed by the appealing party. The Dean of Student and Academic Support will gather information and respond to the appealing party within five (5) days of receipt of the appeal, giving the decision rendered and reason(s) therefore. The decision of the Dean of Student and Academic Support shall be final.

Failure to comply with the above regulations will lead to the denial of approval, the removal of posters, and/or disciplinary action. In order to protect the student body, individual members of the College community and the resources of the College, the College reserves the right and accepts the responsibility to deny approval or remove any poster or posters which it believes to cause significant disruption of the normal function and operation of the College.

Poster Regulations for Off-Campus Organizations and Individuals

Lansing Community College is sensitive to the fact that there is a need for some off-campus organizations and individuals involved in non-commercial enterprises to communicate with Lansing Community College students and staff members concerning various activities, events, and services. The College is also sensitive to the right of expression, particularly as provided for in the First Amendment of the Constitution of the United States. At the same time, the College is responsible for providing reasonable procedures and regulations to protect public and private property and providing for the general safety, welfare, and positive learning environment for all members of the College community.

Therefore, the College has provided a kiosk, centrally located on the downtown campus, for the use of noncommercial groups and individuals who are not affiliated with the College. Such groups and individuals may place their posters on this kiosk without seeking prior approval from any College office, and the College disclaims any and all responsibility for items posted.

REGULATIONS FOR USE OF STUDENT LITERATURE TABLE

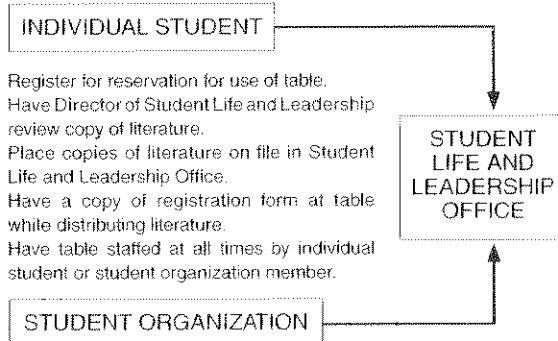
Lansing Community College is continually aware of and supportive of the concepts of freedom of expression, particularly those provided by the First Amendment of the Constitution of the United States. The College also perceives that one of its functions is to provide a wide range of learning experiences and learning opportunities for the students of the College. At the same time, the College is mandated to provide orderly processes that avoid material disruption, protect public and private property, and provide for the general safety and welfare of students, faculty, and College staff.

The following statements are designed to facilitate student distribution of literature within the College facilities, while providing students and College

personnel and property reasonable protection from commercial exploitation and legal actions. Court rulings have determined that College buildings, while considered a public trust, are not considered public property subject to unregulated use by any and all individuals. The procedural regulations below are designed to facilitate the legislated instructional mission of the College to serve the citizens of the College community. The following procedural regulations shall be followed:

1. The distribution of literature within College buildings by students shall be limited to student literature tables made available for such distribution. Student literature tables will be made available in the following areas within the College buildings:
 - a. In the first floor lobby of the Arts and Sciences Building.
 - b. In the second floor lobby of the Gannon Vocational-Technical Center.
 - c. In the first floor lobby of the Old Central Building.
 At least one single table will be available in each of these areas. The maximum number of tables made available in any area will be determined in a reasonable manner based on the use of the area and regulations regarding fire safety and student welfare.
2. Only registered students and College-recognized student clubs and organizations shall have access to the student literature tables. Non-students who wish to use college facilities must gain permission by following procedures established for this purpose through the Student Life and Leadership Office.
3. The student literature tables will be available Mondays through Thursdays from 8 a.m. to 10 p.m. and Fridays 8 a.m. to 5 p.m. during the days of regularly scheduled semesters.
4. Registered students and College-recognized clubs and organizations are required to register for the use of the student literature tables with the Student Life and Leadership Office at least 72 hours prior to the time of desired use. Registrations will be accepted on a first request-first serve basis. Individual students and recognized student clubs or organizations may register for the use of a table for three consecutive days. If there are no pending requests, a registration may be renewed at the end of a previous registration. If there are no pending requests, a recognized student club or organization may request the use of more than one table or more than one location. If during the use of multiple tables or locations, additional students or recognized student groups request the use of a table or location and additional tables or locations are not available, the multiple user or users will be required to give up the multiple use of tables and locations to provide for the new request.
5. A copy of the completed registration form obtained from the Student Life and Leadership Office must be available at the student literature table while distribution is taking place.
6. In order to determine accountability, a sample of the material to be distributed must be placed on file with the Student Life and Leadership Office at the time of the registration for use. In addition, a recognized student club or organization must have a copy of the material to be distributed on file with the club's or organization's advisor.
7. The student literature table will be staffed at all times by the individual student or members of the recognized student club or organization registered for the use of the tables while the distribution of materials is taking place. The registered student or recognized club or organization will have the responsibility to ensure that the distribution process is orderly at all times and that the general area surrounding the student literature tables is not littered.
8. Individuals shall have the option to pick literature from the tables or receive a copy from the individuals sitting at the tables. No literature shall be forced upon any individual nor shall there be any obstructions created in the path of the general flow of traffic.
9. Individual students or recognized student clubs and organizations may collect funds for worthy causes, such as muscular dystrophy, blood drives, or College-sponsored activities. There shall be no commercial solicitations of funds or business, nor shall individual students solicit funds for personal gain.
10. The College has the right and responsibility to halt the distribution of literature, which it believes to be libelous, obscene, an invasion of privacy, or literature designed and reasonably believed that it will have the effect to cause immediate disruption of classes, violence, or substantial disorder of the normal operations of the College.
11. Failure to comply with the above procedural regulations may lead to the denial of the use of the student literature tables and/or may lead to disciplinary action.

Literature Table Use Request Flow Chart

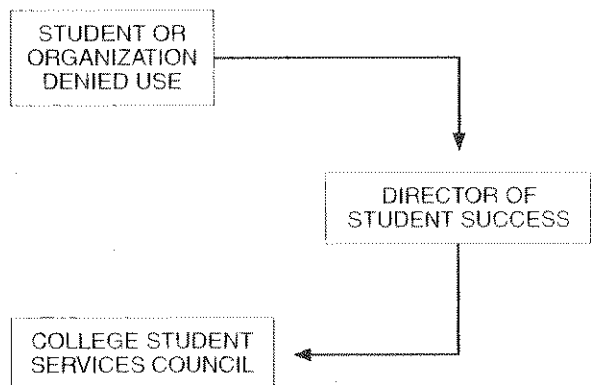


Appeal of Denial of Use of Literature Table

Any individual, registered student, or recognized student club or organization which has been denied access to the student literature tables or has been required to halt distribution based on procedure 10 may appeal the denial or requirement to halt distribution. The appeal shall be in writing and shall be directed to the Director of Student Success within 10 calendar days of the denial or requirement to halt distribution. The Director of Student Success shall make a prompt investigation of the appeal, contacting the parties involved, and shall, within 10 calendar days from the date of appeal, make a decision to reinstate the distribution rights denied or halted or to uphold the original decisions. If the decision of the Director of Student Success is not satisfactory, the individual student or recognized student club or organization may appeal the decision to the Dean of Student and Academic Support. This second appeal must be in writing and presented to the Dean of Student and Academic Support within 10 calendar days of the decision of the Director of Student Success. The Dean of Student and Academic Support shall make a prompt investigation of the appeal, contacting parties involved, and shall within 10 calendar days from the date of the appeal, make a decision to reinstate the distribution rights or upholding the denial or required halt of distribution. The decision of the Dean of Student and Academic Support shall be final.

Where it is contemplated that a violation of the student literature distribution procedural regulation warrants the imposition of disciplinary action upon an individual student, disciplinary action shall be taken in accordance with Due Process as outlined in the *Lansing Community College Catalog*.

Appeal of Denial Flow Chart



COLLEGE RESPONSIBILITIES*

Lansing Community College is committed to providing an environment and resources, which promote student learning. All College employees contribute to this goal. Our commitment to learning is reflected by these responsibilities.

1. The College will maintain appropriate prerequisites so that students will enter courses with a reasonable chance of success.
2. The College will provide facilities that are safe, secure, clean, and conducive to learning.

3. The College will provide a clear and fair process for handling student complaints and concerns.
4. Faculty will be articulate and enthusiastic about their field and will establish a positive, stimulating learning atmosphere.
5. Faculty will prepare for each class; organize course concepts and present them clearly; exhibit comprehensive knowledge of the subject; teach the application of skills appropriate to course content; and make appropriate and timely use of student and instructional support services.
6. Faculty will respect students as individuals, recognizing learning styles and managing student learning accordingly.
7. Faculty will encourage classroom discussion when appropriate and represent various sides of an issue.
8. Faculty will make a standard course syllabus available to students at the beginning of the semester, provide appropriate instructional materials and assistance, and meet classes at the scheduled times.
9. Faculty will evaluate students fairly and objectively, keep students informed of their progress, and maintain records of student achievement for one year after a class has ended.
10. Faculty will encourage students to think intelligently and independently.
11. Faculty will be available to assist students outside the classroom, including during regularly scheduled and posted office hours.
12. Faculty will know curriculum/program requirements and general career opportunities in their subject area. They will be able to advise students in their program area and refer students for academic and/or career counseling.

*Sources: Recommendations of the College-Wide Faculty Evaluation Committee; Current Agreement between the Board of Trustees and the Lansing Community College Chapter of the Michigan Association for Higher Education.

STUDENT RESPONSIBILITIES

In order to be successful learners, students must assume an active role in the learning process. The student responsibilities listed below emphasize behaviors that contribute directly to student academic success, and they apply to all students enrolled at the College.

1. Students will take responsibility for their own learning and for succeeding in their courses by:
 - a. Following course requirements as presented in course syllabi
 - b. Attending all of their classes;
 - c. Preparing for classes and completing assignments on time;
 - d. Contacting their instructor regarding work missed in the case of an absence;
 - e. Cooperating with their instructor and other students to create a positive learning atmosphere;
 - f. Contributing effectively to class activities.
2. Students will be academically and intellectually honest in all classes, examinations, and learning activities. (The College, by regulation, will discipline students who cheat and/or copy the work of others; dishonesty is a serious offense and will be dealt with appropriately.)
3. Students will contribute to a positive learning environment by conducting themselves appropriately. (The College prohibits acts that interfere with the rights of others to seriously pursue an education. For more details on the regulations of the College, see section entitled Student Rights, Responsibilities, and Conduct.)

SPECIAL PROGRAMS AND SERVICES

Lansing Community College provides many special programs and services for students, including those which are briefly described below. A comprehensive brochure entitled, *Student Services*, provides additional information about available student and academic services, learning options, plus other campus information. Copies of *Student Services* may be obtained

from the Student Life and Leadership Office, Room 2473, Gannon Vocational-Technical Center.

The Center for Employment Services (CES) provides the following services and information to current, former and prospective LCC students, alumni, as well as employers:

- **Employment Counseling** – includes providing guidance on how to acquire and utilize effective job search strategies, assisting with resume and cover letter preparation, and interviewing skill development.
- **Job Search** – includes administering the Student Employment Program (available to LCC students who satisfy specific enrollment and GPA requirements), offering employment opportunities for both on- and off-campus positions, plus providing access to on-campus employer recruiting activities and LCC sponsored job fairs. Job postings are located on a Web-based system titled CES JobLink, which is a free service to current and former LCC students, and alumni. This system also provides an electronic resume "book" (file) that allows users to make their resume viewable to prospective employers
- **Resources** – include comprehensive information on employment projections, labor market trends, "hot jobs," salary ranges, and company data. Access to CES JobLink, and other Web-based job posting systems, is available at www.lcc.edu/ces.

The Center for Employment Services is located in Suite 2440 Gannon Vocational Technical Building (GVT), telephone (517) 483-1172.

Counseling and Advising Services provide academic advising assistance and counseling activities which assist students with personal and interpersonal issues and concerns; referral to community human services agencies for further professional assistance; career counseling and educational planning to facilitate career decisions, choice of major, and course selection. Call (517) 483-1904 for appointments and information, or check the web site www.lcc.edu/csd for additional information.

The Office of Extension and Community Education (ECE) offers educational services to LCC's on and off-campus students. Our web site can be accessed at <http://www.lcc.edu/ece/>. More than 20 Learning Centers currently exist in Lansing and the six surrounding counties. Classes offered at these off-campus centers include general education core requirements, as well as personal interest courses. Students can register for classes and arrange for assessment testing and advising in select locations. ECE's four full-service facilities are the Livingston County Center in Howell, the Clinton County Center in St. Johns, the Harry Hill Vocational Center in Lansing, and Capital Area Michigan Works! Each center provides on-site registration, academic counseling, assessment testing, computer labs, math labs and other services, plus free parking. Continuing Education classes are offered through the ECE office along with several youth programs including Summer College, Summer Camp and Saturday School.

Information for Persons with Disabilities Lansing Community College is committed to making accommodations and providing services for persons with disabilities. The College has administrative and faculty specialists who respond to visual, hearing, mobility, and alternative learning accommodation needs. They can be reached at the Office of Disability Support Services (ODSS) (517) 483-1904 (Voice), or (517) 483-1207 (Voice/TTY), or at the web site <http://www.lcc.edu/odss/>. The College adheres to the standards and guidelines set forth in the Americans With Disabilities Act.

To be eligible for services and accommodations through ODSS, students are required to provide written verification of their disability. Documentation must be signed and dated by a qualified professional who has diagnosed the disability. If necessary, the ODSS staff can help students find the appropriate professionals to diagnose their disability. Students must have documentation of a disability on file in ODSS offices before services and accommodations for classes can be provided.

Handicap-accessible parking is available and clearly identified at Lansing Community College. For more information, call the office of Parking Services at (517) 483-1798.

International Programs coordinates overseas study through such programs as the Japan Adventure and a network of sister college exchange relationships and offers English and American culture courses for international students at the English Language and Culture Center. Visit our web site at <http://www.lcc.edu/intprog/>.

The Lansing Community College Foundation (<http://www.lcc.edu/fdn/>) supports students, faculty, programs, and facilities through private sector fund-raising in the community. Scholarship awards to students and allocations to LCC programs are coordinated by the Foundation Board of Directors in support of the mission and goals of the College. For additional information,

visit the LCC Foundation in the Herrmann Conference Center, 520 N. Capitol, Lansing; call (517) 483-1985; visit our web site at www.lcc.edu/fdn; or e-mail us at exec_foundation@lcc.edu.

Library Information Services provides face-to-face, e-mail and live chat information and research assistance, library resources, web and telephone renewals of library materials, and delivery of library materials to LCC off-campus sites. The library also has 522 study seats, including 60 Internet access computer stations, 33 multi-media rooms and 17 study rooms with data capability. The library website (www.lcc.edu/library) provides 24/7 access on and off campus to the library catalog, electronic and full-text reference books, full-text journals, credible websites, resource guides and LINKS, a self-instructional tutorial designed to teach basic research skills.

The Multicultural Center offers services to students, faculty and staff to help LCC fulfill its guiding principle preparing those we serve to thrive in a diverse world. The Multicultural Center offers support to students to help them achieve academic success, to foster appreciation of diversity, to promote cross-cultural understanding, and to incorporate diversity in the curriculum. Academic advising, registration and financial aid assistance are available for minority students and for those who speak English as a second language. Our services include workshops for faculty on managing diversity in the classroom, and training sessions for staff to help them better serve our diverse student population. We lead the college in celebrating diversity throughout the year, with events including Black History Month, Asian Pacific American Forum, Cinco de Mayo, Hispanic Heritage Month, and the Anishnaabek Pow Wow. We are located in GVT 2379; telephone (517) 483-1059; or visit our web site at www.lcc.edu/multicultural.

The Office of Equal Opportunity and Diversity Programs educates the campus community about equal opportunity, affirmative action, and multiculturalism. Office staff resolves complaints of discrimination and other concerns related to employment and terms and conditions of employment or admission.

STAR Institute is a unique program designed to develop students into creative, flexible, and skilled workers for the 21st century. High school juniors and seniors can spend half-days at the STAR Institute earning Lansing Community College credit, pursuing high-level preparation for top earning careers, and getting a jump-start on a college career. Students spend the other half of their day at their local high schools. The Institute's two career programs are Computer Information Technology and Geographic Information Systems. For additional STAR Institute information, call (517) 394-1956, or visit the web site at www.lcc.edu/star.

Student Orientation is an informational program designed for new and returning students. Find out about college academic programs and academic support services including admissions, financial assistance, registration, parking and student IDs. Explore the campus with an LCC tour guide to see our modern, high-tech facilities and classrooms. Make a connection with faculty, counselors and advisors. Visit our cafeterias and student lounges where you can enjoy lunch and take a break with other students. If you can't make it to campus, visit us on-line at www.lcc.edu/orientation, or for more information call (517) 483-1904.

The Student Life and Leadership Office exists to enhance the overall educational experiences of students through the development of, exposure to, and participation in social, intellectual, cultural, recreational, campus and community service, leadership development and campus governance programs. Student Life and Leadership enhances student leadership, development, and success through involvement in and exposure to diverse experiences and opportunities. These experiences include Student Senate, a comprehensive student leadership development experience consisting of the Student Advisory Committee to the President, Student Organization Council, and the Student Leadership Academy; student clubs and organizations; student activities such as Caribbean Festival and Spring Fling; campus programming of guest artists and student workshops, lectures and forums; and opportunities to work on the staff of *The Lookout*, Lansing Community College's student newspaper. The Student Life and Leadership Office also provides volunteer placement opportunities; the Student Commons; and a housing resource listing service. Visit our web site at <http://www.lcc.edu/studentlife/>.

Tutoring Services, offered through the Learning Assistance Department, provides free tutoring to students enrolled in LCC courses. Professional and peer tutors help students develop course competencies and study strategies. Individual appointments, study groups, Supplemental Instruction, and walk-in/drop-in tutoring sessions are available on a first-come-first-served basis. Applications for tutoring are available at the Tutoring Services office, Arts and Sciences Building 103, on the web at <http://www.lcc.edu/tutorial>, or by calling (517) 483-1206.

The Women's Resource Center provides services and programs in support of women and men at Lansing Community College, including financial assistance with tuition, textbooks, transportation, and child care costs, academic advising, reentry support, and referral services. For additional information, visit the Center in the Gannon Vocational Technical Building, Suite 2300, or call (517) 483-1199, or visit our web site at <http://www.lcc.edu/wrc/>.

Performance
improvement
solutions
that work.

Business & Community Institute at Lansing Community College

The constantly-changing nature of the global marketplace requires high-performing businesses, industries and organizations to master a variety of skills, including the art of human resource management and strategic planning.

The Business & Community Institute at LCC provides a broad spectrum of consulting services and performance improvement solutions that will strengthen your company's organizational performance. Our consultants, master trainers, superb LCC faculty members, and our vast network of national and international performance partners are ready to work with you to fine-tune the core operational competencies of your organization.

BCI performance improvement solutions include:

- Quality Management Systems
- Supervisory and Leadership Development
- Customer Service
- Computer Software Training
- WorkKeys™ Job Profiling
- Team Dynamics, Teamwork, and Team Leadership
- Key-Person Training/Executive Coaching
- Lean Thinking/Lean Office
- Consulting
- Training Needs Assessment
- Development of Job Aids
- Quality Systems Gap Analysis
- DDI Leadership Assessment Center

Whatever your need, we'll connect you to a solution that works for your operation. Let us put our expertise to work for you.

Visit us in our new location at LCC West Campus in Delta Township!

The Business & Community Institute
5708 Cornerstone Drive
Lansing, Michigan
www.lcc.edu/bci
(517) 483-1857



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In keeping with its tradition of quality service and excellence, BCI is certified to the ISO 9001:2000 standard. Being certified to the ISO 9001:2000 standard signifies that BCI has met international standards for consistency of quality throughout the organization, and has a system in place for continuously improving customer satisfaction in quality products and services.

The English Language & Culture Center of International Programs

Intensive English language instruction for international students and professionals

GENERAL INFORMATION

The English Language and Culture Center (ELCC) provides intensive English language instruction primarily to international students who need to improve their English skills before beginning college-level academic course work. The Center also provides customized English language and American culture instruction to groups that need specialized programs for professional or other activities. The ELCC is located in the International Programs Office, and its courses are non-credit. The ELCC issues I-20 forms to international students.

COURSES

The ELCC offers the following courses at 6 different levels:

- COURSES: Grammar, Speaking/Listening, Reading and Writing
- LEVELS: High Beginning; Intermediate I and II; and Advanced I, II, and III.
- INSTRUCTIONAL HOURS: 6 hours/week
- SESSION LENGTH: 8 weeks

TOEFL preparation courses (3 hours/week) are also offered in each session.

TUITION & FEES

Contact the ELCC office at (517) 483-1006.

APPLICATION & INFORMATION

To apply or obtain more information, call the ELCC office at (517) 483-1006 or call LCC's toll-free line at 1-800-644-4LCC and ask to be connected to the ELCC. Or check our web site at: <http://www.lcc.edu/intprog/elcc/>.

COURSE DESCRIPTIONS

NCEL 111	High Beginning Speaking/ Listening	non-credit
NCEL 112, 113	Intermediate Speaking/ Listening I and II	non-credit
NCEL 114, 115, 116	Advanced Speaking/ Listening I, II, and III	non-credit

Prerequisite: Placement test or pass the immediately preceding course with 71% (2.0) minimum

Six-session sequence in English speaking and listening. Designed to provide American English Language instruction through listening and speaking exercises for non-native students who wish to pursue college level course work. Students will practice the production of target sound, discussing various topics, note-taking, and various other tasks to develop oral and listening skills.

NCEL 121	High Beginning Reading	non-credit
NCEL 122, 123	Intermediate Reading I and II	non-credit
NCEL 124, 125, 126	Advanced Reading I, II, and III	non-credit

Prerequisite: Placement test or pass the immediately preceding course with 71% (2.0) minimum

Six-session sequence in reading English. Designed to develop increased reading proficiency for non-native students who wish to pursue college level courses. Students will read various materials that they may encounter during their academic studies. Emphasizes vocabulary building, gaining reading speed, summarizing main ideas, note-taking, and various reading strategies.

NCEL 131	High Beginning Writing	non-credit
NCEL 132, 133	Intermediate Writing I and II	non-credit
NCEL 134, 135, 136	Advanced Writing I, II, and III	non-credit

Prerequisite: Placement test or pass the immediately preceding course with 71% (2.0) minimum

Six-session sequence in English writing. Designed to help non-native students improve their writing skills in preparation for college courses. Emphasizes process-oriented writing, including brainstorming, outlining, drafting, and revising. Students will work on writing well-developed and cohesive paragraphs and essays, as well as learning various rhetorical styles.

NCEL 141	High Beginning Grammar	non-credit
NCEL 142, 143	Intermediate Grammar I and II	non-credit
NCEL 144, 145, 146	Advanced Grammar I, II, and III	non-credit

Prerequisite: Placement test or pass the immediately preceding course with 71% (2.0) minimum

Six-session sequence in standard American English grammar. Designed to help students increase their proficiency in writing, reading, and speaking and listening. Emphasizes grammatical structures in various contexts, including verb structures, articles, logical connectors, comparatives and conditionals. Attention will be given to grammatical forms and their appropriate use.

NCEL 151	TOEFL Preparation	non-credit
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Prerequisite: Intermediate Grammar II

Two-session sequence in TOEFL preparation. Designed to prepare students for the computer-based TOEFL test. Will help students become familiar with particular computer-based TOEFL tests, including the grammar, vocabulary, and listening comprehension materials frequently encountered in these tests. Students also become familiar with the TOEFL writing (TWE) format.

NCEL 191	Pronunciation Lab	non-credit
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Prerequisite: None

Designed for students at any level to improve their American English pronunciation by extensive practice on vowels, consonants, stress, and intonation. The course also covers reductions, linking, and ellipsis, which are typical trouble areas for non-native speakers of English. The lab meets three hours a week.

CAREER CLUSTERS

The Michigan Career Preparation System is a structure designed to give all students a jump-start on their futures by providing them with opportunities to explore a variety of careers throughout their K-12 education and beyond.

A component of the Career Preparation System is **Career Clusters**, broad categories of career options that share similar characteristics and whose employment requirements call for many common interests, strengths, and competencies. Career Clusters identify classes that can be taken in high school that will better prepare a student for college success. There are sixteen National Career Clusters. They are:

- Agriculture, Food & Natural Resources
- Architecture & Construction
- Arts, A/V Technology & Communications
- Business, Management & Administration
- Education and Training
- Finance
- Government & Public Administration
- Health Sciences
- Hospitality & Tourism
- Human Services
- Information Technology
- Law, Public Safety & Security
- Manufacturing
- Marketing, Sales & Service
- Science, Technology, Engineering & Mathematics
- Transportation, Distribution & Logistics

Within each Career Cluster there are Career Pathways. Pathways are grouped by the knowledge and skills required of occupations in the career fields associated with the pathways. High School courses and areas of study are aligned with these clusters and pathways, and are linked to certificate and associate degree programs offered at Lansing Community College. Students can choose between certificate and associate degree programs designed to provide skills for immediate employment or job advancement. Each Career Cluster also offers several transfer programs for students who plan to pursue advanced degrees at four-year colleges and universities. LCC programs organized by Career Clusters can be found at <http://www.lcc.edu/careerclusters/>. Students are encouraged to explore Career Cluster options.

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TRANSFER INFORMATION

Students planning on transferring to a four-year institution should be aware that universities and colleges differ widely in the courses they accept for transfer. In order to achieve maximum transferability of courses, students should consult an academic advisor or counselor with the Counseling Services Department, Suite 2300, Gannon Vocational-Technical Center.

In addition, students intending to transfer should follow the transfer guide designed specifically for the major and the institution in which they intend to enroll. Students should understand that transfer guides are not LCC degree guides. Students intending to earn an LCC degree prior to transferring should consult an academic advisor or counselor.

Transfer guides are available for many, but not all, possible transfer programs. Students are encouraged to contact the Admissions Office at the transfer institution of interest if there is not a curriculum guide available for a preferred major or institution. It is the student's responsibility when transferring from LCC to be aware of the transfer institution's policies and program requirements.

Transfer guides and additional transfer information may be obtained by returning the information request card attached to the back cover of this publication, or on the Internet at <http://www.lcc.edu/transfer>, or by contacting: LCC Counseling Services Department, Gannon Vocational-Technical Center, Suite 2300; tel (517) 483-1904; fax (517) 483-1970; e-mail jlock@lcc.edu.

When requesting information, please indicate the area(s) of study and transfer college/university choice(s).

Transfer guides are available for the following areas of study (majors):

Accountancy	Health Care Management	Dental Hygiene	Family Studies
Accounting	Health Services Administration	Dentistry, Pre-Professional	Family Studies – Child Development Emphasis
Actuarial Science and Economics	Hospitality Services Administration	Dietetics	Fashion
Advertising	Human Resources Management	E-Business	Film & Video Studies
Agribusiness Management	Information Systems	Earth Science	Finance
Agriculture and Natural Resources Communication	Integrated Supply Management	Economics	Finance Management
Agriscience	International Logistics Management	Education	Fine, Performing & Communication Arts
Animal Science	Marketing	Art & Design	Fire Science General Emphasis
Anthropology	Product Operation & Management	Elementary Physical	Fisheries and Wildlife Management
Apparel Design	Public Administration	Secondary	Food Service Administration
Applied Ecology & Environmental Science	Retail Management	Allied Health	Forestry
Applied Geo-Physics	Retail Supply Chain Management	Auto Body Repair	Geography
Applied Mathematics	Statistics	Automotive Technology	Geology
Applied Physics	Chemistry	Business	Graphic Design
Applied Science	Child Development	CADD/Drafting & Design	Health Care Management Services
Architectural Imaging	Child Development	Construction (Residential Building)	Systems Administration
Architecture	Chiropractic, Pre-Professional	Electrical Technology	Health
Art	Clinical Laboratory Science	Geographic Resource & Environmental Technology	Fitness in Prevent & Rehab Program
Art History	Communication	Heating & Air Conditioning History	Health Programs, Pre-Professional
Athletic Training	Digital Interpersonal and Public Scientific and Technical Studies	Industrial	Health Science
Audiology and Speech Sciences	Communication Arts	Industrial Technology	History
Automotive and Heavy Equipment Management	Community Development	Machine Maintenance	Horticulture
Aviation Flight Science – Pilot	Community Services	Machine Toolmaker	Hospitality Business
Aviation Maintenance Technology	Computer Art	Music	Tourism Management
Behavioral Science	2-Dimension	Social Studies	Human Resources Management
Biochemistry	3-Dimension	Technology	Industrial Health and Safety Management
Bioinformatics	Motion Graphic	Welding Technology	Technology
Biological Science	Computational Mathematics	Special Engineering	Information Systems
Biology	Computer Information Management	Administration	Insurance & Risk Management
Biopsychology	Computer Information Systems	Aeronautical	Interdisciplinary Studies
Biotechnology	Computer Networks	Biomedical	Human Aging
Broadcasting	Computer Science	Chemical	Human Resources
Building Construction Management	Construction Management	Civil	Humanities
Business	Criminal Justice	Computer	Public Policy
Administration	Criminology	Construction	Social Sciences
Banking	Cytotechnology	Electrical	Interior Architecture
Business Studies		Environmental	Interior Design
Economics		Geological	International
Finance		Industrial	Business Relations Studies
Food Industry Management		Management	Journalism
Food Marketing		Material Science	Kinesiology
		Mechanical	Landscaping Architecture
		Paper Science – Applied	Law
		Engineering Technology	Pre-Professional Legal Assistant
		Electrical/Electronics	Leadership
		Heating, Ventilation, Air Condition and Refrigeration	Liberal Arts Management
		Manufacturing	Business Administration
		Mechanical	E-Business
		Product Design	Health and Fitness
		Welding	Health Services
		English	Information Science/Technology
		Entertainment/Sports Promotion	International Business
		Environmental	Organizational Development
		Biology/Zoology	Public Safety
		Chemistry	Technical
		Conservation	Marketing
		Economics & Policy	Marketing/Management
		Health & Safety Management	Mathematics
		Science	Media Production & New Technology
		Studies & Applications	
		Exercise and Sport Science	
		Family Community Services	
		Family Life Education	

Medical Laboratory Sciences	Affairs
Medical, Pre-Professional	Non-Profit Administration
Medical/Dental Science, Pre-Professional	Public Relations
Medical Record Administration	Public Safety Management
Medical Technology	Quality Management
Merchandising	Radiation Therapy Technology
Modern Languages	Recreation
Mortuary Science	Recreational Leadership & Management
Multidisciplinary Studies	Respiratory Therapy Science
Music	Sequential Art
Natural Resources Management	Social Science
Network Computing	Social Work
Nursing	Sociology
Nutritional Sciences	Speech Communications
Occupational Safety & Health	Speech Pathology and Audiology
Occupational Therapy	Sports Medicine
Occupational Therapy Assistant	Sports Science
Outdoor Recreation, Leadership, & Management	Surveying
Packaging	Technology & Information Management
Painting	Computer Programmer/Analyst
Pharmacy, Pre-Professional	E-Business
Pathologist's Assistant	Microcomputer Data Specialist
Philosophy	Telecommunication, Information Studies & Media
Photography	TV & Digital Media Production
Physical Education	Textile and Apparel Studies Design & Development
Physical Therapy	Merchandising
Physical Therapy Assistant	Theatre
Physician Assistant/Studies	Therapeutic Recreation
Physics	Veterinary Medicine, Pre-Professional
Planning	Water Resource Management
Political Science	Writing
Printing Management/Marketing	
Product/Industrial Design	
Psychology	
Public Administration	

Colleges/universities for which transfer guides are available are as follows (not all majors listed above are available at all transfer institutions):

Adrian College	Mott Community College
Alma College	National University of Health Sciences
Baker College	Northern Michigan University
Bay de Noc Community College	Northwood University
Brooks Institute	Oakland University
Calvin College	Olivet College
Central Michigan University	Palmer College of Chiropractic
Clark Atlanta University	Saginaw Valley State University
Cleary University	Savannah College of Art & Design
College for Creative Studies	Sherman College of Straight Chiropractic
Concordia University	Siena Heights University
Davenport University/Lansing	Spelman University
Eastern Michigan University	Spring Arbor University
Ferris State University	Thomas M. Cooley Law School
Franklin University	Tri-State University
Grand Rapids Community College	University of Baltimore
Grand Valley State University	University of Detroit Mercy
Johnson and Wales University	University of Michigan/Ann Arbor
Kellogg Community College	University of Michigan/Dearborn
Kettering University	University of Michigan/Flint
Lake Superior State University	University of Phoenix
Lawrence Technological University	Upper Iowa University
Madonna University	Waish College
Michigan State University	Wayne State University
Michigan Technological University	Western Michigan University
Morehouse College	
Morris Brown College	

MACRAO TRANSFER AGREEMENT

In 1973 the Michigan Association of Collegiate Registrars and Admissions Officers proposed the MACRAO Transfer Agreement. The MACRAO Transfer Agreement was created to simplify the transfer of students from two-year to four-year institutions. The agreement stipulates that 30 semester credit hours of 100-level and above, compatible, general course work will be granted to smooth transferability to participating universities. These credits will be applied toward a student's general education requirements. Completion of requirements for the MACRAO Transfer Agreement does not necessarily mean that a student has completed the requirements for a specific Lansing Community College associate degree.

The basic two-year requirements are:

English Composition	6 semester hours minimum
Science and Mathematics	8 semester hours minimum
Social Science	8 semester hours minimum
Humanities	8 semester hours minimum

Effective Fall 2005, the following establishes the approved list of LCC courses under the four major distribution requirements for the MACRAO Transfer Agreement. A course can be used to satisfy only one category even though it may appear in more than one category. Only courses in which at least a 2.0 is received may be applied to this agreement.

A course that is transferred to LCC from another college or university and is not equivalent to a specific LCC course may be used to satisfy MACRAO if it is a general education course, fits into one of the MACRAO areas, and meets LCC's MACRAO Guidelines. To have such a course considered for MACRAO, a student must obtain documentation about the course from the school where it was completed, and submit the documentation to the Enrollment Services Office. Requests may also be made to Enrollment Services to have credits earned through AP, CLEP, and DSST tests which did not receive specific LCC course equivalency evaluated for MACRAO.

I. English Composition (minimum of 6 semester credit hours) Any one from each group:

1. WRIT 121 or WRIT 131
2. WRIT 122 or ENGL 122 or WRIT 132 or ENGL 132

A student with waiver of WRIT 121 indicated on the transcript must elect a second course from the 200-level offerings in WRIT or ENGL. Waiver of WRIT 121 should be printed on the student's transcript.

NOTE: Areas below contain 2, 3, 4 and 5 credit semester courses. More than two courses may be needed to reach the 8 semester credit hour minimum. Semester credits are listed in the "Course Descriptions" section of the catalog, immediately following the course title, and in the Course Schedule book.

II. Science and Mathematics (minimum of 8 semester credit hours)

Choose courses in at least two (2) subject areas, with a minimum of one laboratory science course. Underlined courses indicate a laboratory course.

Biological Science: BIOL 120, 121, 127, 128, 145, 201, 202, 203 and 204, 210, 223, 260, 265; ISCI 122; PFWH 123

Mathematics and Statistics: MATH 118, 119, 121, 122, 126, 130, 141, 151, 152, 161, 162, 201, 202; STAT 170, 215

(Note: MSU does not accept Math/Stat courses for the science requirement.)

Physical Science: ASTR 201; CHEM 120, 125, 135, 151 and 161; GEOL 221, 222, 230; ISCI 121, 131; PHYS 120, 221, 251

III. Social Science (minimum of 8 semester credit hours)

Choose courses in at least two (2) subject areas.

Economics: ECON 120, 201, 202, 213, 260

Geography: GEOG 120, 200, 202

Human Services: CHDV 101; CJUS 101, 102, 106, 255; GERO 100; SOWK 101

Political Science: POLS 120, 121, 201, 260, 270

Psychology: EDUC 204; PSYC 200, 202, 203, 205, 221, 250

Sociology/Anthropology: ANTH 270, SOCL 120, 254, 255, 260;

IV. Humanities (minimum of 8 semester credit hours) Take one of the following combinations:

- HIST 211 and 212 or 214; HUMS 211 and 212; HUMS 213 and 214; ENGL 211 and 212; PHIL 211 and 212; RELG 211 and 212

OR

- Take courses in at least two (2) of the following areas:
Art History: HUMS 120, 211, 212
Foreign Language: FREN 121, 122, 201, 202; GRMN 121, 122, 201, 202; JAPN 121, 122, 201, 202; SPAN 121, 122, 201, 202.
 (Note: MSU does not accept Foreign Language courses for the Humanities requirement.)
History: ECON 213; HIST 150, 211, 212, 214, 220, 230, 240, 260
Humanities: HIST 240, 250; HUMS 140, 160, 213, 214, 215, 220
Literature: ENGL 201, 202, 203, 208, 211, 212, 255, 256, 260, 266, 267, 270, 290
Performing Arts: MUSC 199, 240, 241; THEA 110, 210
Philosophy: PHIL 151, 152, 153, 211, 212
Religion: RELG 211, 212, 241, 242, 250

LCC Core-MACRAO Crosswalk – The following LCC Core courses also satisfy MACRAO requirements.

English Composition – WRIT 121, 122, 131, 132; ENGL 122, 132
 Science and Mathematics – MATH 121 or higher; ASTR 201; BIOL 120, 127, 145, 202; CHEM 135, 151/161; GEOL 230; ISCI 121, 131; PHYS 120, 221, 251
 Social Science – ECON 120, 260; GEOG 200; POLS 260, 270; SOCL 120, 260
 Humanities – FREN 121; GRMN 121; JAPN 121; THEA 110; ENGL 211, 212; HUMS 160, 211, 212, 213, 214; MUSC 240, 241; PHIL 211, 212

NOTES

1. Students are advised to also review specific transfer curricular guides. Some transfer institutions, for example, may require both a biological and physical science to satisfy the requirements for the degree.
2. Students seeking an LCC associate degree must fulfill specific graduation requirements including the LCC General Education Core requirements. See the General Information section of this catalog for additional details.

For further information and advising, contact an LCC academic advisor or counselor located in the Counseling Services Department, Suite 2300, Gannon Vocational-Technical Center, (517) 483-1904.

The following four-year institutions are signatory to the MACRAO Transfer Agreement:

*Adrian College	*Madonna University
Aibion College	Marygrove College
Baker College	*Michigan State University
*Calvin College	*Michigan Technological University
Central Michigan University	*Northern Michigan University
Cleary University	Northwood University
*Concordia University	*Oakland University
Davenport University	Olivet College
*Eastern Michigan University	Rochester College
*Ferris State University	*Saginaw Valley State University
*Finlandia University	St. Mary's College
*Grand Valley State University	*Siena Heights University
Lake Superior State University	Spring Arbor University
*Lawrence Technological University	Western Michigan University

**Some limitations may apply. Check with individual college/university.*

Degree and Certificate Programs



ASSOCIATE IN ARTS/ ASSOCIATE IN SCIENCE DEGREES

The programs listed on this page are primarily transfer degrees. Students completing these degrees will also satisfy the MACRAO Transfer Agreement between two-year and four-year institutions in Michigan. These programs are designed for students who intend to transfer to a four-year college or university to pursue a baccalaureate degree. General education and subject area requirements vary from one college or university to another. Prior to beginning any curriculum, students should contact the Counseling and Advising Center, Suite 2300, Gannon (GVT) Building, telephone number (517) 483-1904, to consult with an academic advisor or counselor and obtain an appropriate transfer guide. Students should also contact the school to which they will transfer for specific transfer institution requirements. (See *Transfer Opportunities* for a list of institutions for which transfer guides are available.) To view the curriculum requirements for each 2005-2006 degree/certificate, visit http://www.lcc.edu/catalog/degree_certificateprograms/2005-2006/aaas/index.html

Accounting, AA (0254)
African American History, AA (0137)
American Studies, AA (0142)
Art History, AA (0746)
Biology, AS (0221)
Business, AA (0232)
Chemistry, AS (0117)
Child Development, AA (1253)
Computer Science, AS (0169)
Criminal Justice, AA (0146)
Economics, AA (0230)
Elementary Education, AA (0747)
Engineering, AS (0112)
Fine Arts, AA (0748)
Foreign Language, AA (0132)
Geography, AA (0749)
History, AA (0197)
Humanities, AA (0119)
International Studies, AA (0252)
Kinesiology/Exercise Science, AS (0970)
Liberal Arts, AA (0251)
Literature, AA (0124)
Mathematics/Physics, AS (0200)
Medical Pre-Professional, AS (0754)
Philosophy, AA (0159)
Political Science, AA (0750)
Psychology, AA (0215)
Religion, AA (0751)
Secondary Education, AA (0752)
Social Science, AA (0121)
Sociology, AA (0753)
Speech Communication, AA (0136)
Writing, AA (1204)

KEY

AA Associate in Arts
AS Associate in Science

GENERAL ASSOCIATE DEGREE

Curriculum Code: 0863

This degree is a customized program of study that should be approved by an academic advisor or counselor. A minimum of 60 credits is required and includes the LCC General Education Core requirements. Students must also complete **EITHER** a minimum of 12 related credits in an area of study of their own choosing **OR** they must complete the credits listed on a transfer guide. (See *Transfer Information* of the catalog for a list of institutions for which transfer guides are available.) Students planning to transfer should see an academic advisor or counselor before enrolling in any course. To view the curriculum requirements for the General Associate Degree, visit http://www.lcc.edu/catalog/degree_certificateprograms/2005-2006/general.html

APPLIED DEGREES AND CERTIFICATES

The programs listed on this page lead to an associate degree in applied arts, an associate degree in applied science, an associate degree in business, or a certificate. These degree and certificate programs are designed primarily for students who seek education and the acquisition of skills needed to enter the job market or to advance their current careers. Not all courses in these programs transfer to all colleges. Students planning to transfer should see an academic advisor or counselor before enrolling in any course. To view the curriculum requirements for each 2005-2006 degree/certificate, visit http://www.lcc.edu/catalog/degree_certificateprograms/2005-2006/applied/index.html

ACCOUNTING

Accounting, AB (0162)
Accounting, CA (0714)
Accounting, CPA Exam Preparation, AB (0255)

AGRICULTURE

Precision Agriculture, AAS (0836)
Precision Agriculture, CA (0852)

ARCHITECTURE

Architectural Tech, Residential Design, AAS (0758)
Architectural Tech, Residential Design, CA (0831)
Architectural Technology, AAS (0233)

ART, DESIGN, AND MULTIMEDIA

Computer Graphics Animation, AAA (0284)
Computer Graphics, Multimedia, AAA (0194)
Computer Graphics, Multimedia, CA (0857)
Computer Graphics, Web Design, AAA (0914)
Digital Media, CA (1207)
Figure Studies, CA (0850)
Fine Art Foundation, AAA (0271)
Graphic Design, AAA (0219)
Graphic Design, CA (1020)
Humorous Illustration, CC (0838)
Sequential Art, AAS (1043)
Sequential Art, CA (1043)

AUTOMOTIVE

Alternate Fuels, CC (0355)
Automotive AC/Electrical Accessories, CC (0846)
Auto Collision Repair, AAS (0188)
Auto Collision Repair, CA (0166)
Automotive Steering/Suspension/Brakes, CC (0851)
Automotive Drive Lines, CC (0856)
Automotive Technology, AAS (0238)
Automotive Technology, CA (0140)
Engine Performance/Diagnosis, CC (0848)

AVIATION

Airframe Maintenance Technology, AAS (0757)
Airframe Maintenance Technology, CA (1036)
Aviation Flight Technology, AAS (0259)
Avionics Flightline Maintenance, AAS (1046)
Avionics Flightline Maintenance, CA (1052)
Avionics Installation, CC (0847)
Basic Aviation Technology, CC (1037)
Powerplant Maintenance Technology, AAS (0745)
Powerplant Maintenance Technology, CA (1035)

BUSINESS

Business Administration, AB (0243)
E-Business, AB (0839)
E-Business, CA (0845)
International Business, AB (0240)
Small Business Exploration, CC (0903)

CHILD DEVELOPMENT

Child Development, CA (0133)
Child Development, (see AAAS Degrees)
CDA Credential Training, CC (0921)

CIVIL TECHNOLOGY

Civil Technology, AAS (0178)
Surveying and Materials Technology, CC (1011)

COMPUTER-AIDED DRAFTING AND DESIGN

Computer Aided Drafting/Design, AAS (0165)
Computer Aided Drafting/Design, CA (0145)

COMPUTERS

Computer Database Specialist, AB (0922)
Computer Database Specialist, CA (0917)
Computer Networking and Communication, AB (0791)
Computer Networking and Communication, CC (0842)
Computer Programmer/Analyst, AB (0113)
Computer Programmer/Analyst, CC (0969)
Computer Repair and Support Technician, AAS (0743)
Computer Repair Technician, CA (0168)
Computer Auditor, AB (0253)
Computer Support Specialist, AB (0713)
Information Technology Job Readiness, CC (1038)
Information Technology, CC (0844)
Internet for Business, CA (0794)
Internet for Business, CC (0843)
Microsoft Office Specialist, CC (0841)

CONSTRUCTION

Residential Building, AAS (0167)
Residential Building, CA (0135)

CREDIT UNION MANAGEMENT

Credit Union Management, AB (0103)
Credit Union Management, CC (0151)

CRIMINAL JUSTICE

Correctional Officer, CC (0840)
Criminal Justice, Corrections, AAS (1209)
Criminal Justice, Law Enforcement, AAS (1210)
Juvenile Care Worker, CA (0915)
Mid-Michigan Police Academy, CC (0737)

EDUCATION

Teacher Paraprofessional, AAS (1039)
Teacher Paraprofessional, CC (0829)

ELECTRICAL

Electrical Technology Construction, CA (0759)
Electrical Tech. Control/Maintenance, CA (0760)
Electrical Technology, AAS (0134)
Electrical Wiring, CC (0964)
Machine Control, CC (0966)

ENERGY

Alternative Energy Technology, AAS (1229)
Customer Energy Specialist, AAS (1022)
Customer Energy Specialist, CA (0893)
Stationary Energy Technology, CA (1228)

FASHION TECHNOLOGY

Fashion Technology, AAS (1252)
Fashion Technology, CC (1056)
Fashion Technology, CA (1205)

FIRE SCIENCE

Fire Science Academy, CC (0709)
Fire Science/Basic EMT, AAS (1057)
Fire Science Technology, AAS (0123)

GEOGRAPHIC INFORMATION SYSTEMS

Geographic Information Systems/Geospatial Tech, AAS (0224)
Geographic Information Systems, CA (0334)

HEALTH CAREERS

Acute Care Nursing Assistant/Orderly, CC (1019)
Basic Emergency Medical Services, CA (0269)
Basic Emergency Medical Technician, CC (1016)
Dental Hygienist, AAS (0279)
Diagnostic Medical Sonography, AAS (0790)
Diagnostic Medical Sonography, CA (0263)
Dietary Manager, CC (1026)

Emergency Medical Services, AAS (0276)
Health Unit Clerk/Coordinator, CC (1014)
Healthcare Central Service Technician, CC (1017)
Long-Term Care Nurse Aide, CC (1025)
Medical Insurance Billing, CC (1013)
Nurse Aide - Acute and Long-Term Care, CC (1027)
Nursing, PN Option, CA (0235)
Nursing, RN Option, AAS (0222)
Paramedic, CA (0272)
Pharmacy Technician, CC (1024)
Phlebotomy Technician, CC (1010)
Radiologic Technology, AAS (0195)
Surgical Technology, AAS (1021)
Therapeutic Massage, CA (1255)

HEATING, AIR CONDITIONING, AND REFRIGERATION

Heat and Air Conditioning/Building Maint, AAS (0836)
Heat and Air Conditioning/Building Maint, CA (0832)
HVAC/R - Energy Management, AAS (1257)

HEAVY EQUIPMENT

Heavy Equipment Operator, CA (1028)
Heavy Equipment Operator, CC (1202)
Heavy Equipment Repair Technician, AAS (1055)
Heavy Equipment Repair Technician, CA (1041)

HOSPITALITY

Hotel-Motel/Food Management, AB (0711)

HUMAN SERVICES CAREERS

Aging Studies, CC (1200)
Human Services, AAS (0315)
Human Services, CA (1201)
Human Services, CC (1199)

INDUSTRIAL

Industrial Manufacturing Engineering Tec, AAS (0110)
Industrial Plant and Controls Layout, CA (1206)
Machine Maintenance, AAS (0173)
Machine Repair, CA (0147)
Precision Machinist Manufacturing Techn, AAS (0199)
Precision Machinist Manufacturing Techn, CA (0141)
Welding Technology, AAS (0186)
Welding Technology, CA (0156)

INTERIOR DESIGN

Interior Design Merchandising, CC (0927)
Interior Design Technology, AAS (0267)
Kitchen and Bath Design, AAS (1208)
Kitchen and Bath Technology, CC (1254)
Kitchen/Bath Design Specialist, CA (0926)

LANDSCAPE CAREERS

Horticulture, AAS (0188)
Landscape Architecture, AAS (0203)

LEGAL ASSISTANT/PARALEGAL

Paralegal, AB (0101)
Paralegal Post-Bachelor, CA (0744)

MANAGEMENT

Advanced Management, CA (0280)
Human Resources Management, AB (0712)
Labor Relations, CC (0256)
Management, AB (0245)
Management, CA (0249)
Managing Forward, CC (1053)

MARKETING

Field Sales and Marketing, AB (0190)
 Marketing, AB (0204)
 Marketing, CA (0225)
 Sales Specialist, CA (0242)

MEDIA TECHNOLOGY

Media Technology, AAS (0184)
 Media Technology, CA (0967)
 Media Technology-Radio, CA (1251)

MOTION PICTURE

Motion Picture Direction, AAS (0900)
 Motion Picture Production, AAS (0902)
 Motion Picture Production, CA (0901)

OFFICE ADMINISTRATION

Administrative Office Management, AB (1044)
 Administrative Office Management, CA (1049)
 Administrative Office Management, CC (1050)
 Legal Office Administration, AB (0207)
 Legal Office Administration, CA (1042)
 Legal Office Administration, CC (1054)
 Medical Office Administration, AB (0185)
 Medical Office Administration, CA (1009)
 Medical Office Administration, CC (1051)
 Medical Transcription, AB (0756)

Medical Transcription, CA (0968)
 Medical Transcription, CC (1045)
 Office Admin Professional Studies, CC (1047)
 Office Administration, AB (0114)
 Office Administration, CA (0924)
 Office Administration, CC (0789)

PERFORMING ARTS

Music, AAA (0270)
 Music: Commercial, AAA (0274)
 Music Management, AAA (0861)
 Sacred Music, CC (1203)
 Theatre, AAA (0278)

PHOTOGRAPHIC IMAGING

Photographic Imaging, AAS (0277)
 Photography, CC (0963)

REAL ESTATE

Real Estate, AB (0130)
 Real Estate, CC (0148)

SCIENCE - APPLIED

Chemical Process Technology, AAS (0859)
 Chemical Technology, AAS (0163)
 Environmental Technology, AAS (0793)
 Histologic Technology, AAS (0923)
 Histologic Technician, CC (0965)

Molecular Biotechnology, AAS (0212)
 Veterinary Technology, AAS (0287)

SIGN LANGUAGE

Sign Language Interpreter, AAA (0282)
 Sign Language Interpreter, CA (0187)

STAGE TECHNOLOGY

Stage Technology, AAA (0853)
 Stage Technology, CA (0849)
 Stage Technology Apprentice, AAS (0971)

TECHNOLOGY - GENERAL

General Technology, AAS (0213)

TRAVEL/TOURISM

Tour Cruise Operations, CC (0920)
 Travel Agency Operations, CC (0919)
 Travel and Tourism, AB (0229)

TRUCK DRIVER TRAINING

Heavy Equipment/Truck Operator, CA (1256)
 Truck Driver Training, CC (0262)

KEY

AB Associate Degree Business
 AAA Associate Degree Applied Arts
 AAS Associate Degree Applied Science

Course Descriptions

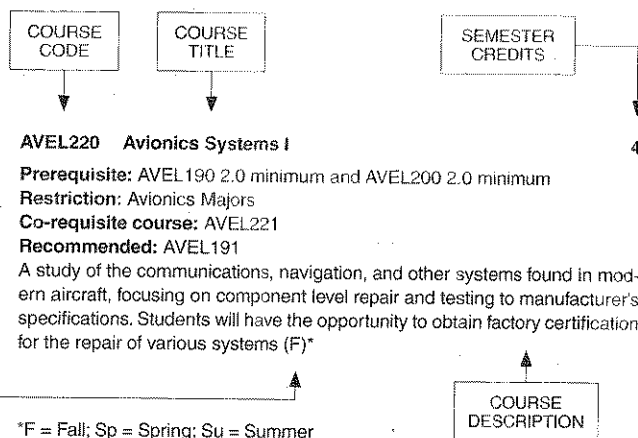


HOW TO READ COURSE DESCRIPTIONS

Each course description has seven (7) categories of information as follows:

1. Course code
2. Course title
3. Number of semester credit hours
4. Prerequisite
5. Course description
6. Semester planned

For example:



Previous courses, skill levels, training and/or experience required for enrollment. **Other prerequisites may be added.** See *Course Schedule* or department each semester for current information.

Indicates when department plans to offer course, but **does not guarantee** that the course will be offered. See *Course Schedule* or department each semester for current information.

COURSE CODES USED IN DESCRIPTIONS

Courses are listed in course code order. The sequence is as follows:

ACCG	Accounting	CIVL	Civil Technology
AEET	Alternative Energy Engineering Technology	CJUS	Criminal Justice
AERO	Aerospace Studies	CPSC	Computer Science
AGRI	Agriculture	CUAI	Credit Union Accounting and Insurance
ANTH	Anthropology	CUMA	Credit Union Management
ARCH	Architecture	DANC	Dance
ARTS	Art, Design and Multimedia	DENT	Dental Hygiene
ARWS	Art Seminars and Workshops	ECON	Economics
ASTR	Astronomy	EDUC	Education
AUTB	Auto Body Collision Repair	ELTE	Electrical Technology
AUTO	Automotive	EMSB	Emergency Medical Services Seminars
AVAF	Aviation Airframe Maintenance	EMTA	Emergency Medical Technology
AVEL	Aviation Electronics	ENGL	English
AVFT	Aviation Flight Training	ENRI	Enrichment
AVGM	Aviation General Maintenance	ENVR	Environmental Science
AVGS	Aviation Ground School	ESLP	English as a Second Language
AVIR	Aviation Instrument Repair	FASH	Fashion
AVPP	Aviation Powerplant Maintenance	FILM	Film Production and Direction
AVST	Aviation Simulator Training	FIRE	Fire Science
BIOL	Biology	FLNG	Foreign Language
BLDR	Building Related	FREN	French
BLDT	Building Trades	GEOG	Geography
BUSN	Business	GEOG	Geology
CABS	Computer Applications Using Business Software	GERO	Gerontology
CADD	Computer Aided Drafting & Design	GRET	Geographic Information Systems
CHCE	Continuing Health Careers	GRMN	German
CHDV	Child Development	HEOT	Heavy Equipment Operator Training
CHEM	Chemistry	HERT	Heavy Equipment Repair Technician
CHSE	Community Health Services Education	HIST	History
CITA	Computer Information Technology/Applications	HMFS	Hotel/Motel and Food Service Operator
CITD	Computer Information Technology/Database	HONR	Honors
CITF	Computer Information Technology/Foundations	HORT	Horticulture
CITN	Computer Information Technology/Networking	HUMS	Humanities
CITP	Computer Information Technology/Programming	HUSE	Human Services
CITS	Computer Information Technology/Support	HVAC	Heat, Ventilation and Air Conditioning
CITW	Computer Information Technology/Web	IDMS	Diagnostic Medical Sonography

IMAG	Photography Technology	PHIL	Philosophy
INSU	Insurance	PHYS	Physics
INTR	Interior Design	PMMT	Precision Machine/Manufacturing Technology
IRXT	Radiologic Technology	POLS	Political Science
ISCI	Integrated Science	PSYC	Psychology
JAPN	Japanese	RDGR	Reading: Restricted
JRNL	Journalism	READ	Reading
LABR	Labor Relations	REAL	Real Estate
LAND	Landscape	RELG	Religion
LBST	Liberal Studies Special Topics	SCIN	Science Technology Internship
LEGL	Legal Assistant/Paralegal	SCIS	Science Seminars
LING	Linguistics	SDEV	Student Development
MASG	Massage	SIGN	Sign Language
MATH	Mathematics	SOCL	Sociology
MFGM	Manufacturing Maintenance	SOWK	Social Work
MGMT	Management	SPAN	Spanish
MILS	Military Science	SPCH	Speech Communication
MKTG	Marketing	SPEL	Spelling Development
MTEC	Media Technology	STAT	Statistics
MUSC	Music	STEC	Stage Technology
NURS	Nursing	SURG	Surgical Technology
OADM	Office Administration	TDTP	Truck Driver Training Program
PARA	Paramedic	THEA	Theatre
PFAQ	Physical Fitness: Aquatics	TRVL	Travel and Tourism
PFDA	Physical Fitness: Dance	VCBL	Vocabulary Improvement
PFFT	Physical Fitness: Fitness	VIET	Vietnamese
PFHW	Physical Fitness: Health/Fitness Wellness	WELD	Welding Technology
PFKN	Physical Fitness: Kinesiology	WRIT	Writing
PFSP	Physical Fitness: Team and Individual Sports	WRTR	Writing Restricted
PFWT	Physical Fitness: Weight Training		

DESCRIPTIONS

ACCG - Accounting

- ACCG100 Practical Accounting for Non-Majors** 3
Prerequisite: None
 Students will learn the bookkeeping procedures necessary for preparation of financial statements and payroll. Manual and computer systems will be covered. (F,Sp,Su)
- ACCG101 Accounting Information for Management** 3
Prerequisite: None
 Students will learn to interpret financial statements and use this information for analysis, budgeting, and decision-making. (F,Sp)
- ACCG140 Income Tax Preparation** 3
Prerequisite: None
 Students will complete individual income tax returns and supporting schedules according to the Internal Revenue Code. The focus is on the completion of forms rather than the theoretical aspects of the tax law. (F)
- ACCG160 Payroll Systems and Taxes** 2
Prerequisite: None
Recommended: ACCG100 or equivalent work experience
 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. (Su)
- ACCG210 Principles of Accounting I** 4
Prerequisite: None
Recommended: Algebra knowledge
 Principles of Accounting I is the first class of a two-semester sequence focusing on financial accounting, including accounting for service organizations and merchandisers. Topics covered include the basic accounting cycle, financial reporting, accounting theory, and accounting for inventories, cash, receivables and payables, plant assets, and stockholders equity. (F,Sp,Su)
- ACCG211 Principles of Accounting II** 4
Prerequisite: Minimum 2.0 in ACCG210
Recommended: Intermediate Algebra or higher
 Principles of Accounting II is the second course in the two-semester accounting sequence. Topics include statement of cash flows, budgets and other managerial reports, capital budgeting, short-term decision-making, equity investments, time value of money, bonds, manufacturing accounting, job and process costing systems, and accounting for quality and cost management. (F,Sp,Su)
- ACCG220 Intermediate Accounting I** 4
Prerequisite: Minimum 2.0 in ACCG211
Recommended: Electronic spreadsheet experience
 Financial Accounting and Reporting in accordance with Generally Accepted Accounting Principles including a review of financial accounting covered in the Principles course. Topics include the conceptual framework and environment of accounting, time-value-of-money, current assets and liabilities, plant assets, intangible assets, revenue recognition and note disclosures involved in presenting financial statements. (F,Sp)
- ACCG221 Intermediate Accounting II** 4
Prerequisite: Minimum 2.0 in ACCG211
Recommended: Electronic spreadsheet experience
 Continuation of ACCG220 covering financial accounting and reporting in accordance with GAAP. Topics include stockholders' equity, earnings per share, investments, accounting for income taxes, and long-term liabilities including pensions and capital leases, statement of cash flows, changes and error corrections, and full disclosure in financial reporting. (F,Sp)
- ACCG230 Cost Accounting** 4
Prerequisite: Minimum 2.0 in ACCG211
Recommended: Electronic spreadsheet experience
 This course focuses on cost-volume-profit analysis costing methods for service and merchandising businesses. Other topics include activity based costing, job order costing, responsibility accounting, budgeting, standards, variable vs. full costing, joint and by-products, process costing, spoilage, project control, and capital budgets. Computer applications are emphasized. (F)
- ACCG231 Managerial Accounting** 4
Prerequisite: Minimum 2.0 in ACCG230
 This course focuses on the accountant's role in the organization; cost information gathering, processing and reporting for various decision and control purposes; pricing; cost allocation; project control; mix and yield variances; uncertainty; variance investigation; inventory management; cost management; strategic planning; and management control. (Sp)
- ACCG240 Federal Income Tax I** 4
Prerequisite: Minimum 2.0 in ACCG211
 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)
- ACCG241 Federal Income Tax II** 4
Prerequisite: Minimum 2.0 in ACCG240
 This class is the second in a two-semester sequence in federal income tax. This course deals with the taxation of corporations, partnerships, estates, trusts, and tax exempt entities from a historical and theoretical perspective, as well as preparation of tax and information returns under current tax law. (Sp)
- ACCG245 Accounting Internship** 2
Prerequisite: Minimum 2.0 in ACCG210 and Department Approval
 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)
- ACCG250 Advanced Accounting** 4
Prerequisite: Minimum 2.0 in ACCG221
 This course covers business consolidations, foreign currency accounting, and partnerships in depth. In addition, the course provides an overview of governmental and nonprofit accounting. (Su)
- ACCG250 Accounting Systems** 4
Prerequisite: Minimum 2.0 in ACCG210
Recommended: Keyboarding experience
 Accounting Systems prepares students to work with and design information systems and to use the scientific methods in problem solving. Issues and problems related to microcomputers and other technology on accounting systems are emphasized. Students analyze systems, work with manual and computerized accounting systems, database design, and problem solving with spreadsheets. (F,Sp)
- ACCG266 Independent Study Accounting** 1-4
Prerequisite: Department Approval
 With this course, students will learn advanced accounting topics as an independent study, or a project. Grading criteria and course objectives are determined at a meeting between the student and program advisor. It is expected that the student will spend approximately 48 independent study hours per credit. (F,Sp,Su)
- ACCG271 Principles of Finance** 3
Prerequisite: Minimum 2.0 in ACCG211
 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. (Su)

ACCG280 Governmental Accounting 4
Prerequisite: Minimum 2.0 in ACCG211
 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. (Sp)

ACCG290 Auditing 4
Prerequisite: Minimum 2.0 in ACCG220
 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. An extensive practice case that provides simulated hands-on experience will be included. (F)

ACCG295 CPA Review - Tax, Mgmt, Cost and Govern 1
Prerequisite: None
Recommended: Meet requirements for CPA Examination
 The course is designed to provide CPA exam candidates with a review of federal taxation, cost, managerial, governmental and nonprofit accounting. Emphasis is given to typical exam questions and strategies to answer them correctly. (F,Sp)

ACCG296 CPA Review - Business Law 1
Prerequisite: None
Recommended: Meet requirements for CPA Examination
 This course is designed to provide CPA exam candidates with a review of business law, especially the provisions of the Uniform Commercial Code. Emphasis is given to typical exam questions and strategies to answer them correctly. (F,Sp)

ACCG297 CPA Review - Auditing 1
Prerequisite: None
Recommended: Meet requirements for CPA Examination
 This course is designed to provide CPA exam candidates with a review of audit concepts, assumptions, and procedures. Emphasis is given to typical exam questions and strategies to answer them correctly. (F,Sp)

ACCG298 CPA Review - Fin Acct/Report 1
Prerequisite: None
Recommended: Meet requirements for CPA Examination
 This course is designed to provide CPA exam candidates with a review of the theory and practice of financial accounting and reporting for business enterprises. Emphasis is given to typical exam questions and strategies to answer them correctly. (F,Sp)

AEET – Alternative Energy Engineering Technology

AEET102 Prin of Alternative/Renewable Energies 3
Prerequisite: Reading Level 3 and Writing Level 4
 This course will cover basic principles and history of alternative energy sources. Industry and government status of geothermal, wind, solar, biomass, fuel cells and other energy sources will be highlighted. Alternative and traditional energies will be defined and compared in terms of today's use. The evolving energy career areas will be discussed. (F,Sp,Su)

AEET110 Energy Site Evaluation 3
Prerequisite: Minimum 2.0 in AEET102 or concurrently
 This course will cover how to evaluate a site for the most efficient energy usage in terms of site geography, topography, availability of energy and resources, and age of building. Evaluation of a building style and materials for energy usage will be included. Site design features will be redesigned for efficiency/management concerns. (F,Sp)

AEET115 Geothermal Technology 3
Prerequisite: Reading Level 3 and Writing Level 4
 This course will cover the basics of geothermal energy production and technology. Essentials on how to utilize and integrate geothermal technology as an energy source will be analyzed and demonstrated. Examples of residential and commercial applications will be shown and reviewed. (F)

AEET116 Solar Energy Technologies 3
Prerequisite: Reading Level 3 and Writing Level 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. (Sp)

AEET117 Biomass, Biogas and Microturbine Tech 3
Prerequisite: Reading Level 3 and Writing Level 4
 This course will focus on the release of chemical energy by accelerating the naturally occurring carbon dioxide cycle and the use of this energy to power engines and generators. Natural fuels, fuels made from plant materials and garbage will be discussed. Engine efficiency and its impact on lower emissions will be discussed. (F,Sp)

AEET118 Fuel Cell and Hydrogen Technologies 3
Prerequisite: Reading Level 3 and Writing Level 4
 This course will focus on fuel cell conversion devices and other hydrogen based technologies. The history of hydrogen and fuel cell technologies, their application, instrumentation, specifications, codes, system designs and materials will be covered. Basic thermodynamics and heat/mass transfer technology will be discussed. Specific licensing, permits, and safety issues will be covered. (F)

AEET119 Wind Energies 3
Prerequisite: Reading Level 3 and Writing Level 4
 This course will cover the use of naturally occurring winds to create electricity. Wind farms, collection devices and current status of wind energy will be discussed. Horizontal Axis and Vertical Axis Turbines systems will be covered. A brief history of wind energy will be included. (F,Sp)

AEET120 Conventional Energy Sources and Use 3
Prerequisite: Reading Level 3 and Writing Level 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)

AEET175 Special Topics in Alternative Energy .25-8
Prerequisite: Determined by Unit Section
 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)

AEET250 Alternative Energy Inventory & Analysis 3
Prerequisite: Minimum 2.0 in AEET102
 This first course in a series of three will cover the process necessary to inventory and evaluate current energy systems and their status. The analysis process will include recommendations based on the site, structures, and existing and proposed site features. Analysis will be project-based and will require cost comparison of various energy solutions. (F,Sp)

AEET251 Alternative Energy Planning & Design 3
Prerequisite: Minimum 2.0 in AEET250
 This second course in a series of three will cover the planning process for new and established energy systems, and a plan will be developed for an actual site. The design steps necessary to create and implement an energy system setup will be developed. A cost analysis of the energy plan and design will be included. (F,Sp)

AEET252 Alt Energy Implementation/Maintenance 3

Prerequisite: Minimum 2.0 in AEET251

This third course in a series of three will cover the implementation of standard and hybrid energy systems. The maintenance and efficiency of various systems will also be highlighted. A project including installation and management will be completed. (F,Sp)

AEET255 Energy Efficiency and Management 3

Prerequisite: Minimum 2.0 in AEET102

This course will evaluate the current energy management systems and the energy efficient technologies available today. The Energy Star Program guidelines from the U. S. Department of Energy for energy efficient solutions will be covered. (F,Sp)

AEET260 Codes, Regulations and Standards 3

Prerequisite: Reading Level 5 and Writing Level 6

This course will cover the codes, regulations, and industry standards that are currently in place for sustainable energy buildings and Green Buildings. (F,Sp)

AERO - Aerospace Studies

AERO111 USAF Foundation I 1

Prerequisite: None

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)

AERO112 Air Force Today II 1

Prerequisite: None

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)

AERO211 Evolution of USAF I 1

Prerequisite: None

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)

AERO212 Development of Air Power II 1

Prerequisite: None

This course continues the historical perspective of AERO211 beginning with Vietnam. Course topics include the role of technology in the growth of air power, introduction to Quality Air Force, group leadership problems, and the continuing application of communication skills. Includes a leadership laboratory. (Sp)

AGRI - Agriculture

AGRI101 Principles of Precision Agritechnology 2

Prerequisite: None

This course introduces the field of precision agricultural technology. The combining of the latest technologies, i.e., Global Positioning Systems and Integrated Pest Management, make traditional agricultural practices as accurate and customized as possible for each specialized crop. (F,Sp)

AGRI106 Diseases & Insects of Agrinomic Crops 2

Prerequisite: None

This course is for the professional applicator or farm operator interested in a basic knowledge of insects, diseases, vertebrates, and microorganisms that affect agrieconomic crops. Environmental problems, soil, fertilizers, planting, integrated pest management, and problem solving techniques will be stressed. Can be used toward pesticide certification by the Michigan Department of Agriculture. (Sp)

AGRI175 Special Topics in Precision Agriculture .25-8

Prerequisite: Determined by Unit Section

This course offers students the opportunity to learn new or advanced skills in Precision Agriculture Technology and other related topics. Specific content may vary with each offering and will be related to the Precision Agriculture Technology Program and profession. (F,Sp,Su)

AGRI200 Vegetation and Weed Management 3

Prerequisite: None

Students will develop skills necessary to monitor, control, and identify by species both vegetation and weed plants. Vegetation will be evaluated from seedling to mature stage for proper control measures by both natural and chemical controls. Various chemicals will be judged for environmental impact and effective control. (F,Sp)

AGRI201 Principles of Sustainable Agriculture 3

Prerequisite: None

The modern era principles of sustainable agriculture will be covered by way of lecture and demonstration. The practice of proper plant selection, species requirements, land use, fertilization needs, and pesticide practices will be highlighted. Scientific practices utilized in plant genetics and technology applications will also be discussed. (Sp)

AGRI202 Agricultural Soils and Crop Management 3

Prerequisite: None

This course covers all aspects of soils related to agricultural production of food and fiber crops. Soil classification, texture, composition and conditions will be analyzed, evaluated and managed. Soil conditions relating to environmental fertilization and composition problems will be evaluated. Soil erosion and conservation management practices will also be highlighted. (F,Sp)

AGRI211 Agricultural Crop Production 3

Prerequisite: None

This course will focus on the basic components of cash crop production in the modern agricultural environment. Crop identification, management and harvesting techniques will be highlighted for the major crops utilized in today's marketplace. Crop production techniques will be emphasized with a thorough evaluation of modern technology practices. (Sp)

AGRI212 Vegetable Crop Production 3

Prerequisite: None

This agricultural production course will cover the seed production, planting, management, IPM and harvesting of vegetable crop plants. Vegetable crops such as sweet corn, tomatoes, peppers, beans, spinach, melons, peas and cold weather crops will be discussed. Vegetable crop marketing in the Great Lakes region will also be discussed. (F,Sp)

AGRI213 Agri Site Specific Research Technology 3

Prerequisite: None

This course will evaluate the various new technologies available to farmers and agriculturists. Technologies such as computers, GIS systems, GPS receivers, field monitors, sensors, pad computers, etc. will be evaluated as to their function and incorporation into specific farming production practices. IPM and crop genetic technologies will also be discussed. (Sp)

ANTH - Anthropology

ANTH270 Cultural Anthropology 3

Prerequisite: Reading Level 5 and Writing Level 6

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. (Sp)

ANTH271 Medical Anthropology 3
Prerequisite: Reading Level 5 and Writing Level 6
 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)

ANTH275 Physical Anthropology and Archaeology 3
Prerequisite: Reading Level 5 and Writing Level 6
Recommended: SOCL120 and (BIOL145 or BIOL201 or High School Biology)
 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)

ANTH276 World Archaeology 3
Prerequisite: Reading Level 5 and Writing Level 6
Recommended: ANTH270 and/or SOCL120
 A general survey of archaeology. Includes an overview of the history of the field and the basic theories and methods employed in the study of prehistoric and historic cultures. Archaeological data and sites are used to explain the extinction and continuation of human societies. (Sp)

ARCH - Architecture

ARCH100 Introduction to Architecture Drawing 3
Prerequisite: Math Level 3
Recommended: MATH050 or concurrently
 Students will be introduced to the proper techniques of architectural line work, lettering, orthographic projection, and axonometric drawings. Techniques of architectural dimensioning, the use of symbols, and the production of a basic floor plan and elevations will be accomplished. (F,Sp,Su)

ARCH101 Residential Detailing 4
Prerequisite: Minimum 2.0 in (ARCH100 or Drafting Placement Test 80%) and Math Level 4
 Students will use basic drafting techniques to draw a series of residential details. The development of professional quality drawing, lettering, research, and communication techniques will be emphasized. (F,Sp,Su)

ARCH102 Residential Drawing 4
Prerequisite: Minimum 2.0 in ARCH101
Recommended: ARCH121 and ARCH128
 Students will use previously obtained basic drafting techniques and knowledge of residential detailing to develop residential projects that include a site plan, residential floor plans, elevations, building sections, schedules, and details. (F,Sp)

ARCH111 Architectural Design Fundamentals 3
Prerequisite: Reading Level 4 and Writing Level 4
Recommended: ARCH100 or concurrently
 This course examines the universal principals and elements of design as related to architecture. Case studies of buildings that examine design fundamentals will be presented and diagrammed. Topics will include basic organizational principals and elements of building design theory. (F,Sp,Su)

ARCH121 Visual Communication I 3
Prerequisite: Minimum 2.0 in (ARCH100 or concurrently) or Drafting Placement Test 80%
 This course concentrates on architectural graphics and will introduce students to basic techniques of freehand sketching, drafting, orthographic, axonometric, and perspective drawings. Entourage and delineation skills will also be addressed. The production of the most commonly used techniques of black and white architectural rendering and presentation drawing will be studied. (F,Sp,Su)

ARCH122 Visual Communication II 3
Prerequisite: Minimum 2.0 in ARCH121
 This course is a continuation of Visual Communication I. Students will gain knowledge of basic color rendering techniques using a variety of media. (Sp)

ARCH126 Architectural Model Building 3
Prerequisite: Minimum 2.0 in ARCH121 or concurrently
 Students in this course will enhance their design and communication skills by developing various techniques for building three-dimensional architectural models. Examples constructed will range from the most basic of study models, using readily available materials, to more sophisticated presentation models. (F,Sp)

ARCH128 Residential Design 3
Prerequisite: Minimum 2.0 in ARCH100 or Drafting Placement Test 80%
Recommended: ARCH121
 The goal of this course is to study the theories and practices of single-family residential design. Through research, layout of interior design elements, and their application in preliminary design format, students will advance their knowledge of residential design. Development of lettering and verbal communication skills will be emphasized through presentation. (F,Sp)

ARCH141 Architectural History I 3
Prerequisite: None
 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,Sp)

ARCH142 Architectural History II 3
Prerequisite: Minimum 2.0 in ARCH141
 This course is the second in a series about the 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. (F,Sp)

ARCH146 Preservation/Adaptive Use Architecture 3
Prerequisite: Minimum 2.0 in ARCH121 or concurrently
 This course is an overview of the principles and practices of preservation, restoration, and adaptive use architecture. Students will have the opportunity to work on a preservation/adaptive use project while being introduced to research methods, materials, terminology, architectural styles, and appropriate preservation and adaptive measures for historic structures. (F,Sp)

ARCH175 Special Topics in Architecture .25-8
Prerequisite: Determined by Unit Section
 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. (F,Sp,Su)

ARCH181 Universal Design Theory 3
Prerequisite: None
 Access for people with disabilities to building and other man-made environments will be discussed as well as the application of the Americans with Disabilities Act (ADA) and other residential and commercial building codes. Elements of successful design will be emphasized as well as their design and construction. (F,Sp)

ARCH182 Applied Universal Design 3
Prerequisite: None
Recommended: ARCH100 and ARCH181
 Students will learn to apply the requirements of the Americans with Disabilities Act (ADA) and building codes to successfully design solutions to both commercial and residential design problems. Both study cases and original design projects will be used as well as first hand experiences. (F,Sp)

- ARCH201 Commercial Design** 4
Prerequisite: Minimum 2.0 in (ARCH101 and ARCH121) and Math Level 4
Recommended: ARCH211 and ARCH271
 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. (F)
- ARCH202 Commercial Drawing** 4
Prerequisite: Minimum 2.0 in ARCH201
Recommended: ARCH126 and ARCH271
 Students will use previously obtained drawing, research, and presentation skills to complete working drawings including floor plans, elevations, sections, and details for the light commercial projects started in ARCH201. (Sp)
- ARCH211 Design Studio** 3
Prerequisite: Minimum 2.0 in ARCH100 or Drafting Placement Test 80%
Recommended: ARCH121
 This course is an introduction to the basic theories and methods of architectural design, problem-solving techniques, and design methodologies using contemporary architects as examples. Students will be given a series of problem-solving exercises and will be instructed in developing presentation and verbal techniques to present their solutions. (F,Sp)
- ARCH213 Facilities Design** 3
Prerequisite: Minimum 2.0 in (ARCH100 or CADD100) or Drafting Placement Test 80%
 In this course, students will explore, tour, and study the design theory behind a full range of existing structures used for commercial purposes. Students will be given a site specific project and will be instructed in developing a program related solution. Students will use previously obtained CAD, research, and presentation skills to design, delineate and present their project. (F,Sp)
- ARCH221 Architectural DataCAD I** 4
Prerequisite: Minimum 2.0 in ARCH100 or Drafting Placement Test 80%
Recommended: Windows Experience
 This is an introduction to architectural computer-aided drafting. Students will use Data CAD's Edit and Utility functions to create a series of two-dimensional drawings, including floor plans, elevations and building sections. An introduction to DataCAD's 3-D Modeler will also allow students to develop basic three-dimensional images. (F,Sp)
- ARCH222 Architectural DataCAD II** 4
Prerequisite: Minimum 2.0 in ARCH221
 This course is a continuation of ARCH221 and will develop students' skills by introducing advanced two-dimensional operations, the creation and use of template symbols, and a complete overview of DataCAD's macro programs. Complete three-dimensional modeling will be taught including complex 3-D entities for developing professional presentations. (F,Sp)
- ARCH225 Architectural DataCAD Independent Study** 1-4
Prerequisite: Minimum 2.0 in ARCH222 and Department Approval
 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 DataCAD software program. (F,Sp)
- ARCH231 Architectural AutoCAD I** 4
Prerequisite: Minimum 2.0 in ARCH101
Recommended: Windows Experience
 This entry-level course introduces AutoCAD, a PC-based computer graphic system, for architectural applications. Students will concentrate on two-dimensional drawing and editing functions for creating floor plans, elevations, and building sections. An introduction to three-dimensional modeling techniques will also be covered. (F,Sp,Su)
- ARCH232 Architectural AutoCAD II** 4
Prerequisite: Department Approval
 This course is a continuation of the basic/introduction of AutoCAD and utilizes advanced two-dimensional techniques. Architectural Desktop software will be introduced to create three-dimensional drawings and drawing sets. The course will also emphasize advanced methods of drawing/file setup, presentation techniques, and introduce the student to various methods of program customization. (F,Sp)
- ARCH235 Architectural AutoCAD Independent Study** 1-4
Prerequisite: Minimum 2.0 in ARCH232 and Department Approval
 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)
- ARCH237 Architectural Computer Rendering** 3
Prerequisite: Minimum 2.0 in (ARCH222 or ARCH232)
 This course is intended for the advanced architectural computer graphics student. Using the three-dimensional graphics skills obtained in one or more of the architectural preliminary computer graphics courses, students will learn to produce three-dimensional wire frame models, advanced architectural computer renderings, and photo realistic pictorials. (Sp)
- ARCH271 Structural Theory** 4
Prerequisite: Math Level 4
Recommended: ARCH100 or equivalent
 This course introduces the principles of statics and relates the application of physical forces to structural materials and elements. The structural and design properties of steel and wood will be studied. The ability to read structural tables and accurately make calculations will be emphasized. (F,Sp)
- ARCH273 Environmental Systems** 4
Prerequisite: None
Recommended: ARCH100 or equivalent
 This course is designed for architecture and interior design students. All elements affecting the interior environment of a commercial or residential structure, such as lighting, HVAC systems, and acoustics, will be studied. Calculations and the sizing of systems will be part of all sections. (F)
- ARCH276 Alternative Structures** 3
Prerequisite: None
 A survey of several unconventional construction types that include concrete systems, log building, pole construction, timberframe, structural insulated panel, straw bale, tire building and earthen systems. Field examples will demonstrate many different technologies. Concepts will relate these structures to emerging appropriate architecture issues: integrated technologies, material sustainability and recycling in construction. (F,Sp)
- ARCH278 Building Science** 4
Prerequisite: None
 Building science is used to examine how buildings work. The concept of systems integration is studied from the perspective of the building and its occupants in their environmental context. Computer assisted calculation of heat loss, passive solar design and economic analysis will be covered. Communication and analytic skills will be developed through classroom activities and research. (F,Sp)
- ARCH283 Materials of Construction** 4
Prerequisite: None
Recommended: ARCH100 or equivalent
 This course consists of the evaluation of the various characteristics of all materials commonly used in residential and light commercial structures. Students will develop a sensitivity to the use of building products based on a knowledge of their properties, limitations, and availability. (F,Sp)

ARCH295 Architectural Independent Study 1-4

Prerequisite: Department Approval

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)

ARTS - Art, Design and Multimedia

ARTS102 Design & Communication 3

Prerequisite: Reading Level 5 and Writing Level 2

Recommended: Computer experience

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, color, still, and time-based media. (F,Sp,Su)

ARTS103 3-Dimensional Design 3

Prerequisite: Minimum 2.0 in (ARTS102 or IMAG112)

Line, shape, form, value, color, and texture are explored using a variety of three-dimensional materials and applying principles and elements of design. (F,Sp)

ARTS105 Adobe Photoshop for Non-Majors 2

Prerequisite: None

Recommended: Computer experience

This course is designed to give non-majors an introduction to the Adobe Photoshop 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)

ARTS110 Special Topics in Fine Arts 1

Prerequisite: None

This course offers students the opportunity to learn new art techniques, skills and/or styles. These topics are open to students of all skill levels. Specific topics will vary by semester; check semester schedule book for topics to be offered. (F,Sp)

ARTS114 Oriental Watercolor 2

Prerequisite: None

An introduction to the materials and techniques that are unique to Oriental watercolor and calligraphy. Examines rice paper characteristics and degrees of paper weight; brushes and tools; calligraphy; and inscriptions and seals. Students will also learn the underlying philosophy behind the practice of Oriental watercolor. (F,Sp)

ARTS131 Drawing I 3

Prerequisite: Minimum 2.0 in (ARTS102 or FASH110 or IMAG112 or INTR110) or concurrently

An introductory studio course using a variety of drawing media and methods that introduces both realism and abstraction. Fundamental elements of drawing, concepts of perception, and exploring properties of various media are stressed. Basic principles of one- and two-point perspective are covered. (F,Sp,Su)

ARTS132 Figure Drawing 3

Prerequisite: Minimum 2.5 in ARTS131

Basic concepts, approaches, and techniques involving drawing the human figure, using materials such as pencil, ink, charcoal, and conte crayon. Live models will be used. (F,Sp,Su)

ARTS133 Surface Anatomy for Artists 3

Prerequisite: Minimum 2.5 in ARTS132 or concurrently

This course is designed specifically for the visual artist. Emphasis will be on identifying and visually representing the effects that the skeletal and muscular systems and body type have on human surface anatomy. Live models will be used. This course cannot be taken as a Science Department anatomy requirement. (F,Sp,Su)

ARTS136 Figure Sculpture 4

Prerequisite: Minimum 2.0 in ARTS132

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)

ARTS137 Perspective Drawing 2

Prerequisite: Minimum 2.0 in ARTS131

This course provides further development of the drawing process by presenting expanded perspective principles and quality of light with an emphasis on visualization. (F,Sp,Su)

ARTS140 Printmaking I 4

Prerequisite: Minimum 2.0 in ARTS102 or concurrently

An introduction to the various printmaking techniques, tools, and vocabulary of the printmaker. Includes etching, collagraph, monoprinting, and linoleum cut. (F,Sp)

ARTS141 Printmaking II 4

Prerequisite: Minimum 2.0 in ARTS140

Students expand on processes and concepts introduced in Printmaking (ARTS140). Emphasizes refining technical skills and conceptual development. (F,Sp)

ARTS145 Screen Printing I 4

Prerequisite: Minimum 2.0 in ARTS102 or concurrently

An introduction to basic silkscreen stencil processes with an emphasis on registration techniques. Includes constructing a frame and making a photo-transparency. (F,Sp)

ARTS146 Screen Printing II 4

Prerequisite: Minimum 2.0 in ARTS145

Students expand on processes and concepts introduced in Screen Printing I (ARTS145). Includes an in-depth study of photographic processes in combination with paper, cut film, and block-out stencils. (F,Sp)

ARTS151 Computer Graphics/Illustration 3

Prerequisite: Minimum 2.5 in ARTS131

Recommended: Windows 98/2000/XP experience

An introduction to digital painting and illustration. Integrates foundational drawing and design skills with the creation and manipulation of digital art media. This course prepares students in advanced image creation for all ARTS curricula. (Su)

ARTS153 Conceptual Illustration 3

Prerequisite: Minimum 2.0 in ARTS131

This is an introductory level course in visual thinking, conceptual drawing and rendering, creative processes and studio practices. Students will learn to translate verbal ideas (concepts) into visual information in the form of drawings and marker renderings. (F,Sp)

ARTS162 Typography 3

Prerequisite: Minimum 2.0 in (ARTS102 or IMAG112) or concurrently

An introduction to the use of type in visual communication with an emphasis on creativity and problem-solving. Students will be introduced to the tools and materials of manual and vector-based digital type techniques necessary to professionally use type. (F,Sp,Su)

ARTS171 Computer Graphics/Digital Imaging 3

Prerequisite: Minimum 2.0 in (ARTS102 or FASH110 or IMAG112 or INTR110) or concurrently

An introduction to computer manipulation of photographic images. Topics covered include resolution, scanning, output, file formats, retouching, color correction, and compositing. (F,Sp,Su)

<p>ARTS173 Computer Graphics/Web Design 3</p> <p>Prerequisite: Minimum 2.5 in ARTS171 or concurrently</p> <p>A course in the effective visual presentation of ideas for the web from concept and design to structure, preparation and production. Focus on the elements and principles of design as applied to layout, graphics and animation. (F,Sp,Su)</p>	<p>ARTS216 Humorous Illustration I 3</p> <p>Prerequisite: Minimum 2.5 in ARTS132</p> <p>Basic humorous illustration/cartooning foundations are demonstrated. Exercises are given on cartooning heads, animals, objects, and drawing techniques. Graded projects include a caricature utilizing a drawing technique. Originality and imagination are emphasized. (F,Sp,Su)</p>
<p>ARTS175 Electronic Design 3</p> <p>Prerequisite: Minimum 2.0 in (ARTS102 and ARTS162)</p> <p>Recommended: Knowledge of Mac OSX and basic keyboarding skills</p> <p>An introduction to page layout software and vector-based illustration software programs utilizing the Macintosh computer. Emphasis is on using electronic publishing applications for design. (F,Sp,Su)</p>	<p>ARTS217 Humorous Illustration II 3</p> <p>Prerequisite: Minimum 2.5 in ARTS216</p> <p>A continuation of Humorous Illustration I designed to expand the student's humorous illustration skills through a variety of black-and-white and color projects. Projects will concentrate on the various commercial applications of humorous illustration. (Sp)</p>
<p>ARTS190 Matting and Framing Techniques 1</p> <p>Prerequisite: None</p> <p>An overview of the various materials and techniques for displaying and exhibiting artwork. Students will apply demonstrated techniques to matting and framing their work. (F,Sp)</p>	<p>ARTS221 Airbrush Techniques I 4</p> <p>Prerequisite: None</p> <p>Introduction to the operation and techniques of the airbrush in shading and creating textures in both black and white and color. Assignments include using various masking methods and freehand techniques. (F,Sp,Su)</p>
<p>ARTS195 Employment & Business Issues for Artists 1</p> <p>Prerequisite: None</p> <p>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)</p>	<p>ARTS222 Airbrush Techniques II 4</p> <p>Prerequisite: Minimum 2.0 in ARTS221 or (minimum 2.0 in ARTS131 or concurrently)</p> <p>A continuation of Airbrush Techniques I (ARTS221) with an emphasis on more complex airbrushing problems including portrait rendering and painting of non-metallic surfaces. A variety of surfaces will be used including fabric, leather, fingernails, and pastries. (F,Sp,Su)</p>
<p>ARTS200 Painting I 4</p> <p>Prerequisite: Minimum 2.0 in (ARTS102 and ARTS131)</p> <p>An introduction to oil and acrylic painting concepts in the Western tradition, ranging from Renaissance to Contemporary. Examines basic materials, tools, techniques, and modes of expression. (F,Sp,Su)</p>	<p>ARTS225 Comic Book Illustration 3</p> <p>Prerequisite: Minimum 2.5 in ARTS216</p> <p>This class is the foundation course for producing Sequential Art. It deals with techniques applicable in the design and rendering of artwork used in contemporary illustrated publications such as comic books, comic strips, graphic novels, and editorial cartoons. (F,Sp)</p>
<p>ARTS201 Painting II 4</p> <p>Prerequisite: Minimum 2.0 in ARTS200</p> <p>A continuation of Painting I (ARTS200) emphasizing more advanced techniques and increasingly complex problems in painting. A variety of media, techniques, and approaches is encouraged. (F,Sp,Su)</p>	<p>ARTS226 Storyboards 3</p> <p>Prerequisite: Minimum 2.5 in ARTS225</p> <p>Storyboards are the standard method of translating visual information for animation, video and film. This course teaches visual thinking and techniques for designing and drawing professional storyboards. (F,Sp)</p>
<p>ARTS203 Figure Painting 4</p> <p>Prerequisite: Minimum 2.0 in (ARTS102 and ARTS132)</p> <p>A studio course in the human figure using various media such as oil paint, watercolor, acrylic paint, and pastel. Live models will be used. (F,Sp,Su)</p>	<p>ARTS228 Advanced Digital Imaging 3</p> <p>Prerequisite: Minimum 2.5 in ARTS171</p> <p>An advanced level study in the manipulation and processing of digital photographic images. Emphasis is on professional scanning, manipulation and output of digital images using available software products. Instruction includes preparation of images for prepress (hardcopy) and soft display (Multimedia, CD-ROM and World Wide Web). (F,Sp,Su)</p>
<p>ARTS204 Watercolor I 4</p> <p>Prerequisite: Minimum 2.0 in (ARTS102 and ARTS131)</p> <p>An introduction to the art of transparent watercolor. Examines paper characteristics, degrees of wetness, brushes and tools, and various techniques in producing watercolor art works. (F,Sp)</p>	<p>ARTS229 Computer Graphics/Advanced Web Design 3</p> <p>Prerequisite: Minimum 2.5 in ARTS173 and (minimum 2.5 in ARTS228 or concurrently)</p> <p>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)</p>
<p>ARTS205 Watercolor II 4</p> <p>Prerequisite: Minimum 2.0 in ARTS204</p> <p>A continuation of Watercolor I (ARTS204) emphasizing more advanced techniques and increasingly complex problems using watercolor. (F,Sp)</p>	<p>ARTS231 Computer Graphics/Advanced Illustration 3</p> <p>Prerequisite: Minimum 2.5 in ARTS228</p> <p>An advanced digital illustration course with an emphasis on problem-solving and integration of multiple software for purposed output. (F,Sp,Su)</p>
<p>ARTS206 Advanced Watercolor 4</p> <p>Prerequisite: Minimum 2.0 in ARTS205</p> <p>An opportunity for the advanced student to continue with his or her personal exploration and development of watercolor skills under the guidance of an instructor. (F,Sp)</p>	<p>ARTS232 Computer Graphics/2-D Animation 3</p> <p>Prerequisite: Minimum 2.5 in (ARTS216 and ARTS151 and ARTS171)</p> <p>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,Sp)</p>
<p>ARTS213 Illustration Fundamentals 3</p> <p>Prerequisite: Minimum 2.5 in ARTS132</p> <p>Illustrative techniques are utilized to prepare working sketches and convert them to finished illustrations. Emphasis is placed on sound Draftsmanship and solving simple graphic problems through illustration. (F,Sp)</p>	

- ARTS234 Comp Graphics/3-D Animation I** 4
Prerequisite: Minimum 2.5 in (ARTS151 and ARTS171)
 An introduction of 3-D solid modeling, rendering techniques and animation on a desktop graphics system. Introduction of the principles of designing for video. (F,Sp)
- ARTS235 Computer Graphics/3-D Animation II** 4
Prerequisite: Minimum 2.5 in ARTS234
 A continuation of 3-D Animation I (ARTS234). Emphasis on creation of more complex models and animations. (F,Sp)
- ARTS236 Computer Graphics and Production** 3
Prerequisite: Minimum 2.5 in (ARTS229 or ARTS235) and ARTS228
 This course covers analysis, design, and development of a completed electronic project such as a CD, videotape, or WWW publishing. Techniques include recording and editing of two- and three-dimensional graphics, animation, video, audio, and imaging. Students implement theory and practice for designing, producing, and disseminating multimedia at planning pre-production, managing production, and post-production levels. (F,Sp)
- ARTS237 Computer Graphics/Flash Game Design** 3
Prerequisite: Minimum 2.5 in ARTS229 and minimum 2.0 in (CITP150 or CISB119 or CISB179)
 This course introduces students to the fundamental programming concepts used to create 2D games. Students will learn what makes a good game, how to design it, and how to program it for web delivery using ActionScript, the object-oriented scripting language in Flash. (F,Sp)
- ARTS238 Comps and Animatics** 3
Prerequisite: Minimum 2.5 in ARTS151 and (ARTS232 or ARTS234)
Recommended: Experience with a digital editing software such as Adobe Premiere, Final Cut Pro, or Adobe After Effects
 The purpose of this course is to prepare the student to make comprehensive presentation art for print advertising, illustrated periodicals, storyboards, and animatics. This is an advanced level sequential art and production rendering course. Students will produce artwork using traditional media as well as computer software. (F,Sp)
- ARTS240 Art for Elementary Teachers** 3
Prerequisite: Reading Level 5 and Writing Level 6
Recommended: EDUC201 and EDUC220
 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)
- ARTS242 Digital Video & Audio Effects** 3
Prerequisite: Minimum 2.5 in (ARTS171 and FILM118)
 This course covers the creation of computer graphics effects for compositing, with an emphasis on technical and aesthetic aspects using advanced professional software. Students will produce several projects combining digital video, static images, computer graphics, animation, special effects, and audio. (F,Sp)
- ARTS251 Graphic Design I/Design Basics of Comm** 4
Prerequisite: Minimum 2.5 in ARTS175 or concurrently
 An overview of the designer's role in developing comprehensive designs for clients. Color, paper, and type selection will be emphasized. (F,Sp)
- ARTS252 Graphic Design II/Publication Design** 4
Prerequisite: Minimum 2.5 in ARTS251
 An overview of publication design and the designer's role in the creative organization of typography, photography, and illustration. Emphasis on editorial concept, format, and design considerations. (F,Sp)

- ARTS253 Graphic Design III/Corp ID & Marketing** 4
Prerequisite: Minimum 2.5 in (ARTS252 and MKTG140)
 An advanced collaborative learning course involving corporate image and the design of promotional graphics, both two- and three-dimensional. Utilizes innovative design and media considerations. (F,Sp)
- ARTS257 Computer Prepress Production Tech** 4
Prerequisite: Minimum 2.5 in (ARTS228 or concurrently) and ARTS252
 An overview of digital prepress techniques for computer-generated media, including color separations, output, and digital file preparation. Instruction includes computer system components, printing terminology and processes. The course emphasis is on professional knowledge and accuracy. (F,Sp)
- ARTS261 Topics in Design & Multimedia** 1-3
Prerequisite: Determined by Unit Section
 A study of specific topics affecting the areas of graphic design and multimedia. This course is designed to expose students to the latest theories and practices in the area. Course format may include lectures, discussion, demonstration and hands-on experiences. (F,Sp)
- ARTS267 Advanced Drawing** 3
Prerequisite: Minimum 2.0 in ARTS131
 An advanced drawing course involving more complex problems and techniques in still life, landscape, portraits, and clothed models. Includes further exploration of various materials, including color media and papers, as well as mixed media and experimental techniques. Development of personal style and technique will be emphasized. (Sp)
- ARTS269 The Portfolio** 2
Prerequisite: Department Approval
 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)
- ARTS270 Computer Graphics Independent Study** 3
Prerequisite: Department Approval
 Individual pursuit of special projects not incorporated in regular class offerings. The student must submit a written application detailing his or her project to receive department approval. (F,Sp,Su)
- ARTS272 Printmaking Independent Study** 3
Prerequisite: Department Approval
 Individual pursuit of special projects not incorporated in regular class offerings. The student must submit a written application detailing his or her projects to receive department approval. (F,Sp,Su)
- ARTS276 Art Independent Study** 3
Prerequisite: Department Approval
 Individual pursuit of special projects not incorporated in regular class offerings. The student must submit a written application detailing his or her project to receive department approval. (F,Sp,Su)
- ARTS281 Art Internship** 3
Prerequisite: Department Approval
 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 210 hours in a semester. (F,Sp,Su)
- ARWS - Art Seminars and Workshops**
- ARWS120 Basic Drawing** 1
Prerequisite: None
 An introductory course using a variety of materials including pencil, charcoal, and ink. For non-majors. (F,Sp,Su)

- ARWS131 Intro to Computer Illustration** 1
Prerequisite: None
 A condensed, hands-on introduction to computer graphics, utilizing sophisticated, user-friendly artistic software. This workshop uses Corel Painter on Windows computers. (F,Sp,Su)
- ARWS133 Introduction to Electronic Page Layout** 1
Prerequisite: None
 A condensed hands-on workshop designed to provide the student with a beginning understanding of page layout software utilizing a Macintosh computer. (F,Sp,Su)
- ARWS136 Intro to Adobe Illustrator** 1
Prerequisite: None
 A condensed, hands-on workshop designed to provide the student with a working knowledge of Adobe Illustrator software utilizing a Macintosh computer. Emphasis is on desktop publishing applications. (F,Sp,Su)
- ARWS137 Intro to Adobe Photoshop** 1
Prerequisite: None
 A condensed, hands-on workshop designed to provide the student with a working knowledge of Adobe Photoshop software. Emphasis is on desktop publishing applications. (F,Sp,Su)
- ARWS139 Multi-Media Web Graphics** 1
Prerequisite: None
 A hands-on course designed to provide the student with a working knowledge of multi-media and web page design. Emphasis is on web design issues for artistic, creative and/or visual learners using Macintosh computers and a variety of multi-media/web software. (F,Sp,Su)
- ARWS141 Watercolor Workshop** 1
Prerequisite: None
 A condensed learning experience introducing the student to the art of transparent watercolor. Emphasis is on the use of different papers, degrees of wetness, tools, and techniques. Students will progress to more complex problems as ability develops. (F,Sp,Su)
- ARWS145 Landscape Painting & Drawing** 1
Prerequisite: None
 Emphasis is on the use of color, perspective, and compositional strategies of the landscape. Most sessions spent in the field. All types of media are acceptable. (Su)
- ARWS201 Introduction to Macromedia Dreamweaver** 1
Prerequisite: None
Recommended: Windows 98/2000/XP experience
 A condensed, hands-on workshop designed to provide the student with a beginning knowledge of Macromedia Dreamweaver software for web site design. (F,Sp)
- ARWS203 Introduction to Macromedia Flash** 1
Prerequisite: None
Recommended: Windows 98/2000/XP experience
 A condensed, hands-on workshop designed to provide the student with a beginning knowledge of Macromedia Flash software for web site design. (F,Sp)
- ARWS221 Calligraphy I** 1
Prerequisite: None
 Introduces the student to the art of fine writing using italic pens. Emphasis on hand lettering, surveying different styles and scripts used in early manuscripts, and adaptation to modern use. (F,Sp)
- ARWS224 Cartooning Workshop** 1
Prerequisite: None
 Emphasizes simple but imaginative characterizations and dramatic exaggerated action in a variety of media including pencil, fibertipped pen, and brush and ink. Previous drawing experience helpful. (F,Sp,Su)

ASTR – Astronomy

- ASTR201 Introductory Astronomy** 4
Prerequisite: Reading Level 5 and Writing Level 6 and Math Level 4
 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)

AUTB - Auto Body Collision Repair

- AUTB110 Non-Structural Repair** 3
Prerequisite: Department Approval
Recommended: Evidence of mechanical ability
 This course introduces the student to elementary repairs that are completed in the collision repair industry. This allows the student to become familiar with the collision repair field environment. (F,Sp,Su)
- AUTB112 Advanced Non-Structural Repair** 5
Prerequisite: Minimum 2.0 in (AUTB110 or AUTO141)
Recommended: Evidence of mechanical ability
 This course is for students who are familiar with the auto body repair environment and are ready to begin development of specific marketable repair skills. (F,Sp,Su)
- AUTB114 Auto Body Welding and Cutting** 5
Prerequisite: Department Approval
Recommended: Evidence of mechanical ability
 This course will present welding processes that will be the basis of many of the repair techniques in any advanced auto body course. MIG, TIG, oxyacetylene, resistance spot welding and plasma arc cutting are included. (F,Sp)
- AUTB116 Auto Body Structural Repair** 5
Prerequisite: Minimum 2.0 in (AUTB110 or AUTO141) and (AUTB114 or AUTO143)
 This course addresses the repair of the unibody and vehicle frames which often are damaged by major collision forces. The student will learn damage diagnosis and repair techniques including stress relief, heating, welding and corrosion protection. (F,Sp,Su)
- AUTB118 Introduction to Refinishing** 5
Prerequisite: Department Approval
 The material in this course will form the basis for all automotive refinishing work. Surface preparation, material selection and the use of hand and power tools (including automotive spray guns) will be covered. (F,Sp,Su)
- AUTB120 Advanced Refinishing** 5
Prerequisite: Minimum 2.0 in (AUTB118 or AUTO145)
 This course builds on skills developed in AUTB118. Overall refinishing, spot repairs and color matching with a variety of contemporary color-coat materials will be stressed. (F,Sp,Su)
- AUTB122 Collision Repair Estimating** 3
Prerequisite: Minimum 2.0 in (AUTB112 or AUTO142) and (AUTB116 or AUTO144) and (AUTB120 or AUTO145)
 This course prepares the student for analyzing collision damage, determining what parts are needed for repair, calculating labor allowances and figuring the total cost of repair. Collision repair manuals and computer programs will be used as sources of information. (F,Sp,Su)
- AUTB124 Automotive Plastic Repair** 3
Prerequisite: Minimum 2.0 in (AUTB118 or AUTO145)
 This course covers repair techniques and materials for repairing the wide variety of plastic materials used in the manufacturing of current vehicles. Refinishing repaired parts is also included. (F,Sp,Su)

AUTB160	Advanced Auto Body Repair and Painting	4
Prerequisite: Department Approval		
Recommended: Evidence of mechanical ability		
This course covers the identification and safe operation of various equipment in auto body and refinishing facilities. Students will learn to diagnose problems, make necessary repairs and perform refinishing. Disposal of hazardous wastes will be taught in accordance with applicable laws. This course follows Auto Collision Repair (I-CAR) National standards. (F,Sp,Su)		
AUTB161	Collision Repair Service Lab	6
Prerequisite: Department Approval		
Recommended: Evidence of mechanical ability		
This laboratory course is designed to provide work experience and develop trade-entry skills in general. (F,Sp,Su)		
AUTB162	Collision Repair Internship	3
Prerequisite: Department Approval		
Recommended: Evidence of mechanical ability		
Students are able to earn credits while employed as a technician in collision repair. The program coordinator must approve the training station and working conditions. (F,Sp,Su)		
AUTB163	Auto Body Independent Study	1-4
Prerequisite: Department Approval		
Recommended: Evidence of mechanical ability		
Special research projects and/or individual readings are used to apply personal and professional experience to the academic area of interest. The completion of a written project report is required. (F,Sp,Su)		
AUTB204	Collision Repair Topics 4 Credits	4
Prerequisite: Minimum 2.0 in (AUTB114 or AUTO143) and (AUTB118 or AUTO145)		
A study of various specific topics affecting collision repair and auto body restoration. Course format will include lectures, discussion, demonstration, and hands-on experiences. Specific topics vary by semester; check the semester schedule book for topics to be offered. (F,Sp,Su)		
AUTB205	Collision Repair Topics 5 Credits	5
Prerequisite: Minimum 2.0 in (AUTB114 or AUTO143) and (AUTB118 or AUTO145)		
A study of various specific topics affecting collision repair and auto body restoration. Course format will include lectures, discussion, demonstration, and hands-on experiences. Specific topics vary by semester; check the semester schedule book for topics to be offered. (F,Sp,Su)		
AUTB206	Collision Repair Topics 6 Credits	6
Prerequisite: Minimum 2.0 in (AUTB114 or AUTO143) and (AUTB118 or AUTO145)		
A study of various specific topics affecting collision repair and auto body restoration. Course format will include lectures, discussion, demonstration and hands-on experiences. Specific topics vary by semester; check the semester schedule book for topics to be offered. (F,Sp,Su)		
AUTB210	Topics in Contemporary Collision Repair	.25-8
Prerequisite: Department Approval		
This course offers students the opportunity to learn new or advanced skills in contemporary collision repair issues. Specific content may vary with each offering and will be related to the Collision Repair Program and profession. (F,Sp,Su)		
AUTB270	MIG Welding Test Preparation	.25
Prerequisite: Department Approval and registration for I-CAR MIG Welding Test		
This course will provide instruction and practice to prepare for the I-CAR (Inter-Industry Conference on Auto Collision Repair) MIG welding test. (F,Sp,Su)		

AUTO – Automotive		
AUTO100	Automotive Service I	3
Prerequisite: Reading Level 3 and Writing Level 2 and Math Level 3		
This course is intended to provide the student with an extensive orientation to an automotive repair facility while developing tool and equipment usage skills needed to advance in the automotive repair field. (F,Sp,Su)		
AUTO110	Automotive Electrical Theory	5
Prerequisite: Minimum 2.0 in AUTO100 or concurrently		
This course covers basic electron theory and how circuits work. Students will learn to access wiring diagrams, diagnose malfunctioning circuits in vehicles, and repair the malfunctions safely and according to National Automotive Technicians Education Foundation (NATEF) standards. (F,Sp)		
AUTO120	Automotive Drive Train	3
Prerequisite: Minimum 2.0 in AUTO100 or Concurrently		
This course covers manual transmissions/transaxles, differentials and four-wheel drive components. Students will learn to diagnose, disassemble, inspect and reassemble these components according to National Automotive Technicians Education Foundation (NATEF) standards. (F,Sp)		
AUTO121	Automatic Transmissions I	5
Prerequisite: Minimum 2.0 in AUTO110 or concurrently		
Course covers hydraulic and mechanical principles including diagnosis, removal, disassembly, inspection, and repair of automatic transmissions/transaxles according to National Automotive Technicians Education Foundation (NATEF) standards. (F,Sp)		
AUTO122	Automatic Transmissions II	3
Prerequisite: Minimum 2.0 in AUTO121		
This course expands on knowledge obtained in AUTO121. Topics include diagnosis, disassembly, inspection, and reassembly of automatic transmissions/transaxles. Students will gain knowledge of three additional transmissions/transaxles in this class. All aspects of this course follow National Automotive Technicians Education Foundation (NATEF) standards. (F,Sp)		
AUTO130	Automotive Engines	3
Prerequisite: Minimum 2.0 in AUTO110 or concurrently		
This course covers the disassembly, inspection (using specialized tools and measuring equipment), repair, and reassembly of an automotive engine according to engine manufacturer standards and National Automotive Technicians Education Foundation (NATEF) standards. (F,Sp,Su)		
AUTO133	Small Engine Repair	3
Prerequisite: None		
This course uses the theory of operation for "small engines" (lawn mowers, outboard motors, chain saws, and other engines up to 18 horsepower) to diagnose problems in operation, repair or overhaul defective components, and make engines operate according to manufacturer standards. (F,Sp,Su)		
AUTO134	Light Duty Diesel Engines	3
Prerequisite: Minimum 2.0 in AUTO100 or concurrently		
This course covers the operation of a light duty diesel engine, diagnosis and repair of mechanical and electronic fuel injection systems, air induction and exhaust systems diagnosis and repair, and general engine diagnosis according to the engine manufacturer standards. (F,Sp,Su)		
AUTO140	Automotive Brakes	3
Prerequisite: Minimum 2.0 in AUTO110 or concurrently		
This course covers the diagnosis, service and repair of disc and drum standard anti-lock brake system problems according to National Automotive Technicians Education Foundation (NATEF) and manufacturer standards. (F,Sp,Su)		

AUTO150 Automotive Steering & Suspension 3
Prerequisite: Minimum 2.0 in AUTO100 or concurrently
 This course covers automotive front end alignments and how steering and suspension systems work. Students will diagnose, repair and align steering and suspension systems according to National Automotive Technicians Education Foundation (NATEF) standards. (F,Sp)

AUTO160 Automotive Heating & Air Conditioning 3
Prerequisite: Minimum 2.0 in AUTO110 or HERT101
 Course covers the theory, diagnosis, recovery and recycling of Freon and the repair of automotive air conditioning systems according to National Automotive Technicians Education Foundation (NATEF) standards. (F,Sp,Su)

AUTO190 Automotive Special Topics 1
Prerequisite: None
 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)

AUTO191 Automotive Workshop Series .25
Prerequisite: None
 The Automotive Workshop Series will feature topics related to the automotive industry. The workshop format allows for hands-on participation in the particular topic area. Participants can explore topics from ABS Diagnosis to 4-Gas Analysis. Specific topics vary each semester; check the semester schedule book for topics to be offered. (F,Sp,Su)

AUTO192 Automotive Workshop Series .5
Prerequisite: None
 The Automotive Workshop Series will feature topics related to the automotive industry. The workshop format allows for hands-on participation on the particular topic area. Participants can explore topics from ABS Diagnosis to 4-Gas Analysis. Topics will vary by the semester; check the semester schedule book for topics to be covered. (F,Sp,Su)

AUTO215 Engine Performance & Tune-Up 5
Prerequisite: Minimum 2.0 in AUTO130
 Students will obtain knowledge on ignition, fuel and emission systems, and will be introduced to computer controls. Topics include the diagnosis, removal, inspection, repair and reassembly of these systems based on National Automotive Technicians Education Foundation (NATEF) standards. (F,Sp)

AUTO225 Automotive Computers 5
Prerequisite: Minimum 2.0 in AUTO215
 This course covers automotive engine computer systems, ignition systems, emission systems, exhaust gas treatment systems, air induction, exhaust gas recirculation and early fuel evaporation systems. Students will diagnose, remove, inspect, repair and replace these systems according to National Association for Technical Education Foundation (NATEF) standards. (F,Sp)

AUTO235 Advanced Computer/ABS Brake Systems 3
Prerequisite: Minimum 2.0 in (AUTO140 and AUTO225)
 This course covers automotive anti-lock braking systems and advanced computer systems, including the theory and how these systems function. Students will learn to diagnose, disassemble, and repair these systems according to the standards of the National Automotive Technician Education Foundation. (F,Sp)

AUTO260 Introduction to Alternative Fuels 2
Prerequisite: Minimum 2.0 in (AUTO130 and AUTO225)
 Students will use various sources in the alternative fueled vehicle industry to learn what alternative fuels are available. Students will closely examine the technologies involved when using compressed natural gas (CNG) as a fuel for vehicles. (F,Sp)

AUTO261 Alternative Fuels - CNG 3
Prerequisite: Minimum 2.0 in AUTO260
 This course is designed to help prepare the student to enter the auto repair and service industry. It is an intensive study covering the use of compressed natural gas (CNG) on automobiles and light trucks. Theory, application, installation, diagnosis and safety regulations pertaining to the use of CNG will be covered. (F,Sp)

AUTO262 Alternative Fuels-Propane (LPG) 3
Prerequisite: Minimum 2.0 in AUTO260
 This course is an intensive study covering the use of propane as fuel for automobiles and light trucks. Theory, application, installation, diagnosis and safety regulations applicable to LPG vehicles will be covered. (F,Sp)

AUTO280 Automotive Service Laboratory 4-6
Prerequisite: Department Approval
 This laboratory course is designed to provide work experience and develop trade-entry skills in general and light-line repair. (F,Sp)

AUTO285 Automotive Internship 3
Prerequisite: Department Approval
 Students are able to earn credits while employed as a technician in auto mechanics or auto body. The program coordinator must approve the training station and working conditions. (F,Sp)

AUTO286 Automotive Independent Study 1-4
Prerequisite: Department Approval
 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. (Su)

AVAF - Aviation Airframe Maintenance

AVAF125 Aircraft Systems I 2
Prerequisite: Department Approval
 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)

AVAF126 Aircraft Systems II 6
Prerequisite: Department Approval
 The study, analysis and repair of aircraft landing gear and brake systems and their related warning systems. Includes the study, inspection, servicing and repair of aircraft hydraulic and pneumatic systems and their related components. (Sp)

AVAF127 Aircraft Systems III 3
Prerequisite: Department Approval
 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)

AVAF130 Avionics Airframe Applications 2
Prerequisite: Department Approval
 This course covers airframe related subjects necessary for an avionics technician. Topics include aircraft structure principles, installation procedures, material and fastener identification and antenna installation procedures. Students will work with sheet metal and composite structures. (F)

AVAF134 Aircraft Instruments 2
Prerequisite: Department Approval
 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 is included. (Su)

3 AVAF208 Aircraft Structures I 4
Prerequisite: Department Approval
 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)

3 AVAF209 Aircraft Structures II 4
Prerequisite: Department Approval
 Covers assembly and rigging of fixed wing and rotary wing aircraft control structures. 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)

4-6 AVAF210 Aircraft Structures III 4
Prerequisite: Department Approval
 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,Sp)

3 AVAF211 Aircraft Electrical I 4
Prerequisite: Department Approval
 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,Su)

1-4 AVAF212 Aircraft Electrical II 4
Prerequisite: Department Approval
 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)

2 AVAF246 National Airframe Certif Procedures 1
Prerequisite: Department Approval
 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)

AVEL - Aviation Electronics

3 AVEL150 Avionics Test Equipment 2
Prerequisite: None
Co-requisite Course(s): AVEL151
 Covers the operational characteristics and operation of basic and specialized test equipment found in the aviation maintenance industry. Students will develop an understanding of maintenance manual organization for electronic test equipment and specialized aviation electronic equipment. Equipment covered includes multimeters, oscilloscopes, power supplies, multifunction test generators, wattmeters, time domain reflectometers and spectrum analyzers. (Sp)

2 AVEL151 Avionics Test Equipment Lab 1
Prerequisite: None
Co-requisite Course(s): AVEL150
 Subjects covered in AVEL150 will be put to practical use in this laboratory. The student builds and calibrates his/her own digital volt ohm meter. The student will construct aircraft wiring harnesses and complete soldering exercises. Common electronic and specialized avionics test equipment are used in the lab. (Sp)

2 AVEL190 Receiver Troubleshooting 2
Prerequisite: None
Co-requisite Course(s): AVEL191
 Familiarization with basic superheterodyne receiver principles and operation using block diagrams and component level theory. Various logical troubleshooting techniques are discussed. (Su)

1 AVEL191 Receiver Troubleshooting Lab 1
Prerequisite: None
Co-requisite Course(s): AVEL190
 Familiarization with basic superheterodyne receiver principles and operation. Various logical troubleshooting techniques will be put to practical use in the laboratory. Students construct, align and troubleshoot an AM superheterodyne receiver. (Su)

2 AVEL200 Flight Line Testing 2
Prerequisite: None
 A study of the avionics systems found aboard modern aircraft focusing on the flight line testing of such systems as VHF communications, VHF navigation, ADF, radar, autopilots and others. (F,Su)

1 AVEL201 Flight Line Testing Lab 1
Prerequisite: None
 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, autopilots and others. (F,Su)

3 AVEL220 Avionics Systems I 3
Prerequisite: None
Co-requisite Course(s): AVEL221
 A study of the communications, navigation and other systems found in modern aircraft, focusing on component level repair and testing to manufacturer's specifications. Students will have the opportunity to obtain factory certifications for the repair of various systems. (F)

2 AVEL221 Avionics Systems I Lab 2
Prerequisite: None
Co-requisite Course(s): AVEL220
 A hands-on study of the communications, navigation and other systems found in modern aircraft, focusing on component level repair and testing to manufacturer's specifications. (F)

1 AVEL225 FCC License Preparation 1
Prerequisite: None
 Federal Communication Commission rules and regulations are discussed as they pertain to the avionics technician. Elements 1 and 3 of the FCC General Radiotelephone Operator's License examination are presented to prepare the student for successful completion of the actual examination. (F)

1 AVEL226 FAA Rules/Regs Avionics Techs 1
Prerequisite: None
 This course covers various Federal Aviation Administration rules and regulations as they pertain to avionics shop operations and the avionics technician. (F)

3 AVEL230 Avionics Systems II 3
Prerequisite: Minimum 2.0 in (AVEL190 and AVEL200)
Co-requisite Course(s): AVEL231
 A study of navigation, microwave pulse equipment and other systems found in modern aircraft, focusing on component level repair and testing to manufacturers' specifications. Students will have the opportunity to obtain factory certification of the repair of various systems. (Sp)

2 AVEL231 Avionics Systems II Lab 2
Prerequisite: Minimum 2.0 in AVEL201
Co-requisite Course(s): AVEL230
 A hands-on study of navigation, microwave pulse equipment and other systems found in modern aircraft, focusing on component level repair and testing to manufacturers' specifications. (Sp)

AVEL297 Avionics Internship 2
Prerequisite: Minimum 2.0 in AVEL151
Restriction: Avionics and Avionics Installation Majors
 Minimum 128 hours per semester as an aviation electronics intern. Part-time occupational internship in avionics technology. The internships will be at certified repair stations as established by the intern coordinator. (Su)

AVFT - Aviation Flight Training

AVFT201 Flight Training I 7.5
Prerequisite: Reading Level 5 and Department Approval
 Provides in-flight and ground training in a single-engine, non-complex aircraft culminating in aeronautical knowledge, experience and skill in accordance with the Federal Aviation Administration Private Pilot Practical Test standards. (F,Sp)

AVFT202 Flight Training II 5
Prerequisite: Reading Level 5 and Department Approval
 Provides in-flight and ground training in a single-engine, non-complex airplane; developing the student's instrument, night and cross-country flying skills. (F,Sp,Su)

AVFT203 Flight Training III 5.5
Prerequisite: Reading Level 5 and Department Approval
 Provides instruction in a complex, single-engine airplane; developing the student's skill at Instrument Flight Rules (IFR) navigation and Air Traffic Control (ATC) procedures in en route and terminal environments. (F,Sp,Su)

AVFT204 Flight Training IV 5
Prerequisite: Reading Level 5 and Department Approval
 Provides in-flight and ground instruction in a complex airplane; developing student skills in Instrument Flight Rules (IFR) navigation and Air Traffic Control (ATC) procedures in en route and terminal environments. Students will develop skills at performing commercial proficiency flight maneuvers. Upon completion of this course, the student will take the practical test for commercial/instrument pilot airplane. (F,Sp,Su)

AVFT205 CFI Flight Training 3.5
Prerequisite: Reading Level 5 and Department Approval
 Provides in-flight and ground training in common primary training and complex airplanes. The student will develop instructional skills necessary to train pilots for certification in accordance with Federal Aviation Regulations. The student will take his/her practical test for Certified Flight Instructor Airplane upon completion. (F,Sp,Su)

AVFT206 Instrument Instructor Flight Training 2.5
Prerequisite: Reading Level 5 and Department Approval
 Provides in-flight and ground training in a non-complex aircraft. The student will develop instructional skills necessary to train pilots for the instrument rating. The student will take the practical test for the instrument flight instructor rating airplane upon completion of this course. (F,Sp,Su)

AVFT207 Multi-Engine Flight Training 1.5
Prerequisite: Reading Level 5 and Department Approval
 Provides in-flight and ground instruction in a multi-engine airplane. The student will take the multi-engine practical test upon completion of this course. (F,Sp,Su)

AVFT208 Multi-Engine Instructor Flight Training 1.5
Prerequisite: Reading Level 5 and Department Approval
 Provides in-flight and ground instruction in a multi-engine airplane. The student will develop instructional skills necessary to train students for the multi-engine practical test. The student will take the multi-engine instructor practical test upon completion of this course. (F,Sp,Su)

AVFT220 Aviation Law 3
Prerequisite: None
Recommended: Reading Level 5 and completion of a Core Writing course
 In this course we will examine various aspects of the law and how that law is applied in an aviation environment. This will include a review of tort, insurance, contract, and administrative law as well as government liability, international treaties and national security laws as they are applied in the aviation industry. (F)

AVGM - Aviation General Maintenance

AVGM111 Aviation General I 4
Prerequisite: Department Approval
 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,Sp)

AVGM112 Aviation General II 6
Prerequisite: Department Approval
 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,Sp)

AVGM113 Aviation General III 4
Prerequisite: Department Approval
 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,Sp)

AVGM114 Materials and Processes 5
Prerequisite: Department Approval
 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,Sp)

AVGS - Aviation Ground School

AVGS101 Private Pilot Ground School 4
Prerequisite: Reading Level 5
Recommended: SDEV124
 This course prepares the student for successful completion of the Federal Aviation Administration private pilot written examination. The student will learn basic aerodynamic theory, principles of aircraft/powerplant operation and performance, Federal Aviation Regulations, air traffic control procedures, meteorology, navigation and flight physiology. (F,Sp,Su)

AVGS121 Aviation Meteorology 4
Prerequisite: None
Recommended: SDEV124
 This course focuses on the application of meteorological theory to the practical aspects of flight planning. The student will understand basic concepts of weather theory, obtain weather briefings by using a personal computer, interpret domestic and international weather charts, forecasts and reports, (ICAO) and make appropriate "go/no go" decisions. (Sp)

AVGS211 Instrument Pilot Ground School 4
Prerequisite: Reading Level 5
Recommended: AVGS121 and SDEV124
 This course prepares the student for successful completion of the FAA instrument rating written examination. The student will learn operation and interpretation of the flight instruments; the use of en route, approach, SID and STAR charts for navigation; air traffic control procedures and meteorology as it applies to the instrument pilot. (F,Sp,Su)

AVGS221 Commercial Pilot Ground School 4**Prerequisite:** Reading Level 5**Recommended:** AVGS121 and SDEV124

This course prepares the student for the successful completion of the FAA commercial pilot written examination. The student will develop knowledge of aerodynamics, high performance aircraft systems, aircraft performance, Federal Aviation Regulations, navigation and flight planning, and meteorology as it applies to commercial pilots. (F)

AVGS222 Flight Instructor Ground School 4**Prerequisite:** Reading Level 5**Recommended:** AVGS121

This course will prepare the student for the successful completion of the FAA Fundamentals of Instructing and the Flight Instructor-Airplane and Advanced Ground Instructor written exams. The student will develop a flight training syllabus with lesson plans for use in training pilots. (Sp)

AVIR - Aviation Instrument Repair**AVIR140 Avionics Instruments 1****Prerequisite:** None

This course provides familiarization with common aircraft instruments to include principles of operation, interpretation of indications, testing, proper handling, repair and calibration. Students will learn the proper use of pitot-static, digital encoder and instrument repair and test equipment. (F)

AVPP - Aviation Powerplant Maintenance**AVPP241 Reciprocating Engine 8****Prerequisite:** Department Approval

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)

AVPP251 Reciprocating Engine Systems 2**Prerequisite:** Department Approval

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. (F,Sp)

AVPP253 Reciprocating Ignition Systems 5**Prerequisite:** Department Approval

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. (F,Sp)

AVPP255 Reciprocating Induction Systems 4**Prerequisite:** Department Approval

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. (F,Sp)

AVPP257 Aircraft Propeller Systems 4**Prerequisite:** Department Approval

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. (F,Sp)

AVPP259 Turbine Engine I 4**Prerequisite:** Department Approval

Covers the theory of operation and design of the varied turbine engine and turbine-driven auxiliary power unit types, including the induction and cooling systems of each. (F,Sp)

AVPP261 Turbine Engine II 4**Prerequisite:** Department Approval

Covers inspection, checking, servicing, repair, removal, installation and troubleshooting of turbine engines and systems. Detailed study of the lubrication system and inspection procedures to insure conformity with FAA specifications and standards are included. (Sp,Su)

AVPP263 Turbine Engine Systems 2**Prerequisite:** Department Approval

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)

AVPP265 Powerplant Instruments 2**Prerequisite:** Department Approval

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. (Sp,Su)

AVPP267 National Powerplant Certif Procedures 1**Prerequisite:** Department Approval

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. (Sp,Su)

AVST - Aviation Simulator Training**AVST211 Flight Simulator I 1****Prerequisite:** Reading Level 5 and Department Approval

Provides flight simulator and ground training to develop student's basic attitude instrument flying skills. Course is intended to be taken concurrently with AVFT201. (F,Sp,Su)

AVST212 Flight Simulator II 1**Prerequisite:** Reading Level 5 and Department Approval

Provides flight simulator and ground training to develop student's skills in IFR navigation and ATC procedures in terminal environment. This course is intended to be taken concurrently with AVFT202. (F,Sp,Su)

AVST213 Flight Simulator III 1**Prerequisite:** Reading Level 5 and Department Approval

Provides flight simulator and ground training to further develop the student's skills at IFR navigation and ATC procedures in en route and terminal environments. This course is intended to be taken concurrently with AVFT203. (F,Sp,Su)

AVST214 Flight Simulator IV 1**Prerequisite:** Reading Level 5 and Department Approval

Provides flight simulator and ground training to develop student skills to the level of instrument rating practical test standards. Student will perform simulated flights in en route and terminal environments, including compliance with emergency procedures. This course is intended to be taken concurrently with AVFT204. (F,Sp,Su)

AVST215 Multi-Engine Flight Simulator 1**Prerequisite:** Reading Level 5 and Department Approval

Provides flight simulator training culminating in aeronautical knowledge and maneuvering skills in support of advanced visual and instrument flight training in multi-engine aircraft. Intended for the Flightmatic multi-engine simulator. (F,Sp,Su)

AVST216 Airline Transport Pilot Prep 1**Prerequisite:** Reading Level 5 and Department Approval**Recommended:** AVFT207

This course prepares students for initial flight training at a regional or major airline and is centered on the use of standard industry procedures. Upon successful completion of this course and completion of all of the experience requirements required by federal aviation regulations, students will be eligible to take the Airline Transport Pilot check ride. (F,Sp,Su)

BIOL - Biology**BIOL120 Environmental Science 4****Prerequisite:** Reading Level 5 and Writing Level 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)

BIOL121 Biological Foundations for Physiology 4**Prerequisite:** Reading Level 5 and Writing Level 6 and Math Level 4**Recommended:** CHEM120 or High School Chemistry

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 BIOL202. (F,Sp,Su)

BIOL127 Cell Biology 4**Prerequisite:** Reading Level 5 and Writing Level 6 and Math Level 4**Recommended:** CHEM120 or High School Chemistry

Lecture topics include chemistry of carbohydrates, lipids and proteins; structure and function of prokaryotic and eukaryotic cells; biochemistry of respiration and photosynthesis; and genetics and the regulation of gene expression. Laboratory stresses techniques of cell and molecular biology as well as genetics. (F,Sp,Su)

BIOL128 Organismal Biology 4**Prerequisite:** Reading Level 5 and Writing Level 6 and Math Level 4

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)

BIOL145 Introductory Anatomy and Physiology 4**Prerequisite:** Reading Level 5 and Writing Level 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)

BIOL201 Human Anatomy 4**Prerequisite:** (Minimum 2.0 in BIOL121 or BIOL127 or CHEM120 or passing score on Health Biology Proficiency Test) and Reading Level 5 and Writing Level 6 and Math Level 4

A study of the anatomy of the human body that includes the structures of the skeletal, muscular, nervous, sensory, circulatory, respiratory, digestive, excretory, endocrine, and reproductive systems. Designed for students preparing for health occupations such as nursing, radiologic technology, and dental hygiene. (F,Sp,Su)

BIOL202 Human Physiology 4**Prerequisite:** Minimum 2.0 in BIOL201 and Reading Level 5 and Writing Level 6 and Math Level 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)

BIOL203 Microbiology 3**Prerequisite:** (Minimum 2.0 in BIOL121 or BIOL127 or CHEM120 or passing score on Health Biology Proficiency Test) and Reading Level 5 and Writing Level 6 and Math Level 4

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)

BIOL204 Microbiology Laboratory 1**Prerequisite:** Minimum 2.0 in BIOL203 or concurrently

Basic laboratory principles of microbiology for allied health students. Emphasis on microscopy, aseptic cultivation of microorganisms, differential staining, assays of antimicrobial agents, and diagnostic laboratory techniques. Students will identify unknown bacterial species and examine medically important parasites. (F,Sp,Su)

BIOL210 Natural Resource Conservation 4**Prerequisite:** Reading Level 5 and Writing Level 6 and Math Level 4

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,Su)

BIOL229 Nature Study for Educators 4**Prerequisite:** Reading Level 5 and Writing Level 6 and Math Level 4**Recommended:** ISCH122

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)

BIOL260 Botany 4**Prerequisite:** Reading Level 5 and Writing Level 6**Recommended:** One semester of college-level biology

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)

BIOL265 Zoology 4**Prerequisite:** Reading Level 5 and Writing Level 6 and Math Level 4**Recommended:** One semester of college-level biology

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)

BIOL270 Human Genetics 3**Prerequisite:** Reading Level 5 and Writing Level 6 and Math Level 4**Recommended:** One semester of college-level biology

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. (Sp)

BIOL275 Molecular Biology I 4

Prerequisite: Minimum 2.0 in (BIOL127 and CHEM151 and CHEM161) and Reading Level 5 and Writing Level 6 and Math Level 4

Introduces principles of molecular biology, DNA/RNA structure, 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. Designed for Laboratory Technicians. (F)

BIOL276 Molecular Biology II 4

Prerequisite: Minimum 2.0 in BIOL275 and Reading Level 5 and Writing Level 6 and Math Level 4

Continuation of BIOL275. Advanced lecture topics in bacteriophage biology, gene analysis, gene sequencing, and applications of molecular biotechnology. Gene cloning experiments with lambda bacteriophage and plasmid vectors, Southern hybridizations, and construction of a genomic library of lambda phage DNA. Designed for Laboratory Technicians. (Sp)

BIOL285 Biology in the Tropics 2

Prerequisite: Reading Level 5 and Writing Level 6 and Math Level 4

A field experience to study tropical ecosystems in Costa Rica. An eight week lecture series on tropical biology will culminate with a ten day visit to various ecosystems in Costa Rica. Individual writing projects emphasizing evolutionary and ecological concepts will be conducted in the field. (Sp)

BIOL287 Tropical Aquatic Systems 3

Prerequisite: Reading Level 5 and Writing Level 6 and Math Level 4

Recommended: College-level biology or chemistry

This course combines a classroom lecture series with a 10-day field study in Puerto Rico. Students will study tropical aquatic systems including forested streams, tide pools, urban waterways, and coral reefs. Evaluation will be based on lecture tests, journals, and the development and completion of individual research projects. (F)

BLDR - Building Related**BLDR110 Wood Projects** 1.5

Prerequisite: None

Recommended: Previous woodworking experience

This class is designed to offer students a shop in which to work on individual woodworking projects. All of the tools and equipment in the shop are available for student use. The instructor demonstrates uses of tools/equipment and consults with students on their individual projects. (F,Sp)

BLDR112 Wood Projects Lab .75

Prerequisite: None

Recommended: Previous woodworking experience

This class is designed to offer students the opportunity to work on their own woodworking projects. The tools and equipment in the shop are available for student use. The instructor is available to help with the use of tools and to assist with their projects. (Su)

BLDR144 Build Your Own Home 1.5

Prerequisite: None

This course is designed for students who wish to build their own homes. Included are design considerations, land acquisition, selection of materials, choosing contractors, scheduling of work, financing, and landscaping. Guest speakers, who are experts in their various fields, provide the instruction. (F,Sp,Su)

BLDT - Building Trades**BLDT100 Introduction to Construction** 3

Prerequisite: None

This course covers basic concepts of construction: including city and regional planning, managing, contracting, designing, engineering, estimating, bidding and inspecting, as well as the production work normally associated with construction. (F,Sp)

BLDT101 Basic Woodworking 2

Prerequisite: None

Students learn about wood characteristics, hand and portable power tools, woodworking machinery, joint construction, fastening methods, woodworking techniques and procedures, and technical information to be applied to student-made projects. (F,Sp)

BLDT103 Structural Blueprint Reading 4

Prerequisite: None

This course covers symbols, conventions and abbreviations used in structural blueprints. The student will be able to recognize conventions and verbally describe their interpretation in trade or lay terms according to standard architectural practices. Residential and commercial prints are used to show the relationship between working drawings and specifications. (F,Sp,Su)

BLDT121 Residential Framing 4

Prerequisite: None

Students will learn to frame residential buildings using accepted framing techniques: such as framing member spacing, framing floor systems, interior and exterior walls, ceilings, roofs and stairs. Various types of foundations and the advantages and disadvantages of each are covered. Hands-on methods are used. (F,Sp)

BLDT124 Remodeling, Shingling and Siding 4

Prerequisite: Minimum 1.0 in BLDT121 or concurrently

Students will learn to remodel, shingle and side a residential building. This course covers the analysis, designing, estimating, problem solving, building practices, materials and installation methods for remodeling, roofing and exterior wall covering projects. (Sp)

BLDT126 Interior Carpentry 4

Prerequisite: Minimum 1.0 in BLDT121 or concurrently

Students will learn to finish the interior of a residential building. This course covers the materials, installation practices and material takeoff to do the finish carpentry for a house to include windows, doors, base, chair rail, wood floors, stairs, simple built-ins and cabinets. (F)

BLDT132 General Home Maintenance 2

Prerequisite: None

This is an introductory course in general home maintenance. Areas to be covered will include basic tools, electrical, plumbing, framing, roofing, interior trim, drywall and painting, appliance maintenance and repair, and concrete flatwork and blocklaying. (F,Sp,Su)

BLDT252 Builder's Business License 4

Prerequisite: None

This course covers the principles of residential builder organizations and business practices, along with other useful information to help students pass the State of Michigan Builder's License Exam. Preparation for a residential project from planning to actual construction and sale of the project is covered. (Sp)

BLDT277 Construction Cost Estimating 4

Prerequisite: Minimum 1.0 in (BLDT103 or ARCH101) or concurrently

Students will learn to do a structural material takeoff and a complete estimate for residential and light commercial buildings. The course uses standard estimating practices to estimate the cost of buildings based on detailed blueprints. (F,Sp)

BLDT281 Michigan Residential & Building Codes 3

Prerequisite: None

Students will be introduced to the Michigan Residential Code and the Michigan Building Code. This course will emphasize the interpretation and application of the Michigan Residential Code and the Michigan Building Code. Requirements for materials, barrier-free design and fire standards for residential and commercial construction will also be emphasized. (F,Sp)

BLDT285 Residential Building Internship 2**Prerequisite:** Minimum 1.0 in BLDT121 and Department Approval**Restriction:** Residential Building Majors

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)

BLDT296 Ceramic Tile Seminar .5**Prerequisite:** None

This seminar will teach the basic principles for installation of ceramic tile. This includes the selection of types of tile, how to lay out the tile, preparation of the surface, care of tools used, and estimation of labor and materials. (F,Sp)

BLDT298 Builder's License Review 1**Prerequisite:** None

This is a two-day workshop designed to prepare individuals for the State of Michigan Residential Builder's Examination. This workshop will include concentrated instruction in blueprint reading, state regulations, building terms, basic math, and construction codes. (F,Sp,Su)

BUSN - Business**BUSN101 Business Special Topics 1-3****Prerequisite:** None

This course explores special topics and current issues, as well as knowledge, skills, attitudes and/or behaviors relevant to the professional development of business students and professionals. (F,Sp,Su)

BUSN118 Introduction to Business 3**Prerequisite:** Reading Level 5

Introduces students to principles, problems, and practices related to the world of business. Topics covered include business management and organization, marketing, finance, economics, production, and international business. (F,Sp,Su)

BUSN160 Starting a Business 2**Prerequisite:** Reading Level 5 and Writing Level 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)

BUSN161 Writing a Business Plan 2**Prerequisite:** Minimum 2.0 in BUSN160 or concurrently and Reading Level 5 and Writing Level 6

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)

BUSN191 Independent Study in Business 1-3**Prerequisite:** Department Approval

Students are allowed to undertake special research projects and/or individual readings to apply personal and professional experience to academic area of interest. Minimum of 18 hours work per credit required, plus completion of written project report. (F,Sp,Su)

BUSN201 International Business 3**Prerequisite:** None**Recommended:** BUSN118

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)

BUSN250 Personal Finance 3**Prerequisite:** None

Provides a broad survey of topics including budgeting, smart shopping, buying a car, renting, buying or selling a home, credit requirements, investing, insurance, and estate and retirement planning. Not intended to be a financial planning course, but students will develop a fundamental knowledge of financial concerns. (F,Sp)

BUSN251 Stock Market Essentials 3**Prerequisite:** None

Study of securities market to give framework with which to set investment goals and achieve desired results. Introduction to some of the more prevalent theories, concepts, and skills to aid in developing strategies and making sound investment decisions related to the stock market. (F,Sp)

BUSN254 Introduction to Investments 2**Prerequisite:** None

This course covers the fundamental principles of investing and its role in our economy. Emphasis will be on developing terminology, types of investments, and personal financial planning such as mutual funds, real estate, CDs, money market funds, limited partnerships, insurance, IRAs, stock, and tax shelters. This is an overview course. (F,Sp)

BUSN295 Small Business Management 3**Prerequisite:** None

Small business operations, including business and managerial functions, principles of management, environment of small business, financial, marketing, production management, and legal and governmental relationships. Development of a small business plan is required. (F,Sp)

CABS - Computer Applications Using Business Software**CABS100 Computer Related Seminars .25-1****Prerequisite:** None

This series of seminars provides the successful participant with operational proficiency in using specific microcomputer software. The seminars also provide the students with some experience using commands, functions, and features of the software beyond the basic level. Extensive hands-on activity is the primary method used in learning. (F,Sp,Su)

CADD - Computer-Aided Drafting & Design**CADD100 Basic Mechanical Drafting 3****Prerequisite:** Reading Level 3 and Math Level 3

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, a brief introduction to AutoCAD, and much more. (F,Sp,Su)

CADD101 Mechanical CAD Drafting I 4**Prerequisite:** (Minimum 2.0 in CADD100 or Drafting Placement Test 80% and Reading Level 3 and Writing Level 2 and Math Level 4

This is an introductory course in mechanical drafting and computer aided drafting using AutoCAD 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,Su)

CADD103 Geometric Dimension and Tolerancing 4**Prerequisite:** Minimum 2.0 in CADD100 or Drafting Placement Test 80%

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. (F,Sp)

3	<p>CADD105 PC Applications for Technology 3</p> <p>Prerequisite: None</p> <p>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 XP, word processing, spreadsheet, computer graphics, and presentation software. The Internet will be used to obtain assignments, turn in homework, and research projects. (F,Sp,Su)</p>	
3	<p>CADD110 Industrial Blueprint Reading 3</p> <p>Prerequisite: None</p> <p>Recommended: CADD100</p> <p>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)</p>	
2	<p>CADD111 Advanced Blueprint Reading 3</p> <p>Prerequisite: Minimum 2.0 in CADD110</p> <p>This course covers advanced concepts of industrial blueprint reading, with emphasis on interpretation of engineering drawings. Areas also covered include hydraulic, pneumatic, and electrical schematics, coolant and lubrication systems, tolerancing, and layout drawings. (F,Sp)</p>	
3	<p>CADD112 Mechanical CAD Drafting II 4</p> <p>Prerequisite: Minimum 2.0 in CADD101</p> <p>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 AutoCAD software to complete practical design projects in problem solving and creativity applicable to the automotive, industrial, and/or aerospace industries. (F,Sp,Su)</p>	
3	<p>CADD114 Descriptive Geometry 4</p> <p>Prerequisite: Minimum 2.0 in CADD101</p> <p>This course covers the solution of space problems through the practice of advanced orthographic projection. Content includes points, lines and planes, parallelism, perpendicularity, developments, and intersections. Students will complete projects relating to architectural, civil, and industrial engineering situations. (F,Sp)</p>	
3	<p>CADD170 Special Topics in CADD .25-8</p> <p>Prerequisite: None</p> <p>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)</p>	
4	<p>CADD175 AutoCAD Electrical 4</p> <p>Prerequisite: Minimum 2.0 in CADD101</p> <p>This course will teach students to use AutoCAD Electrical to layout electrical, hydraulic, and pneumatic schematic diagrams. The student will also learn how to use existing, and construct needed, programmable logic controller (PLC) I/O, motor control, or discrete electrical control components using AutoCAD Electrical. (F,Sp)</p>	
4	<p>CADD222 Basic Autodesk Inventor 4</p> <p>Prerequisite: Minimum 2.0 in CADD101</p> <p>Students will create part and assembly models and document those designs with drawing views. Students will use Autodesk Inventor to create features used to create, edit, document, and print parts and assemblies. Students will also learn how to make use of Inventor's Design Support System (DSS) to find solutions to design problems. (F,Sp)</p>	
4	<p>CADD223 Advanced Autodesk Inventor 4</p> <p>Prerequisite: Minimum 2.0 in CADD222 (previously CADD234) and Math Level 5</p> <p>Upon successful completion of this course the student will be able to create complex free-form parts and assembly models with moving and adaptive parts as well as use Inventor to edit, document, and print parts and assemblies. The student will also learn how to use Autodesk Inventor's Project Manager to track a design. (F,Sp)</p>	
4	<p>CADD233 Autodesk Mechanical Desktop 4</p> <p>Prerequisite: Minimum 2.0 in CADD101</p> <p>This course teaches the student how to generate 3-D parametric models, produce 2-D views and assemble parts while focusing on Autodesk Mechanical Desktop's designer and assembly modules. (F,Sp)</p>	
4	<p>CADD242 Unigraphics Basic 4</p> <p>Prerequisite: Minimum 2.0 in CADD101</p> <p>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. (F,Sp)</p>	
4	<p>CADD243 Unigraphics Advanced 4</p> <p>Prerequisite: Minimum 2.0 in (CADD103 and CADD242) and Math Level 5</p> <p>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,Sp)</p>	
4	<p>CADD252 I-DEAS Parts Modeling 4</p> <p>Prerequisite: Minimum 2.0 in CADD101</p> <p>This course teaches the student I-DEAS Master Series CAD software emphasizing important concepts of feature-based parametric solid modeling. Students will construct and edit 3-D parts, use drafting and solid modeling features, create sketches and primitives, use feature relationships, use reference geometry, use a 3-D and solid model library of parts, and construct complete 2-D drawings. (F,Sp,Su)</p>	
4	<p>CADD253 I-DEAS Assembly Modeling 4</p> <p>Prerequisite: Minimum 2.0 in CADD252</p> <p>Students will learn how to use I-DEAS Master Series Assembly CAD software to create, edit, and constrain feature-based assembly models. Students will then be able to create assembly layout drawings from their solid models. (F,Sp,Su)</p>	
4	<p>CADD270 Detailing Assembly Drawings 4</p> <p>Prerequisite: Minimum 2.0 in (CADD103 and CADD112 (previously CADD102) and PMMT105 (previously MACH105))</p> <p>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,Sp)</p>	
4	<p>CADD282 Die Design and Construction 4</p> <p>Prerequisite: Minimum 2.0 in CADD270</p> <p>This course will emphasize the proper steps to designing a die, the ability to read sheet metal die design layouts, tolerancing and clearance fits as they apply to this area of learning. Also covered will be the names of various die components and students will be expected to understand and explain their workings. (F,Sp)</p>	
4	<p>CADD284 Jigs and Fixture Design 4</p> <p>Prerequisite: Minimum 2.0 in CADD270</p> <p>This course will teach detailing techniques and dimensioning which will be emphasized through the development of working drawings. These drawings will be extracted from a design concept or assembly type drawing. Familiarization with standard components will also be stressed. Students will be responsible for being familiar with and understanding various jig and fixture components. (F,Sp)</p>	
4	<p>CADD286 Beginning Mold Design 4</p> <p>Prerequisite: Minimum 2.5 in CADD270</p> <p>This course instructs students in the design principles of plastic injection molds and products. CAD software will be used to design injection molds and undercuts, determine proper temperatures, identify various types of ejection methods, and choose appropriate injection methods. Students will print designs using a 3D printer. (F,Sp)</p>	

CADD288 Advanced Mold Design 3**Prerequisite:** Minimum 2.5 in CADD286

This course instructs students in modflow analysis, identification of materials, creation and analysis of 3D models, and interpretation of the data to determine optimum process feasibility will be stressed. Tooling and plastic products will be emphasized when using the finite element analysis software in the creation of molds. (F,Sp)

CADD290 Mechanical Drafting Lab 1-4**Prerequisite:** Department Approval

This course is intended to give the advanced drafting and design student an opportunity for more manual drafting experience through mutual agreement between student and instructor. Students will complete advanced projects and research in a variety of design application situations. (F,Sp)

CADD295 CADD Project Lab 1-4**Prerequisite:** Department Approval

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)

CHCE - Continuing Health Careers**CHCE100 Nurse Refresher 3****Prerequisite:** Department Approval

This course is a refresher for licensed RNs or LPNs within the State of Michigan who desire to re-enter their professional workforce. This course provides nurses with updates in nursing theory and practice parameters; pharmaceutical, medical, and surgical interventions; new technology in health care/clinical experience; OSHA Blood Borne Pathogen and Universal Precaution; American Heart Association CPR; and critical thinking skills. (F,Sp)

CHCE106 Cardiac Dysrhythmia Interpretation 2.75**Prerequisite:** None

This course introduces the student to identification of common dysrhythmias seen on a monitor or telemetry unit. Content will include criteria, causes, hemodynamic effects, and treatment of dysrhythmias according to ACLS guidelines. Use of monitoring equipment is integrated within the course content. (F,Sp,Su)

CHCE210 PALS Training 1**Prerequisite:** Current Basic Life Support or CPR Card

This seminar is designed for members of the health care team who work with pediatric patients. A combination of lecture and practice in skills stations will prepare the student for success in achieving American Heart Association certification as a Pediatric Advanced Life Support Provider. Prior assigned reading mandatory. Participants must have a current healthcare provider card for CPR. (F,Sp,Su)

CHCE211 PALS Refresher .5**Prerequisite:** Current Basic Life Support or CPR Card and Current PALS Provider Card

This seminar is designed to recertify, according to the American Heart Association (AHA) standards, those professionals currently possessing valid Pediatric Advanced Life Support (PALS) and current healthcare provider CPR certification cards. Upon successful recertification, the AHA will issue each student a new PALS certification card. Prior assigned reading mandatory. (F,Sp,Su)

CHCE227 Health Related Seminars .25-8**Prerequisite:** Determined by Unit Section

Seminar content is dependent upon course requirement. (F,Sp,Su)

CHCE230 ACLS Training Seminar 1**Prerequisite:** Current Basic Life Support or CPR Card

This seminar is designed for members of the health care team to develop knowledge and skills in Advanced Cardiac Life Support (ACLS). A combination of lecture and skills performance will prepare the student to achieve success in American Heart Association certification as an ACLS provider. Prior assigned reading mandatory. Participants must have a current healthcare provider CPR card. (F,Sp,Su)

CHCE235 ACLS Refresher .5**Prerequisite:** Current Basic Life Support or CPR Card and Current ACLS Provider Card

This seminar is designed to recertify, according to the American Heart Association standards, those individuals currently possessing valid Advanced Cardiac Life Support (ACLS) and current healthcare provider CPR cards. The American Heart Association will issue a certificate to each student upon successful completion of the program. Prior assigned readings are mandatory. (F,Sp,Su)

CHDV - Child Development**CHDV101 Child Growth/Development: 0-5 Years 4****Prerequisite:** Reading Level 5 and Writing Level 4

This course examines the growth and development patterns of children (prenatal to five years) in physical, social, emotional, cognitive, and language development. Additional topics include nutrition, health, play, families, and the preschool experience. Students acquire skills in observing and recording child behavior. (F,Sp,Su)

CHDV111 Child Guidance and Communication 4**Prerequisite:** Reading Level 3 and Writing Level 4

This course, which includes field work, examines interaction skills and environmental structures which foster social and emotional growth in children in early childhood and care settings. Topics include positive guidance and discipline, effective communication with children, problem solving, social skill development, group management, and aggression prevention. (F,Sp,Su)

CHDV112 Family Relationship/Early Child Programs 2**Prerequisite:** Minimum 2.5 in CHDV111

This course examines ways to establish and maintain positive and supportive relationships with families in early education and care programs. The focus includes understanding the parent's perspective, supporting the child's relationship with his or her family, encouraging parental involvement, and communicating with parents. (F,Sp)

CHDV113 Health/Safety Issue:Early Child Programs 2**Prerequisite:** Reading Level 3 and Writing Level 4

This course examines health and safety issues in early education, care homes and centers. Topics include understanding and preventing communicable illnesses, bloodborne pathogens, safe equipment and play areas, preventing accidents, nutrition, and health and safety education. (F,Sp,Su)

CHDV120 Curriculum: Physical Dev/Early Childhood 1**Prerequisite:** None

This course examines curriculum and activities which enhance the development of physical and motor skills of children in early childhood programs. It includes specific information on developmentally appropriate activities for fine motor, gross motor, and sensory development for a variety of ages. Seminar format is used. (F)

CHDV121 Curriculum:Cognitive Dev/Early Childhood 1**Prerequisite:** None

This course examines curriculum and activities which enhance cognitive and language development of children in early childhood education and care programs. Students explore classroom materials to develop effective teaching techniques. Seminar format is used. (Sp)

CHDV122 Curriculum: Creative Dev/Early Childhood 1**Prerequisite:** None

This course examines curriculum and activities which enhance the creative development of children in early childhood education and care programs. Specific information on activities in the areas of art, music, creative, and dramatic play with a variety of materials are shared. Seminar format is used. (Su)

CHDV123 Curriculum: Early Childhood Literacy 1
Prerequisite: None
 This course examines curriculum which enhances the development of literacy in early childhood education and care programs. The focus is on designing and implementing developmentally appropriate strategies, environments and activities that promote the acquisition of basic concepts about literacy for children five years of age and under. Topics include: oral language, emergent reading, emergent writing, classroom arrangement. Seminar format is used. (F)

CHDV124 Curriculum: Early Math Development 1
Prerequisite: None
Recommended: Experience in Early Childhood Education and Care
 This course examines curriculum which enhances the interest in, and development of, math skills, concepts and awareness in early childhood education and care programs. The focus is on designing and implementing developmentally appropriate strategies, environments, and activities that promote the acquisition of basic concepts about math to include number, measurement, shape, data analysis, problem solving, and patterns for preschool aged children. Seminar format is used. (Sp,Su)

CHDV130 Introduction to Early Education and Care 1
Prerequisite: None
 This course introduces factors in providing quality early education care. Topics include program planning; curriculum development; child growth and development; positive guidance and discipline skills; safety, health and nutrition; parent communication and involvement; and professionalism. (Sp)

CHDV131 Family Child Care Management 2
Prerequisite: Reading Level 5 and Writing Level 4
 This course presents a systematic approach to managing a family child care home and creating a positive learning environment for young children in a home setting. Topics include business aspects, program development, professionalism, managing personnel, and organizing the environment. (F,Sp)

CHDV181 Adult Communication/Early Child Programs 1
Prerequisite: None
Recommended: Experience in Early Childhood Program
 This course examines effective adult-adult communication (both staff-staff and staff-parent) in early childhood education and care programs. Topics include personal communication style, challenging situations, and effective strategies to improve communication, problem-solving and team building. Seminar format is used. (Sp)

CHDV184 Children and Stress 1
Prerequisite: None
 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, death and family violence are among topics discussed. Seminar format is used. (Sp,Su)

CHDV185 Preventing Child Sexual Abuse 1
Prerequisite: None
 This course explores preventing child sexual abuse through teaching personal safety to children. Topics include the sexually abusive situation, behavioral indicators, legal mandates, reporting protocol and appropriate adult responses. It emphasizes appropriate ways of teaching personal safety to children, selecting personal safety materials, and adult concerns when teaching it. Seminar format is used. (F)

CHDV186 Child Self-Esteem/Positive Discipline 1
Prerequisite: None
 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 discipline techniques that build self-esteem. Seminar format is used. (F,Sp,Su)

CHDV188 Caring for Children with Special Needs 2
Prerequisite: Reading Level 3 and Writing Level 4
 This course focuses on the special and diverse individual needs of children and their families, including handicapping conditions, in various settings. It addresses identification of children with disabilities or in "at-risk" categories: community services; inclusion in least restrictive environments; family-centered intervention; and communication skills which enhance work with children with special needs and their families in various settings. (F,Sp)

CHDV189 Helping Children Value Diversity 1
Prerequisite: None
 This course explores how early education and care programs can promote diversity and encourage tolerance through embracing similarities and differences. Topics include identity formation, bias, cultural awareness and integrating diversity into the classroom and curriculum. Seminar format is used. (F)

CHDV197 Child Development Special Topics 1-4
Prerequisite: Determined by Unit Section
 This course explores recently identified current issues, knowledge, skills and/or attitudes in the field of early childhood education and care. (F,Sp,Su)

CHDV220 Preschool Curriculum/Learning Environment 4
Prerequisite: Minimum 2.0 in CHDV101 and minimum 2.5 in CHDV111
 This course, with field work, explores developmentally appropriate preschool programming which promotes physical, cognitive, language, and creative development in preschool early education and care settings. Emphasis is on active involvement of children in concrete experiences. Other topics include learning environments, materials and equipment, and learning goals and objectives. (F,Sp)

CHDV221 Infant-Toddler Program Development 4
Prerequisite: Minimum 2.0 in CHDV101 or concurrently
 This course, which includes field work, explores physical and emotional environments needed for quality early education and care for infants and toddlers. Focus includes developing nurturing skills, developmentally appropriate activities and materials, managing schedules and routines, observation, and record keeping skills. (F,Su)

CHDV222 School-Age ChildCare Program Development 2
Prerequisite: Reading Level 3 and Writing Level 4
 This course examines the development of child care programs to meet the developmental characteristics of school-aged children (age 5-12). Content includes growth and development patterns in the areas of physical, cognitive, social and emotional; appropriate equipment and activities; environment and program structure; and individual and group management. (F,Sp)

CHDV230 Early Childhood Center Administration 2
Prerequisite: Minimum 2.5 in CHDV220
 This course examines the administrator's role in directing an early childhood and care center and in providing a systematic approach to program management. Topics include goal-setting, safety, licensing, health and nutrition, policy development, business techniques, and personnel management. (F,Sp)

CHDV251 CDA Credentialing Preparation&Fieldwork 3
Prerequisite: Minimum 2.5 in CHDV111 and (minimum 2.5 in CHDV220 or minimum 2.0 in CHDV221) and Department Approval
Recommended: Employed or volunteer 8+ hrs/week in approved regulated child care program
 This course, and accompanying field work, examines credentialing procedures and competency standards for the Child Development Associate (CDA) Credentialing Assessment. Students complete the resource file, are observed using the CDA observation instrument, and prepare for the CDA situational assessment. Content of the course covers the functional area of families and professionalism. (F)

CHDV251A CDA Credential Assessment Preparation 1

Prerequisite: Minimum 2.5 in CHDV111 and (minimum 2.5 in CHDV220 or minimum 2.0 in CHDV221) and Department Approval

Recommended: Employed or volunteer 8+ hrs/week in approved regulated child care program

This course examines credentialing procedures and competency standards for the Child Development Associate (CDA) Credentialing Assessment. Students complete the resource file and prepare for the Verification Visit of the CDA Council Representative. Content of the course also covers the CDA formal education requirements: "Maintaining a commitment of Professionalism." (Sp)

CHDV251B CDA Formal Training Completion 1

Prerequisite: Minimum 2.5 in CHDV111 and (minimum 2.5 in CHDV220 or minimum 2.0 in CHDV221) and Department Approval

Recommended: Employed or volunteer 8+ hrs/week in approved regulated child care program

This course examines CDA credentialing procedures and competency standards for the Child Development Associate (CDA) Credentialing Assessment in the required formal education in the CDA functional areas of families, program operation, and observing and recording children's behavior. (Sp)

CHDV251C CDA Practicum 1

Prerequisite: Minimum 2.5 in CHDV111 and (minimum 2.5 in CHDV220 or minimum 2.0 in CHDV221) and Department Approval

Recommended: Employed or volunteer 8+ hrs/week in approved regulated child care program

This course is the field work required for completion of the CDA Assessment Observation Instrument by a CDA Advisor who meets the CDA eligibility requirements. The CDA competency standards for the Child Development Associate (CDA) Credentialing Assessment are applied in the field with children 0-5 years old and the student is assessed using the CDA tool. (Sp)

CHDV284 Child Development Practicum 5

Prerequisite: Minimum 2.5 in CHDV220 and Writing Level 6 and Department Approval

A supervised field experience working directly with children in a child care program. Students gain skill in planning and implementing the daily children's program, and in setting and assessing goals for individual children and the classroom. Accompanying seminar explores the teacher's professional role in planning, goal-setting, and evaluation. (Sp)

CHDV297 Child Development Independent Study 1-3

Prerequisite: Department Approval

This course includes special research, directed study, or service-learning projects in child development. It requires at least 18 hours of independent work for each credit. A learning contract specifying objectives, activities, and outcomes is required. (F,Sp,Su)

CHEM - Chemistry**CHEM120 General Organic and Biological Chemistry 4**

Prerequisite: Reading Level 5 and Writing Level 4 and Math Level 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)

CHEM125 Basic Chemistry 4

Prerequisite: Reading Level 5 and Writing Level 4 and (Math Level 5 or MATH107 concurrently)

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)

CHEM130 Biochemistry 4

Prerequisite: Reading Level 5 and Writing Level 6

Recommended: Minimum 2.0 in (CHEM120 or CHEM125)

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. (Sp,Su)

CHEM135 Chemistry in Society 4

Prerequisite: Reading Level 5 and Writing Level 6 and Math Level 4

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)

CHEM151 General Chemistry Lecture I 4

Prerequisite: Reading Level 5 and Writing Level 6 and (Math Level 6 or MATH112 concurrently)

Recommended: (Minimum 2.0 in CHEM125 or High School Chemistry) and CHEM161 concurrently

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)

CHEM152 General Chemistry Lecture II 3

Prerequisite: Minimum 2.0 in CHEM151 and (Math Level 8 or MATH121 or MATH126 concurrently)

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 kinetics, ionic equilibria, thermodynamics, electrochemistry, descriptive chemistry, and nuclear chemistry. (F,Sp,Su)

CHEM161 General Chemistry Lab I 1

Prerequisite: Minimum 2.0 in CHEM151 or concurrently and Reading Level 5 and Writing Level 6 and Math Level 5

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 and water hardness. (F,Sp,Su)

CHEM162 General Chemistry Lab II 1

Prerequisite: Minimum 2.0 in (CHEM152 or concurrently) and CHEM161

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)

CHEM182 Introductory Organic Chemistry 3

Prerequisite: Reading Level 5 and Writing Level 6

Recommended: Minimum 2.0 in CHEM151

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. (Sp)

CHEM192 Introductory Organic Chemistry Lab 1

Prerequisite: Minimum 2.0 in CHEM182 or concurrently and Reading Level 5 and Writing Level 6

Recommended: CHEM151

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. (Sp)

CHEM211 Chemical Processing Technology I 4

Prerequisite: Minimum 2.0 in CHEM151 and Reading Level 5 and Math Level 6

This course provides an overview of Chemical Process Technology. Topics include the roles and responsibilities of Chemical Process Technicians, the equipment and systems that they operate, and relevant safety and environmental issues. The student will apply previously learned scientific principles to the field of Chemical Process Technology. (Sp)

CHEM251 Organic Chemistry Lecture I 4

Prerequisite: Minimum 2.0 in CHEM151

Recommended: Minimum 2.0 in CHEM152

The first lecture course of a two-semester sequence in organic chemistry for chemical engineering, chemical technology, chemistry, or preprofessional majors. Topics include structure and bonding, hybridization, nomenclature, stereochemistry, thermodynamics and kinetics of organic reactions, functional groups including reactions and mechanisms, and applications of mass spectrometry. (F,Sp,Su)

CHEM252 Organic Chemistry Lecture II 4

Prerequisite: Minimum 2.0 in CHEM251

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,Su)

CHEM262 Quantitative Analysis 3

Prerequisite: Minimum 2.0 in (CHEM152 and CHEM162)

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 and for Chemical Process or transfer students. (F)

CHEM272 Organic Chemistry Laboratory 2

Prerequisite: Minimum 2.0 in CHEM251

Recommended: CHEM252 concurrently

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)

CHSE - Community Health Services Education**CHSE100 Introduction to Health Professions** 3

Prerequisite: Reading Level 5

This course is an overview of the health care industry, including medical ethics, trends in health care, and exploration of career options. It includes introduction to medical terminology, anatomy and physiology, vital signs measurement, math used for conversions, basic cardiac life support skills, and universal precautions / blood borne pathogen training. (F,Sp)

CHSE101 Acute Care Nurse Assistant/Orderly 6

Prerequisite: Reading Level 4

This course will prepare an individual for employment as a nursing assistant/orderly in a hospital, or other acute care delivery setting. The course will provide the knowledge and skills needed in order to provide safe basic patient care. This course does not provide eligibility to become a Certified Nurse Assistant (CNA). (F,Sp,Su)

CHSE108 Long-term Care Nurse Aide 4

Prerequisite: Reading Level 3

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)

CHSE110 Nurse Aide: Acute & Long-Term 8

Prerequisite: Reading Level 4

This course will prepare individuals to be nurse aides in an acute care setting, long-term care facility, or home health care agency. The course will provide specific knowledge and skills required to deliver safe basic care. Successful completion of this course provides eligibility to take the Certified Nurse Assistant (CNA) Exam. (F,Sp,Su)

CHSE114 Pathology-Allied Health 3

Prerequisite: Minimum 2.5 in BIOL145

General principles of pathology are discussed, rather than specific disease entities, to develop a new way of thinking about disease processes. Concepts of disease processes and their effect on normal structure and function of the body are emphasized. (Sp)

CHSE115 Pharmacology-Allied Health 2

Prerequisite: Minimum 2.5 in BIOL145 or concurrently

This course is designed to familiarize the student with common medications encountered in health care occupations. Emphasis is on drug categories and the responsibilities associated with medication administration. (Sp)

CHSE116 EKG Basics - Allied Health 1

Prerequisite: None

Recommended: Health Careers Applicant or Professional

This course is designed to teach the basic skills of electrocardiography necessary to perform, process, and explain the electrocardiogram. An overview of anatomy and physiology of the cardiovascular system, operation of the electrocardiograph and recording EKGs, cardiac pathology, and basic cardiac rhythm recognition will be presented. (F,Sp)

CHSE117 Health Law and Ethics 2

Prerequisite: Reading Level 5 and Writing Level 4

Recommended: Health Careers Applicant or Professional

This course presents for discussion, legal and ethical issues arising from the organization and delivery of health care services. Topics include contracts, torts, business law, medical recordkeeping and retention, physicians' public duties, licensure, certification and regulation of health professionals; consent for treatment; and exploration of issues arising from various bioethical topics. (F,Sp,Su)

CHSE118 Herbolgy Therapy - Allied Health 3

Prerequisite: Reading Level 5 and Writing Level 4

Recommended: Health Careers Student or Professional

Principles of herbolgy are discussed along with an overview of Western and Eastern herbal traditions. Pronunciation of names for both Western herbs and herbs used in traditional Chinese medicine is emphasized. Concepts of health, disease and treatment from Western versus Eastern medical perspectives are discussed with emphasis on herbal interactions with drugs and the use of herbal alternatives to drug therapies. (F)

CHSE119 Community Health Career Topics 25-8

Prerequisite: Determined by Unit Section

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. (F,Sp,Su)

CHSE120 Medical Terminology 4

Prerequisite: Reading Level 5 and Writing Level 4

Medical Terminology will provide a basic knowledge of word building, use, pronunciations, spelling of medical terms, applying terms to the function and structure of body systems and specific disease conditions. Emphasis is placed on medical terms in periodicals, textbooks, and medical care areas. This is a health careers foundational course. (F,Sp,Su)

CHSE120A Medical Terminology: The Basics 5

Prerequisite: Reading Level 5 and Writing Level 4

This Medical Terminology module presents the basics of word building, use, pronunciation, spelling, and application of terms to the function and structure of the body as a whole. Emphasis is on medical terms in periodicals, textbooks, and medical care areas. CHSE120, the parent course of this module, is a health careers foundational course. (F,Sp,Su)

CHSE120B Med Term: Heart & Lungs	.5	CHSE125 Computers-Medical Insurance Billing	1
Prerequisite: Minimum 2.5 in CHSE120A or concurrently This Medical Terminology module expands on the basics presented in Module A. Emphasis is on the cardiovascular and respiratory systems. The module utilizes reviews of medical terms in periodicals, textbooks, and medical care areas. CHSE120, the parent course of this module, is a health careers foundational course. (F,Sp,Su)		Prerequisite: Minimum 2.5 in CHSE124 or concurrently Recommended: Keyboarding experience This course introduces students to medical billing software. Students learn to record charges/payments/information, schedule appointments, ICD-9 and CPT coding, produce claim forms and patient statements, and build office databases. A certificate of completion is awarded for Medical Insurance Billing if a grade point of 2.5 or better is earned in CHSE120, 123, 124, and 125. (F,Sp)	
CHSE120C Med Term: Radiology/Musculoskeletal	.5	CHSE132 Health Unit Coordinator	5
Prerequisite: Minimum 2.5 in CHSE120A or concurrently This Medical Terminology module expands on the basics presented in Module A. Emphasis is on radiology and the musculoskeletal system. The module utilizes reviews of medical terms in periodicals, textbooks, and medical care areas. CHSE120, the parent course of this module, is a health careers foundational course. (F,Sp,Su)		Prerequisite: Minimum 2.5 in (CHSE120 or CHSE121) This course is designed to introduce the student to basic health care unit coordinator skills. Subject matter will include communication skills, computers, assertiveness, chart forms, admissions, transfers, discharges, death and dying, pharmacology, laboratory tests, transcribing physician orders, and job application skills. Clinical component is included. (F,Sp)	
CHSE120D Med Term: Digestive/Endocrine Systems	.5	CHSE143 Phlebotomy Technician	2
Prerequisite: Minimum 2.5 in CHSE120A or concurrently This Medical Terminology module expands on the basics presented in Module A. Emphasis is placed on medical terminology of the digestive and endocrine systems. The module utilizes reviews of medical terms in periodicals, textbooks, and medical care areas. CHSE120, the parent course of this module, is a health careers foundational course. (F,Sp,Su)		Prerequisite: Reading Level 4 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 obtain a blood specimen from a patient. The course includes lecture and campus laboratory. (F,Sp,Su)	
CHSE120E Med Term: Urinary/Reproductive Systems	.5	CHSE144 Advanced Phlebotomy	5
Prerequisite: Minimum 2.5 in CHSE120A or concurrently This Medical Terminology module expands on the basics presented in Module A. Emphasis is on the urinary and reproductive systems. The module utilizes reviews of medical terms in periodicals, textbooks, and medical care areas. CHSE120, the parent course of this module, is a health careers foundational course. (F,Sp,Su)		Prerequisite: Minimum 2.5 in CHSE143 and Department Approval 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 lecture, a practical review of techniques, and worksite experience. (F,Sp,Su)	
CHSE120F Med Term: Blood/Lymph/Oncology	.5	CHSE145 Healthcare Central Service Technician	5
Prerequisite: Minimum 2.5 in CHSE120A or concurrently This Medical Terminology module expands on the basics in Module A. Emphasis is on the blood and lymphatic systems and oncology. The module utilizes reviews of medical terms in periodicals, textbooks, and medical care areas. CHSE120, the parent course of this module, is a health careers foundational course. (F,Sp,Su)		Prerequisite: Reading Level 4 This course prepares individuals to function competently in the central service department of a health care 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. (F,Sp)	
CHSE120G Med Term: Nervous, Eye & Ear	.5	CHSE201 Dietary Manager I	5
Prerequisite: Minimum 2.5 in CHSE120A or concurrently This Medical Terminology module expands on the basics in Module A. Emphasis is on the nervous system, eye and ear. The module utilizes reviews of medical terms in periodicals, textbooks, and medical care areas. CHSE120, the parent course of this module, is a health careers foundational course. (F,Sp,Su)		Prerequisite: Department Approval The first course in a three-semester sequence preparing students for careers as dietary managers. Comprised of classroom and field experience and focusing on nutrition and diet therapy, the content includes interpreting, modifying, planning, and recording nutritional data, as well as conducting client centered, nutritional education sessions. (F)	
CHSE120H Med Term: Skin & Psychiatry	.5	CHSE202 Dietary Manager II	6.5
Prerequisite: Minimum 2.5 in CHSE120A or concurrently This Medical Terminology module expands on the basics in Module A. Emphasis is placed on medical terminology relative to skin and psychiatry. The module utilizes reviews of medical terms in periodicals, textbooks, and medical care areas. CHSE120, the parent course of this module, is a health careers foundational course. (F,Sp,Su)		Prerequisite: Minimum 2.5 in CHSE201 The second course in a three-semester sequence preparing students for careers as dietary managers. Comprised of classroom and field experience, this course focuses on the sanitation and management of a foodservice operation. The emphasis is on sanitary practices involving purchasing, storing, preparing, and serving food that is nutritious and safe. (Sp)	
CHSE123 Medical Insurance Billing I	3	CHSE205 Advanced Dietary Therapy	5
Prerequisite: Minimum 2.5 in (CHSE120 or CHSE121 or OADM197) This first course in a two-semester sequence introduces insurance billing, diagnostic and procedure coding using the ICD-9, CPT, and HCPCS. Legal and compliance issues and responsibilities, and their relationship to insurances are discussed. Computerized insurance billing information is provided. (F,Sp)		Prerequisite: Minimum 2.5 in CHSE202 The third course in a three-semester sequence preparing students for careers as dietary managers. Comprised of classroom and field experience, this course focuses on the management of a foodservice department's human resources, whose charge is to provide their clients with safe, wholesome food in a cost effective manner. (Su)	
CHSE124 Medical Insurance Billing II	3	CHSE235 Pharmacy Technician	4
Prerequisite: Minimum 2.5 in CHSE123 The second course in a two-semester sequence. Includes comprehensive billing directions for BCBS of Michigan, Medicare, Medicaid, commercial insurances including HMOs, managed care, and worker's compensation. (F,Sp)		Prerequisite: Reading Level 3 and Math Level 4 Recommended: Minimum 2.5 in CHSE115 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. (F)	

CITA - Computer Information Technology/Applications

CITA110 Introduction to Microsoft Office 3

Prerequisite: None

Recommended: Windows and keyboarding experience and Reading Level 5
This course provides an introduction to MS Office. It is designed to develop basic operational proficiency while using MS Office (MS Word, MS Excel, MS Access, and MS PowerPoint). Students learn how to use word processing, spreadsheet, database, and presentation software. Topics include creating letters, memos, simple spreadsheets, database structures, and slide presentations. (F,Sp,Su)

CITA115 Microsoft PowerPoint 3

Prerequisite: None

Recommended: Windows and keyboarding experience and Reading Level 5
This course introduces students to the basic features of Microsoft PowerPoint. Major topics include creating presentations with slide layouts and Design Templates, using embedding objects and animation effects to enhance a presentation. Students will create interactive presentations with links to other applications and also learn how to share presentations with others on the World Wide Web. This course includes the exam that leads to Microsoft Office Specialist PowerPoint Comprehensive certification. (F,Sp,Su)

CITA119 Microsoft Word 3

Prerequisite: None

Recommended: Windows experience and keyboarding 40 wpm and Reading Level 5 and Writing Level 6

This course is designed to provide the person new to the Word for Windows program with the ability to perform the most common word processing functions. The course also covers less frequently used features, such as creating tables, newsletters and mail merge. This course includes the exam that leads to Microsoft Office Specialist Word Core certification. (F,Sp,Su)

CITA126 Excel 3

Prerequisite: Reading Level 5

Recommended: Windows and keyboarding experience
Beginner-level training in the creation of spreadsheets and databases using the Microsoft Excel program. The instruction includes the manipulation and generation of reports, tables, and graphs. Also included is instruction in file handling, disk management, and macro creation and use. This course includes the exam that leads to Microsoft Office Specialist Excel Core certification. (F,Sp,Su)

CITA130 Microsoft FrontPage 3

Prerequisite: None

Recommended: Reading Level 5 and Writing Level 6 and Windows experience and file management skills essential

This course provides Web authoring instruction using Microsoft FrontPage. Students will create and manage professional quality Web sites without writing HTML code. Web page development topics such as web page elements, hyperlinks, templates, tables, image maps, interactive forms, frames, sub-webs, database interface, and web searches are also covered. (F,Sp,Su)

CITA133 Microsoft Access Database 3

Prerequisite: None

Recommended: Windows and keyboarding experience and Reading Level 5
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. This course includes the opportunity to take the Microsoft Office Specialist Access Core certification. (F,Sp,Su)

CITA140 Microsoft Outlook 3

Prerequisite: None

Recommended: Windows and keyboarding experience and Reading Level 5
Students will learn to use Outlook to manage typical business office communication needs. The course includes setting up the Outlook desktop information system, creating contacts, managing calendars and scheduling appointments. Students will also configure tasks, record journal entries and notes, organize and archive data, integrate Outlook with other Office applications. This course includes the exam that leads to Microsoft Office Specialist Outlook certification. (F,Sp,Su)

CITA160 Using Project Management Software 3

Prerequisite: None

Recommended: Windows familiarity and Reading Level 5
Students will learn project management skills utilizing Windows-based project management software. Students work through all phases of setting up a project using multiple case studies that runs throughout the entire course. (F,Sp,Su)

CITA210 Advanced Microsoft Office 3

Prerequisite: Minimum 2.0 in CITA110 (previously CABS110)

A sequel to CITA110, this course provides advanced instruction in Microsoft Office Professional. Designed to develop advanced skills using MS Word, MS Excel, MS Access, and MS PowerPoint. This class uses extensive hands-on activity. (F,Sp)

CITA219 Advanced Microsoft Word 3

Prerequisite: Minimum 2.0 in CITA119 (previously CABS119) and Reading Level 5 and Writing Level 6

Advanced-level training in word processing using the Microsoft Word program. The instruction includes footnotes, tables, using and defining styles, using graphics, creating forms, and advanced font and text formatting. macro editing is also included. This course includes the exam that leads to Microsoft Office Specialist Word Expert certification. (F,Sp,Su)

CITA226 Excel-Advanced 3

Prerequisite: Minimum 2.0 in CITA126 (previously CABS126)

Advanced-level training in the creating of spreadsheets and databases using the Microsoft Excel program. The instruction includes the manipulation and generation of reports, tables, and graphs. Macros will be developed using the Visual Basic for Applications (VBA) programming language. This course includes the exam that leads to Microsoft Specialist Excel Expert certification. (F,Sp,Su)

CITA229 Special Topics in Applications .25-6

Prerequisite: None

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)

CITA233 Advanced Microsoft Access 2

Prerequisite: Minimum 2.0 in CITA133 (previously CABS133) and Reading Level 5

Recommended: CITF 108 (previously CABS195) or equivalent

This course provides advanced level training in the creation of database management systems using Microsoft Access. Instruction includes working with web-enabled information, advanced custom reports and forms, advanced queries, advanced relationships, macros, switchboards, and introductions to the use of SQL and Visual Basic for Applications Code within Access. (F,Sp)

CITD - Computer Information Technology/Database

CITD120 SQL Concepts 2

Prerequisite: Reading Level 4 and Writing Level 4

Recommended: Windows familiarity

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)

CITD130	Introduction to Oracle: SQL	3	CITF105	DOS Management	1
Prerequisite:	Reading Level 5		Prerequisite:	Reading Level 5	
Recommended:	Windows familiarity		Recommended:	CITF104 (previously CISB104)	
This class covers the concepts of relational databases and SQL. Students learn to create and maintain database objects; store, retrieve, and manipulate data. At the end of this course the student will take the Oracle Exam 1Z0-007 which is a part of the Oracle Internet Application Developer Certification. (F,Sp)			Students in this course learn advanced concepts in managing the Windows Command Line. Techniques are introduced for pipes, filters, redirection, batch files, replacement parameters, and advanced batch programming. Windows commands and programs for the management of disks and files are presented. (F,Sp,Su)		
CITD131	Oracle PL/SQL Program Units	3	CITF106	Microsoft Windows Experience	1
Prerequisite:	Minimum 2.0 in CITD130 (previously CISB137)		Prerequisite:	None	
This course introduces the PL/SQL programming language. Students create sharable PL/SQL blocks of application code, develop and manage PL/SQL program units and database triggers, manage dependencies, manipulate large objects, handle exceptions, and use the Oracle-supplied package. Students will take the Oracle Exam 1Z0-147 which is part of the Oracle Internet Application Developer Certification. (F,Sp)			This course introduces students to basic features of the Microsoft Windows operating system. Topics include using the Windows Desktop, menus, tool-bars, and manage files. It is designed for the novice computer user desiring Windows experience to prepare for MS Office courses, online courses and general use of personal computers. (F,Sp,Su)		
CITD227	Database Independent Study	.25-4	CITF107	IC3 Certification	3
Prerequisite:	Department Approval		Prerequisite:	Reading Level 3 and Writing Level 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)			This introductory level course provides a starting point for computer and Internet literacy skills sufficient for entrance into the job market or educational opportunities. Students prepare for the IC3 (Internet and Computing Core) certification gaining skill-based knowledge with both computer and Internet usage for enhanced productivity and marketability. (F,Sp,Su)		
CITD229	Special Topics in Database	.25-6	CITF108	Microsoft Windows	2
Prerequisite:	None		Prerequisite:	None	
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)			Recommended: Reading Level 5		
CITD250	Database Concepts	3	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 (Windows XP). (F,Sp,Su)		
Prerequisite:	Minimum 2.0 in CITF110 (previously CISB100) and (CITP110 (previously CISB114) or CISB119) and Reading Level 5 and Writing Level 6		CITF110	Intro Computer Info Systems	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,Sp)			Prerequisite: Reading Level 4 and Writing Level 4		
			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 three major micro-computer tools: word processors, spreadsheets, and database management systems. (F,Sp,Su)		
CITF - Computer Information Technology/Foundations					
CITF102	Computer Skills for Non-Majors	2	CITF120	Operating Systems Concepts	3
Prerequisite:	None		Prerequisite:	Reading Level 5	
Surveys concepts and uses of software applications: word processors, spreadsheets, and database managers. Terminology, problem solving, and acquisition factors associated with personal computers are discussed. Hands-on computer use. (F,Sp,Su)			Recommended: CITF110 (previously CISB100) and (CITP110 (previously CISB114) or CITP150 (previously CISB179) or CISB119)		
CITF103	Internet Basics	2	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:	None		CITF200	Information Systems and Problem Solving	3
Recommended:	Windows familiarity and Reading Level 3 and Writing Level 4		Prerequisite:	Reading Level 5 and Writing Level 6	
Designed to explore the potential uses of the Internet, students will complete hands-on, skill-based assignments and gain extensive experience utilizing Blackboard to access and turn in their course work. Students will develop basic literacy with many Internet tools such as e-mail, search engines, modifying and posting a web page template. (F,Sp,Su)			Fundamental changes have occurred in organizations with the application of computer technology. This course chronicles the source of that technology in science, explores the limitations of computer technology, examines the impact of the technology in business organizations and society, and develops problem-solving techniques for use in conjunction with computers. Students will work in teams, make group presentations and apply continuous improvement methods. (F,Sp,Su)		
CITF104	Introduction to DOS	1	CITF227	Computer Foundations Independent Study	.25-4
Prerequisite:	Reading Level 5		Prerequisite:	Department Approval	
Students in this course develop skill in applying the most common commands used by the Windows Command Line. Students also learn how to organize disk directories and how to create and work with files. File attributes, disk partitioning and formatting are also discussed. (F,Sp,Su)			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)		

CITF229 Special Topics in Foundations .25-6

Prerequisite: None

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)

CITF240 Information Technology Project Mgmt 3

Prerequisite: Minimum 2.0 in CITF110 (previously CISB100) or CITF200 (previously CISB200)

This course provides a comprehensive introduction to IT Project Management and covers the basic concepts of project scope, planning, execution, and closure. Students will be developing project plans; tracking to those plans; managing ambiguity and risks; and making changes to the plan using real world examples. (F,Sp,Su)

CITF260 Systems Analysis and Design 4

Prerequisite: Minimum 2.0 in CITF110 (previously CISB100) and (CITP110 (previously CISB114) or CITP150 (previously CISB179) or CISB119) and Reading Level 5 and Writing Level 6

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. (F,Sp)

CITN - Computer Information Technology/Networking

CITN115 Home Technology Integration 6

Prerequisite: Reading Level 4 and Writing Level 4

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)

CITN120 Introduction to Networking 3

Prerequisite: Reading Level 4 and Writing Level 4

Recommended: CITF110 (previously CISB100)

The student in this course learns the fundamentals of Local Area Networks (LANs) and related topics, including Wide Area Networking (WAN). Communication standards such as the ISO 7 layer model are introduced. Business telecommunications technologies will be introduced. (F,Sp,Su)

CITN220 Networking Concepts 3

Prerequisite: Minimum 2.0 in CITS129 (previously CISB235) and CITS130 (previously CISB236) and Reading Level 5 and Writing Level 6

The course provides a comprehensive introduction to data communications systems, how they are integrated, and differences between the various networks and network carriers. Students learn terminology and major protocols to a level adequate to discuss data communication topics with other professionals. This course includes the exam that leads to Comp TIA Network+ certification. (F,Sp,Su)

CITN227 Networking Independent Study .25-4

Prerequisite: Department Approval

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)

CITN229 Special Topics in Networking .25-6

Prerequisite: None

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)

CITN230 Linux/UNIX Operating System 3

Prerequisite: Minimum 2.0 in CITN220 (previously CISB130) and CITF120 (previously CISB133)

This course provides hands-on training in the Linux operating system. Students will learn to install, use, and administer a Linux operating system including shell programming and user account management. Application software for Linux operating systems will also be discussed. This course includes the exam that leads to Comp TIA Linux+ certification. (F,Sp)

CITN250 Microsoft Network Server 3

Prerequisite: Minimum 2.0 in CITN220 (previously CISB130) and CITF120 (previously CISB133)

This course provides students with an understanding of how to install, configure, administer, and support the primary services in the Microsoft Server 2003 system by examining basic system administration procedures such as the creation and management of user, group, computer accounts, and the sharing of system resources. (F,Sp)

CITN270 Novell Netware Administration 3

Prerequisite: Minimum 2.0 in CITN220 (previously CISB130) and CITF120 (previously CISB133)

This course presents techniques for administering Novell NetWare networks. Topics include NetWare features and services, techniques for installing, managing, and maintaining networks using NetWare; tools for network printing, Internet, web and email services; and network security. The Certified Novell Administrator certification exam for NetWare is included. (F,Sp)

CITN280 IT Security Foundations 3

Prerequisite: Minimum 2.0 in CITN220 (previously CISB130)

Recommended: CITF120 (previously CISB133) or CITN230 (previously CISB234) or CITN250 (previously CISB233) or CITN270 (previously CISB231)

This course provides a comprehensive introduction to IT security and covers the basic concepts of data integrity, confidentiality, and availability. The course focuses on the threats and countermeasures relevant to IT security. Students will be prepared to evaluate the security needs of organizations and to develop policies to address these needs. (F,Sp,Su)

CITP - Computer Information Technology/Programming

CITP110 Introduction to Computer Programming 4

Prerequisite: Reading Level 5

An introduction to computer programming which includes: an introduction to structured design; programming control structures; arrays; file processing; and control break processing. Flowcharts and Warnier-Orr diagrams are used for logic design. Coding examples and problems are covered using QBasic and Visual Basic for application. (F,Sp,Su)

CITP150 Introduction to VB.Net Programming 4

Prerequisite: None

Recommended: Minimum 2.0 in CITP110 (previously CISB114)

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,Su)

CITP190 Introduction to Programming in JAVA 3

Prerequisite: Minimum 2.0 in (CITP110 (previously CISB114) or CISB119 or CISB122)

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,Su)

CITP200 Programming Microsoft Access 3

Prerequisite: Minimum 2.0 in CITA235 (previously CABS232) and (CITP110 (previously CISB114) or CITP150 (previously CISB179) or CISB119)

Advanced-level database management for the Access user who already has an advanced or good working knowledge of Access and wants to learn Visual Basic for Applications to program intelligent visual interface objects and automate database processes. (F,Sp)

CITP227 Programming Independent Study .25-4

Prerequisite: Department Approval

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)

CITP229 Special Topics in Programming .25-6

Prerequisite: None

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)

CITP250 Advanced VB.NET Programming 4

Prerequisite: None

Recommended: Minimum 2.0 in CITP150 (previously CISB179)

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 advanced form design, error handlers, data validation, object oriented programming concepts, database access and programming, use of collections and developing help systems. (F,Sp)

CITP290 Advanced JAVA Programming for Business 4

Prerequisite: Minimum 2.0 in CITP190 and CITW150 (previously CISB102)

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)

CITP295 Programming Internship 3

Prerequisite: Department Approval

This internship provides the student with on-the-job experience as a computer programmer. Two hundred hours of experience at a local computer information systems site is required. The student is expected to write or maintain programs, create documentation, learn job control commands, and work on interactive systems. (F,Sp,Su)

CITS - Computer Information Technology/Support**CITS100 Schematic Drawing 1**

Prerequisite: Reading Level 5

A nonmathematical beginning course in electronics covering electronic component recognition, reading schematics, freehand and computer drawing of schematic diagrams, and relating schematic diagrams to electronic circuits. (F,Sp,Su)

CITS120 A+ Core Hardware Technologies 3

Prerequisite: Reading Level 5

Recommended: CITF110 (previously CISB100)

This course provides the student with practical, hands-on experience in installing, maintaining, and trouble-shooting microcomputer hardware. Topics include CPU, storage devices, add-on boards, video displays, printers, communication devices, and configuration. This course includes the 220-221 CompTIA A+ Core Hardware exam that is the first half of the requirements for CompTIA A+ certification. (F,Sp,Su)

CITS130 Computer Software Support 3

Prerequisite: Reading Level 5

Recommended: CITF108 (previously CABS195)

This course provides students with the skills necessary to diagnose and correct problems that microcomputer users encounter. The course covers installing and upgrading operating systems and applications, memory optimization, and printer configuration. This course includes the 220-222 CompTIA A+ OS Technologies exam that is the second half of the requirements for CompTIA A+ certification. (F,Sp,Su)

CITS160 Logic Problems Analysis 3

Prerequisite: Reading Level 5 and Writing Level 2 and Math Level 4

Recommended: Math Level 5

Course topics include manipulation of formulas used in electronics, basic gate operation, truth tables, Boolean algebra, binary, octal and hexadecimal base number systems. (F,Sp,Su)

CITS161 Soldering and Desoldering 1

Prerequisite: None

A basic soldering course. Topics include soldering electronic components to printed circuit boards and surface mount soldering. Desoldering components using solder wick, vacuum desoldering tools and equipment and printed circuit board repair. Students assemble a digital multimeter as a final course project. (F,Sp,Su)

CITS170 Basic Electronics for PC Repair 6

Prerequisite: Reading Level 5 and Writing Level 2 and Math Level 4

Recommended: CITS160 (previously ELCT160) or Math Level 5

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,Sp,Su)

CITS171 PC Hardware Operation 6

Prerequisite: None

A digital electronics and computer systems course. Course topics include electronic, magnetic and optical storage, memory management, microprocessors, I/O devices, computer system operation, motherboards, and an introduction to data communications and LANs. Coursework includes lab exercises each week. (F,Sp,Su)

CITS175 Troubleshooting Computer Systems 3

Prerequisite: Minimum 2.0 in CITS170 (previously ELCT170) or concurrently

This is a troubleshooting and repair course. Course topics include basic troubleshooting techniques, unit and board swap computer troubleshooting, and computer preventive maintenance. This is primarily a lab course. (F,Sp,Su)

CITS180 Electronic Test Equipment Operation 3

Prerequisite: Reading Level 5 and Writing Level 2

A basic test equipment course. This course introduces the student to the operation of electronics test equipment including VOM, DMM, oscilloscopes, storage oscilloscopes and basic digital test equipment. Lab work is emphasized. (F,Sp,Su)

CITS181 Computer Diagnostic Software 2

Prerequisite: Minimum 2.0 in (CITS171 (previously ELCT171) or concurrently) or (ELCT110 and ELTE126 (previously ELCT131))

Topics include the computer POST test, software diagnostic programs, hardware diagnostic cards, and other computer troubleshooting equipment. Coursework includes lab exercises each week. (F,Sp,Su)

CITS227 Computer Support Independent Study .25-4

Prerequisite: Department Approval

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)

CITS229 Special Topics in Computer Support .25-6**Prerequisite:** None

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)

CITS285 IT Professional Internship 2-3**Prerequisite:** Department Approval

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)

CITW - Computer Information Technology/Web**CITW150 Internet Literacy 3****Prerequisite:** Reading Level 5 and Writing Level 6**Recommended:** Windows familiarity

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)

CITW160 Developing Pages for the Web 3**Prerequisite:** Minimum 2.0 in CITW150 (previously CISB102) or CITE103 (previously CABS103) or ARTS173

This course explores techniques of web page construction including HTML and the appropriate use of multimedia elements. Students will develop individual websites that progress to include elements such as graphics and multimedia. Within in team, students will demonstrate their understanding and application of the concepts introduced during the semester. (F,Sp,Su)

CITW165 Advanced Web Development 3**Prerequisite:** Minimum 2.0 in CITW160 (previously CISB203)**Recommended:** Reading Level 5 and Writing Level 6

This course explores advanced techniques of web page construction including, but not limited to: XHTML, DHTML, CSS, XML and JavaScript. Students will develop individual websites which include interactive elements using these technologies. (F,Sp)

CITW175 Web Site Management 3**Prerequisite:** Minimum 2.0 in CITW160 (previously CISB203)**Recommended:** Reading Level 5 and Writing Level 6

This course introduces concepts of web site management. Students will explore web site planning, promotion, and security, as well as the legal issues with website management. Students will learn about domain names, web hosting and shopping cart software as well as develop an individual web site throughout the semester. (F,Sp)

CITW180 ASP.Net Web Development 4**Prerequisite:** Minimum 2.0 in CITW160 (previously CISB203) and (CITP150 (previously CISB179) or CITE250 or CISB119 or CISB122)

This course provides instruction in building web sites using Microsoft ASP.NET. Students will learn how to create dynamic, flexible, and interactive web pages as well as develop an individual web site throughout the semester. (F,Sp)

CITW190 Web Portfolio 2**Prerequisite:** Minimum 2.0 in CITW160 (previously CISB203)**Recommended:** Windows Familiarity

This is a capstone course for the Internet for Business Certificate of completion. Students will explore employment opportunities matching the skills developed in the program. They will develop a web portfolio by review and evaluation that represents their best work. They will create a resume in both print and scannable digital formats. (F,Sp,Su)

CITW227 Web Independent Study .25-4**Prerequisite:** Department Approval

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)

CITW229 Special Topics in Web and Internet .25-6**Prerequisite:** None

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)

CIVL - Civil Technology**CIVL101 Civil Drafting 4****Prerequisite:** Minimum 2.5 in (CADD100 or LAND100) or Drafting Placement Test 70%

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,Sp)

CIVL120 Surveying 4**Prerequisite:** Minimum 3.0 in MATH114 or Math Level 5

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,Sp)

CIVL124 Route Survey 4**Prerequisite:** Minimum 2.5 in CIVL120

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. (F,Sp)

CIVL131 Traffic Technology 3**Prerequisite:** None

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. (Sp)

CIVL132 Construction Materials 5**Prerequisite:** Minimum 3.0 in MATH114 or Math Level 5

Students will study techniques and equipment used in constructing bridges, buildings, highways and pipelines. Deals with determination of properties of aggregates, concrete and other bituminous materials. Teaches methods of designing concrete mixes for different uses and methods of sampling and testing. (F,Sp)

CIVL135 Soils Technology 3**Prerequisite:** Minimum 3.0 in MATH114 or Math Level 5

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)

CIVL136 Hydrology and Highway Technology 5**Prerequisite:** Minimum 3.0 in CIVL131 and (minimum 3.0 in MATH114 or Math Level 5)

This course is an introduction to highway inventory, planning, organization, rudiments of finance, geometric design, earthwork, and drainage structures. Emphasis is placed on these elements as components of final highway plans. Analysis of precipitation and the attendant runoff and recharge will be introduced. (Sp)

CIVL170 Special Topics in Civil Technology .25-8**Prerequisite:** None

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)

CIVL200 Civil Mathematics 5**Prerequisite:** Minimum 3.0 in MATH114 or Math Level 5

This course applies differential calculus and integral calculus to practical technical problems. Topics include related rates, maximum and minimum problems and areas under curves. (Sp)

CIVL225 Civil Technology Independent Study 1-4**Prerequisite:** None**Restriction:** Civil Technology Majors

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)

CIVL241 Statics/Strength of Materials 5**Prerequisite:** Minimum 2.5 in CIVL200

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. (Sp)

CIVL271 MDOT Internship I 3**Prerequisite:** Department Approval

Provides first-year civil technology students with practical work experience in their career field. The student works for the Michigan Department of Transportation (MDOT) in jobs related to highway and bridge construction as well as attending in-class instruction. Enrollment is restricted to MDOT Civil Technology students. (Su)

CIVL272 MDOT Internship II 3**Prerequisite:** Department Approval

Provides second-year civil technology students with practical work experience in their career field. The student works for the Michigan Department of Transportation (MDOT) in jobs related to highway and bridge construction, as well as attending in-class instruction. Enrollment is restricted to MDOT Civil Technology students. (F,Su)

CJUS - Criminal Justice**CJUS101 Introduction to Criminal Justice 3****Prerequisite:** Reading Level 5 and Writing Level 4

A survey course designed to provide students with a current, coordinated, and comprehensive overview of criminal justice as an institution and as a system. Emphasizes historical, philosophical, constitutional, and organizational perspectives. (F,Sp,Su)

CJUS102 Crime Causes and Conditions 3**Prerequisite:** Reading Level 5 and Writing Level 4

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)

CJUS103 Criminal Law 3**Prerequisite:** Minimum 2.0 in CJUS101 or concurrently

Study of substantive criminal law. Includes classification of crimes, common law concepts, elements of specific crimes, and discussion of current trends in criminal law nationally and locally. (F,Sp,Su)

CJUS104 Theory of Patrol 3**Prerequisite:** Reading Level 5 and Writing Level 4**Recommended:** CJUS101

This course is designed to introduce the student to the concepts and theories of patrol and the delivery of police services. (F,Sp,Su)

CJUS106 Introduction to Juvenile Justice 3**Prerequisite:** Reading Level 5 and Writing Level 4

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)

CJUS126 Juvenile Offenders and Their Families 3**Prerequisite:** Minimum 2.0 in CJUS106 or concurrently

This course takes an in-depth look at the diverse nature of juvenile offenders and their family backgrounds. Issues impacting juvenile behavior such as gender, gangs, drugs, and disabilities will be discussed. (F,Sp,Su)

CJUS130 Local Detention 3**Prerequisite:** Reading Level 5 and Writing Level 4

This course explains operations of local detention facilities and their unique role in the criminal justice system. Emphasis is placed on Michigan jail and lockup operations, as well as the organization, management, policy environment, and emerging issues confronting American jails. Differences in jail and prisons regarding operations and differing clientele are also covered. (F,Sp)

CJUS131 Introduction to Corrections 3**Prerequisite:** Reading Level 5 and Writing Level 4

Introduction to 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)

CJUS133 Juvenile Residential Services 3**Prerequisite:** Minimum 2.0 in CJUS106 or concurrently

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)

CJUS134 Probation and Parole 3**Prerequisite:** Minimum 2.0 in (CJUS101 or CJUS131) or concurrently

An introductory level course in probation and parole with 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,Su)

CJUS135 Legal Issues in Corrections 3**Prerequisite:** Minimum 2.0 in (CJUS130 or CJUS131) or concurrently

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,Sp,Su)

CJUS201 Criminal Justice Organization/Admin 3**Prerequisite:** Minimum 2.0 in CJUS101

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)

CJUS203 Criminal Procedure 3**Prerequisite:** Minimum 2.0 in CJUS103

Study of criminal procedural law. Includes laws of arrest, search and seizure, and admissions and confessions, suspect identification, and rules of evidence. (F,Sp)

CJUS204 Criminal Investigation 4
Prerequisite: Reading Level 5 and Writing Level 4
Recommended: Minimum 2.0 in CJUS103
 Examines the fundamentals of criminal investigation such as crime scene procedures, collection and preservation of physical evidence, interviewing, interrogation, and latent investigation. (F,Sp)

CJUS205 Policing into the 21st Century 3
Prerequisite: Minimum 2.0 in CJUS101
 This course is designed to provide the student with an understanding of the philosophy of community policing. As such, the components and processes involved in the implementation of non-traditional policing methods, as well as the development of a partnership between the community and the police, will be examined. (F,Sp)

CJUS210 Introduction to Forensic Science 3
Prerequisite: Reading Level 5 and Writing Level 4
 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)

CJUS242 Unarmed Defense 3
Prerequisite: None
 Hands-on techniques to prepare students to properly and effectively handle law enforcement related physical confrontations. Includes use of force decision-making skills, pressure points, control holds, and handcuffing. (F,Sp,Su)

CJUS245 Report Writing in Criminal Justice 3
Prerequisite: Minimum 2.0 in (CJUS101 or CJUS130 or CJUS131)
 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)

CJUS250 Correctional Institutions 3
Prerequisite: Minimum 2.0 in CJUS131 or concurrently
 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,Sp,Su)

CJUS251 Correctional Clients 3
Prerequisite: Minimum 2.0 in (CJUS130 or CJUS131) or concurrently
 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. (F,Sp,Su)

CJUS255 Human Relations/Criminal Justice 3
Prerequisite: Minimum 2.0 in (CJUS101 or CJUS130 or CJUS131) or concurrently and Reading Level 5
 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)

CJUS260 Criminal Investigations & Procedures 3
Prerequisite: Admission to Police Academy
Co-requisite Course(s): CJUS261 and CJUS262 and CJUS263 and CJUS264 and CJUS265 and CJUS269 and PFFT114 and PFHW100
 Designed for hands-on, practical instruction in the following areas: crime scene processing, on-scene preliminary investigation, witness interviewing, suspect identification, latent prints, photography, child abuse, sexual assault, narcotics, and preparation for court. (F,Sp)

CJUS261 Michigan Criminal Law & Procedure 4
Prerequisite: Admission to Police Academy
Co-requisite Course(s): CJUS260 and CJUS262 and CJUS263 and CJUS264 and CJUS265 and CJUS269 and PFFT114 and PFHW100
 Designed for hands-on, practical instruction in criminal law and procedure as it pertains to law enforcement in the state of Michigan. Topics include crimes against persons and property, regulatory crimes, public order crimes, juvenile law, admissions/confessions, laws of arrest, search and seizure, and suspect identification. (F,Sp)

CJUS262 Patrol Procedures and Tactics 4
Prerequisite: Admission to Police Academy
Co-requisite Course(s): CJUS260 and CJUS261 and CJUS263 and CJUS264 and CJUS265 and CJUS269 and PFFT114 and PFHW100
 The course is designed to identify and utilize proper patrol techniques and procedures necessary for a police officer to function safely and effectively. Topics include preparation for patrol, types of patrol, responding to crimes in progress, roadblocks, civil process, handling abnormal persons, and officer survival. (F,Sp)

CJUS263 Standard First Aid 2
Prerequisite: Admission to Police Academy
Co-requisite Course(s): CJUS260 and CJUS261 and CJUS262 and CJUS264 and CJUS265 and CJUS269 and PFFT114 and PFHW100
 Designed to identify the roles and responsibility of a law enforcement officer at the scene of a medical emergency based upon American Red Cross standard first aid and CPR training. (F,Sp)

CJUS264 Report Writing in Law Enforcement 2
Prerequisite: Admission to Police Academy
Co-requisite Course(s): CJUS260 and CJUS261 and CJUS262 and CJUS263 and CJUS265 and CJUS269 and PFFT114 and PFHW100
 This course is designed to prepare the student to effectively and efficiently write a proper police report that will serve as a basis for the issuance of a warrant and court prosecution. Topics include obtaining information, basic English skills, criminal justice terminology, and proper formatting. (F,Sp)

CJUS265 Highway Traffic Operations 5
Prerequisite: Admission to Police Academy
Co-requisite Course(s): CJUS260 and CJUS261 and CJUS262 and CJUS263 and CJUS264 and CJUS269 and PFFT114 and PFHW100
 This course is designed to familiarize the student with the proper procedures for traffic control and enforcement. Emphasizes state motor vehicle laws and procedures, arrests and citations, O.U.I.L., and accident investigation. (F,Sp)

CJUS269 Police Skills:Firearms/Def.Tactics/Drive 8
Prerequisite: Admission to Police Academy
Co-requisite Course(s): CJUS260 and CJUS261 and CJUS262 and CJUS263 and CJUS264 and CJUS265 and PFFT114 and PFHW100
 This course is designed to assist law enforcement students in developing and improving their skills in firearms, subject control, and emergency vehicle operations. This course involves both classroom and hands-on training. (F,Sp)

CJUS281 Directed Independent Study 1-3
Prerequisite: Department Approval
 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)

CJUS285 Law Enforcement Internship 2
Prerequisite: Department Approval
 Sixteen eight-hour shifts are scheduled with an approved police department. Written reports are required. (F,Sp,Su)

CJUS286 Juvenile Internship I 3

Prerequisite: Minimum 2.0 in CJUS106 or concurrently and Department Approval

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,Su)

CJUS287 Juvenile Internship II 3

Prerequisite: Minimum 2.0 in CJUS286 and (CJUS133 or concurrently) and Department Approval

Recommended: For Juvenile Care Worker students
The student will be placed in a residential facility with juveniles who have been adjudicated by the court to be detained in a secure environment for treatment and rehabilitation purposes. (F,Sp,Su)

CJUS288 Corrections Internship 3

Prerequisite: Department Approval

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,Su)

CPSC - Computer Science**CPSC120 Introduction to Computers 3**

Prerequisite: Reading Level 5 and Writing Level 4

In this survey course, the student learns of the application of computers in society, considers their social and economic implications, examines questions of privacy and security, and considers recent advances in computer technology. In addition, the student is exposed to beginning instruction and practice in word processing, spreadsheet and database applications, programming, and user networks. (F,Sp,Su)

CPSC230 Algorithms and Computing with C++ 4

Prerequisite: (Minimum 2.0 in MATH151 or MATH161 or concurrently) and Reading Level 5 and Writing Level 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<T> classes, arrays, pointer variables, and elementary linked lists. (F,Sp,Su)

CPSC231 Computing and Data Structures 4

Prerequisite: Minimum 2.0 in CPSC230 and Reading Level 5 and Writing Level 4

Data abstraction and related theory for representation and access of information using C++. Algorithms and abstract data structures such as the stack, queue, binary search tree, heap and priority queue are studied. (F,Sp)

CPSC260 Computer Science Structures 4

Prerequisite: Minimum 2.0 in CPSC230 and (MATH151 or MATH161) and Reading Level 5 and Writing Level 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)

CPSC295 Independent Study in Computer Science 1-4

Prerequisite: Department Approval

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)

CUAI - Credit Union Accounting and Insurance**CUAI102 Credit Union Accounting 3**

Prerequisite: None

This course emphasizes those areas of financial accounting relevant to external reporting by credit unions. (Sp)

CUMA - Credit Union Management**CUMA100 Introduction to Credit Union Operations 3**

Prerequisite: None

This course provides students with an overview of the credit union movement, its position in the financial services industry, and basic credit union operating procedures. Directed toward staff, management, and elected officials of credit unions who wish to increase their knowledge of both the credit union movement and operations. (F,Sp)

CUMA200 Credit and Collections 3

Prerequisite: None

This course covers the fundamentals of the credit/collection industry. Emphasis is placed on learning the basics of the credit decision-making process and the collection of past due loans. The course is designed for credit union personnel who want to better understand the relevant laws and regulations of credit union credit and collections. (F,Sp)

CUMA215 Business Law for Credit Unions 3

Prerequisite: None

This course covers fundamental principles of law applicable to credit union personnel and will prepare students to perform the legal responsibilities of their jobs more knowledgeably. Course content includes study of contracts, personal and real property, torts, crimes, and the nature and sources of law as related to credit union operations. (F,Sp)

DANC - Dance**DANC101 Beginning Ballet 2**

Prerequisite: None

Designed for students with no dance experience. Included are examination of the history of Ballet, dance anatomy and injury prevention in addition to 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)

DANC102 Beginning Modern 2

Prerequisite: None

Designed for the students with no dance experience. Basic examination of the history of Modern dance, training in dance anatomy, injury prevention, alignment techniques, spatial relationships, and elementary combinations will be explored. Improvisation will be used throughout the course to assist in developing kinesthetic, spatial, cognitive, and physical awareness. (F,Sp,Su)

DANC103 Beginning Jazz 2

Prerequisite: None

Designed for the student with no dance experience. Included are examination of the history of Jazz, training in dance anatomy and injury prevention. Basic alignment, warm-up, and isolations in jazz dance technique for beginning dance students are emphasized in addition to spatial relationships and rhythm. (F,Sp)

DANC104 Beginning Tap 2

Prerequisite: None

Designed for the student with no dance experience. Included are an examination of the history of Tap as well as training in dance anatomy and injury prevention. Basic vocabulary, steps, combinations, and rhythms are explored in addition to spatial relationships. (F,Sp)

DANC161 Dance Repertory 5-1

Prerequisite: Department Approval

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 the ballet genre and concentrates on memorization, projection, and musicality. (Sp)

DANC201 Intermediate Ballet 3
Prerequisite: Dance Audition for Intermediate Ballet
 This course includes a continuation of movement theory, alignment, increased training practices, vocabulary, and longer combinations. Emphasis is placed on center floor transitional techniques, dance dynamics, and development of personal movement style in preparation for performance. Intermediate concepts in Ballet history and choreography are explored. Pointe shoes are optional. (F,Sp,Su)

DANC202 Intermediate Modern 3
Prerequisite: Dance Audition for Intermediate Modern
 This course includes a continuation of alignment training, spatial relationships, choreography, improvisation, concepts in Modern Dance history, vocabulary, and longer combinations. Emphasis is placed on center floor transitional techniques, dance dynamics, examination and practice of movement qualities, and development of a personal movement style in preparation for performance. (F,Sp,Su)

DANC203 Intermediate Jazz 3
Prerequisite: Dance Audition for Intermediate Jazz
 This course includes a continuation of alignment training, movement theory, increased training practices, isolations, and longer combinations. Emphasis is placed on jazz dance dynamics, center floor transitional techniques, and development of a personal movement style in preparation for performance. Intermediate concepts in Improvisation, Choreography and Jazz Dance History are explored. (F,Sp)

DANC204 Intermediate Tap 3
Prerequisite: Dance Audition for Intermediate Tap
 This course includes a continuation of tap vocabulary, steps, combinations, and rhythms. Emphasis is placed on increased complexity in rhythms and combinations, and development of a personal movement style in preparation for performance. Intermediate concepts in the history of tap, improvisation and choreography are explored. (F,Sp)

DANC290 Dance Studio Internship 2
Prerequisite: Department Approval
 Designed for dance students to work with a local professional dance company/dance school. Opportunities include: Advanced dance classes with company members, learning company choreography, experience teaching methodologies, exposure to business aspects of a studio and the arts administrative processes including grant writing. May be repeated three times for credit. (F,Sp)

DENT - Dental Hygiene

DENT140 Oral Histology & Embryology 2
Prerequisite: Admission to Dental Hygienist Program
Co-requisite Course(s): DENT142 and DENT144 and DENT146 and DENT148
 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)

DENT142 PreClinical Dental Hygiene 3
Prerequisite: Admission to Dental Hygienist Program
Co-requisite Course(s): DENT140 and DENT144 and DENT146 and DENT148
 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)

DENT144 PreClinical Dental Hygiene Practice 2
Prerequisite: Admission to Dental Hygienist Program
Co-requisite Course(s): DENT140 and DENT142 and DENT146 and DENT148
 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)

DENT146 Head, Neck & Oral Anatomy 4
Prerequisite: Admission to Dental Hygienist Program
Co-requisite Course(s): DENT140 and DENT142 and DENT144 and DENT148
 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)

DENT148 Dental Radiography 3
Prerequisite: Admission to Dental Hygienist Program
Co-requisite Course(s): DENT140 and DENT142 and DENT144 and DENT146
 This course provides a study of radiation physics, hygiene, and safety theories. Emphasis is placed on the fundamentals of oral radiographic techniques and interpretation of radiographs. Course content includes exposure of intra-oral radiographs, quality assurance, radiographic interpretation, patient selection criteria, and other ancillary radiographic techniques. (F)

DENT152 Dental Hygiene I 2
Prerequisite: Minimum 2.0 in (DENT140 and DENT142 and DENT146 and DENT148) and minimum 2.5 in DENT144
Co-requisite Course(s): DENT154 and DENT156 and DENT158 and DENT160
 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)

DENT154 Clinical Dental Hygiene I 2.5
Prerequisite: Minimum 2.0 in (DENT140 and DENT142 and DENT146 and DENT148) and minimum 2.5 in DENT144
Co-requisite Course(s): DENT152 and DENT156 and DENT158 and DENT160
 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)

DENT156 Nutrition 3
Prerequisite: Minimum 2.0 in (DENT140 and DENT142 and DENT146 and DENT148) and minimum 2.5 in DENT144
Co-requisite Course(s): DENT152 and DENT154 and DENT158 and DENT160
 This course discusses the identification, function, metabolism, and sources of specific nutrients required for normal growth, development, and repair of tissues. Application of principles to the individual's nutritional needs, providing nutritional counseling and diet information to special needs patients, and the relationship of nutrition to oral health are emphasized. (Sp)

- DENT158 Dental Pharmacology I** 2
Prerequisite: Minimum 2.0 in (DENT140 and DENT142 and DENT146 and DENT148) and minimum 2.5 in DENT144
Co-requisite Course(s): DENT152 and DENT154 and DENT156 and DENT160
 This course provides an introductory 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)
- DENT160 Oral Pathology** 3
Prerequisite: Minimum 2.0 in (DENT140 and DENT142 and DENT146 and DENT148) and minimum 2.5 in DENT144
Co-requisite Course(s): DENT152 and DENT154 and DENT156 and DENT158
 This course is a study of the diseases affecting oral tissues, including the principles of inflammation and repair, developmental disturbances, stains and accretions, diseases of the teeth and supporting structures, oral infection, injuries and neoplasms. (Sp)
- DENT174 Clinical Dental Hygiene II** 1
Prerequisite: Minimum 2.0 in (DENT152 and DENT156 and DENT158 and DENT160) and minimum 2.5 in DENT154
Co-requisite Course(s): DENT176 and DENT178
 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)
- DENT176 Dental Materials & Methods** 3
Prerequisite: Minimum 2.0 in (DENT152 and DENT156 and DENT158 and DENT160) and minimum 2.5 in DENT154
Co-requisite Course(s): DENT174 and DENT178
 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)
- DENT178 Dental Pharmacology II** 2
Prerequisite: Minimum 2.0 in (DENT152 and DENT156 and DENT158 and DENT160) and minimum 2.5 in DENT154
Co-requisite Course(s): DENT174 and DENT176
 A continuation of the study of the pharmacological 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. (Su)
- DENT240 Anxiety & Pain Control Management** 3
Prerequisite: Minimum 2.5 in DENT174 and minimum 2.0 in (DENT176 and DENT178)
Co-requisite Course(s): DENT242 and DENT244 and DENT246 and DENT248
 This course will provide the student with basic and current concepts of local anesthetics and pain control for the safe and effective administration of local anesthetics and nitrous oxide/oxygen sedation. Instruction in local anesthetic technique and an introduction to the use of nitrous oxide as an analgesia is included. (F)
- DENT242 Dental Hygiene III** 2
Prerequisite: Minimum 2.5 in DENT174 and minimum 2.0 in (DENT176 and DENT178)
Co-requisite Course(s): DENT240 and DENT244 and DENT246 and DENT248
 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)
- DENT244 Clinical Dental Hygiene III** 3.5
Prerequisite: Minimum 2.5 in DENT174 and minimum 2.0 in (DENT176 and DENT178)
Co-requisite Course(s): DENT240 and DENT242 and DENT246 and DENT248
 The clinical sessions combine dental hygiene skills with time management techniques essential for private practice. Comprehensive patient care includes assessment, 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)
- DENT246 Principles of Periodontics** 3
Prerequisite: Minimum 2.5 in DENT174 and minimum 2.0 in (DENT176 and DENT178)
Co-requisite Course(s): DENT240 and DENT242 and DENT244 and DENT248
 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. (F)
- DENT248 Dental Public Health & Educ** 3
Prerequisite: Minimum 2.5 in DENT174 and minimum 2.0 in (DENT176 and DENT178)
Co-requisite Course(s): DENT240 and DENT242 and DENT244 and DENT246
 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)
- DENT250 Oral Health Psychology** 2
Prerequisite: Minimum 2.0 in (DENT240 and DENT242 and DENT246 and DENT248) and minimum 2.5 in DENT244
Co-requisite Course(s): DENT252 and DENT254 and DENT256
 This course is an introduction to the understanding of relationships between oral health and one's behavior. Emphasis is placed on the identification of personal and environmental factors that impact oral health and the application of behavioral science to maximize health and oral health. (Sp)
- DENT252 Dental Hygiene IV** 2
Prerequisite: Minimum 2.0 in (DENT240 and DENT242 and DENT246 and DENT248) and minimum 2.5 in DENT244
Co-requisite Course(s): DENT250 and DENT254 and DENT256
 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)
- DENT254 Clinical Dental Hygiene IV** 3
Prerequisite: Minimum 2.0 in (DENT240 and DENT242 and DENT246 and DENT248) and minimum 2.5 in DENT244
Co-requisite Course(s): DENT250 and DENT252 and DENT256
 The clinical session combines dental hygiene skills with time management techniques essential for private practice. Comprehensive patient care includes assessment, 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)

DENT256 Community Oral Health 2

Prerequisite: Minimum 2.0 in (DENT240 and DENT242 and DENT246 and DENT248) and minimum 2.5 in DENT244

Co-requisite Course(s): DENT250 and DENT252 and DENT254
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)

DENT280 Dental Auxiliary Special Topic .25-8

Prerequisite: Determined by Unit Section
This course offers students the opportunity to learn new skills and knowledge related to dental hygiene and/or dental assisting. Specific up-to-date course content will vary with each offering and will be related to the dental team, dental hygiene, and/or dental assisting procedures. (F,Sp,Su)

DENT285 Dental Cont Ed Special Topics .25-8

Prerequisite: Determined by Unit Section
This course offers dental health professionals the opportunity to learn new skills and knowledge related to dental hygiene and/or dental assisting through continuing education seminars. Specific, up-to-date course content will vary by seminar and will be related to the dental team, dental hygiene, and/or dental assisting procedures. (F,Sp,Su)

ECON - Economics

ECON120 Power, Authority and Exchange 4

Prerequisite: Reading Level 5
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)

ECON201 Principles of Economics-Micro 3

Prerequisite: Reading Level 5 and Math Level 3
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)

ECON202 Principles of Economics-Macro 3

Prerequisite: ECON201 or concurrently and Reading Level 5 and Math Level 3
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)

ECON213 U.S. Economic/Business History 3

Prerequisite: Reading Level 5
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,Sp)

ECON260 Comparative Economic Systems 3

Prerequisite: Reading Level 5
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. (F,Sp)

EDUC - Education

EDUC201 Teacher Education Practicum 2

Prerequisite: Reading Level 5 and Writing Level 6
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)

EDUC204 Educational Psychology 3

Prerequisite: Reading Level 5 and Writing Level 6
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)

EDUC220 Introduction to Education 3

Prerequisite: Reading Level 5 and Writing Level 6
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)

EDUC226 Reading in Elementary School 3

Prerequisite: Reading Level 5 and Writing Level 6
Recommended: EDUC220 and EDUC204
This course provides an introduction to concepts and issues in the reading development of elementary school children. Included are methods of reading instruction and assessment, and review of current school practices. Intended for teacher paraprofessionals, but may also be used for transfer to a teacher certification program. (F,Sp,Su)

EDUC228 Technology in Education 3

Prerequisite: Reading Level 5 and Writing Level 6
Recommended: EDUC220 and (CPSC120 or CABS110)
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)

EDUC230 Introduction to Special Education 3

Prerequisite: Reading Level 5 and Writing Level 6
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,Su)

ELTE - Electrical Technology

ELTE100 Electrical Safety Practices 1

Prerequisite: None
This course covers basic electrical safety practices in the home, electrical laboratory and in construction and industry. Included are state and federal standards and practices. This course is a prerequisite for, or to be taken concurrently with, all ELTE courses that have a lab. (F,Sp,Su)

ELTE110 Practical Electricity 3

Prerequisite: Minimum 2.0 in (ELTE100 or concurrently) and Reading Level 3 and Writing Level 2 and Math Level 3
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 and transformers. Reviews electrical codes and standards. This course is also available in an open-entry self-paced, modularized format. (F,Sp,Su)

ELTE111 Introduction to Industrial Automation	4	ELTE143 National Electrical Code III	4
Prerequisite: Reading Level 3 This course provides a hands-on introduction to current manufacturing technology. Students will learn to use the MS/PC DOS computer including word processor, spreadsheet and operating system applications. Students will experience the use of industrial robots, programmable logic controllers, machine vision, computer-aided design, discrete electronic components and statistical process control. (F,Sp,Su)		Prerequisite: Minimum 2.0 in ELTE142 For individuals with a journeyman electrician's license who need to review for the State Master's Exam. Students will cover the Code using the index method, discuss interpretation of the Code, study State of Michigan electrical and construction code rules and discuss topics appropriate to the Electrical Contractors Exam. (F)	
ELTE112 Basic Wiring Installation	2	ELTE145 Electrical Prints for Building	4
Prerequisite: Minimum 2.0 in ELTE110 or HVAC110 This course covers installation of a variety of wiring systems in wood frame and masonry construction. Students will practice installing nonmetallic sheathed cable, flexible metal conduit, electrical metallic tubing and rigid conduit. (F,Sp,Su)		Prerequisite: Minimum 2.0 in ELTE141 Recommended: Minimum 2.0 in ELTE121 or equivalent Covers construction prints emphasizing standard and nonstandard symbols and interpretation of prints. Uses the National Electrical Code to calculate branch circuit, feeder, motor circuit and service sizes. Other topics include uninterruptible power supplies, signaling and safety systems. (Sp)	
ELTE121 Analyzing Electric Circuits	5	ELTE150 Electric Motor Maintenance	2
Prerequisite: Minimum 2.0 in ELTE110 and (minimum 2.0 in MATH050 or Math Level 4) This course utilizes concepts in basic 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 and capacitance. (F,Sp)		Prerequisite: Minimum 2.0 in ELTE110 or HVAC110 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)	
ELTE122 Industrial Control Electronics	5	ELTE232 Industrial Control Design	4
Prerequisite: Minimum 2.0 in (ELTE111 (previously ELTE105) and ELTE121) 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: Minimum 2.0 in ELTE131 This course is a continuation of ELTE131, covering more components and larger more complex machine control diagrams including automation interlocking and automatic continuous cycling of machinery. Students will be taught to design the control circuits for more complex machines in conformance with industry standards. (Sp)	
ELTE123 Motors and Transformers	5	ELTE240 Electrical Estimating	3
Prerequisite: Minimum 2.0 in ELTE121 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: Minimum 2.0 in ELTE112 and ELTE145 Basics of preparing accurate, competitive electrical estimates for the building trades. Topics include take-off procedure using electrical, mechanical and architectural prints; lighting design; labor and materials cost and evaluation techniques and specifications. Students should have wiring experience, practice in the use of NEC rules and electrical prints before enrolling. (F)	
ELTE126 Digital Basics	3	ELTE260 Introduction to Programmable Controllers	4
Prerequisite: Reading Level 5 Introduces digital electronics microprocessor basics: Binary number system, basic gates, combination and sequential logic circuits, programming of a microprocessor using mnemonics and addressing modes. Laboratory work includes the analysis of digital circuits built on PC boards and the programming, debugging and interfacing of a MPU trainer to several IO devices. (F,Sp,Su)		Prerequisite: Minimum 2.0 in ELTE131 This course covers programmable logic controllers with focus on common operating principles. Topics include the capabilities, similarities and differences among controllers, programming (examine on/off, timers and counters) and connecting external devices to Allen-Bradley, Modicon and Omron. (F)	
ELTE131 Introduction to Machine Control	4	ELTE261 Allen-Bradley PLC-5 Advanced	6
Prerequisite: Minimum 2.0 in ELTE110 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)		Prerequisite: Minimum 2.0 in ELTE260 This course covers programming and connections for Allen-Bradley PLC-5 controllers. Focus on math, subroutine, file, block transfer, sequencers, logic and bit manipulation instructions. Students will learn logic for machine control, programming and utilizing intelligent cards, ASCII, analog input/output and system documentation. (Sp)	
ELTE141 National Electrical Code I	4	ELTE291 Electrical Project Lab	1-4
Prerequisite: Minimum 2.0 in ELTE110 or HVAC110 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 and learn how to locate often used code sections: Ohm's law, voltage drop, wire and conduit sizing and installation methods. (F,Sp)		Prerequisite: Department Approval 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)	
ELTE142 National Electrical Code II	4	EMSB - Emergency Medical Services Seminars	
Prerequisite: Minimum 2.0 in ELTE141 This course is for individuals with field experience and basic electrical training who need a review for the State Journey Examination. Students will review the Code with focus on locating and interpreting the National Electrical Code. In addition to the NEC, State of Michigan electrical rules will be reviewed. (F,Sp)		EMSB101 CPR for Bystanders/Heart Saver	.25
		Prerequisite: None This seminar is designed for CPR instruction of the general public and adheres to American Heart Association guidelines. Content includes adult one-person CPR and foreign body airway obstruction. Also includes information about heart disease, risk factors, prudent heart living, and heart and lungs physiology. (F,Sp,Su)	

4	EMS102 CPR for Health Care Professionals .5
	Prerequisite: None This seminar is designed for CPR instruction of health care providers and adheres to American Heart Association guidelines. Content includes one- and two-rescuer CPR, child and pediatric CPR, adult, child, pediatric foreign body airway obstruction, information about heart disease, risk factors, and physiology of the heart and lungs. (F,Sp,Su)
4	EMS103 CPR Recertification .25
	Prerequisite: Current Basic Life Support or CPR Card This seminar is designed for CPR instruction for individuals who have previously obtained instruction in the basics of cardiopulmonary resuscitation and foreign body airway obstruction. The participants must have a current health-care provider card for CPR. The curriculum and testing consists of recertification techniques for CPR. (F,Sp,Su)
2	EMS104 CPR Instructor .75
	Prerequisite: None The CPR Instructor's seminar is to provide the opportunity and forum to acquire knowledge and skills to accurately instruct and test the Basic Life Support Provider's courses according to American Heart Association guidelines. (F,Sp,Su)
4	EMS105 Recertification-CPR Instructor .25
	Prerequisite: Current Basic Life Support or CPR Card and Current CPR Instructor Card This seminar is designed to recertify CPR instructors and instructor trainers who have a valid American Heart Association CPR Instructor certificate. The student will be assessed on his/her ability to instruct and assess a student's progress in the Basic Life Support Provider's courses according to AHA guidelines. (F,Sp,Su)
3	EMS106 Infant/Child CPR .25
	Prerequisite: None This seminar provides instruction of CPR for special situations or groups. Infant and child CPR and foreign body airway obstruction for babysitters and parents would fall under this curriculum. (F,Sp)
4	EMS107 First Aid/CPR Seminar/Daycare Provider .5
	Prerequisite: None This seminar is intended for daycare providers to meet the requirements of the Department of Social Services to maintain Daycare Licensure, and for Scout leaders to maintain the Scouts of America guidelines. It will provide eight hours of instruction in basic first aid and infant/child CPR with foreign body airway obstruction. (F,Sp)
6	EMS110 First Aid and CPR Seminar .5
	Prerequisite: None This seminar offers adult CPR including airway obstruction and four hours of basic first aid. American Heart Association certification is given to those successfully completing all components. (F,Sp)
1-4	EMS120 Self-Paced CPR Refresher Health Provider .5
	Prerequisite: Department Approval This self-paced course is designed to provide healthcare professionals with greater flexibility in renewing their healthcare provider CPR certification. This course adheres to the American Heart Association guidelines and will test the individual on one- and two-rescuer CPR, adult, child and infant CPR, and foreign body airway obstruction through the use of a computerized mannequin and laptop system. (F,Sp,Su)
.25	EMS295 Emergency Med Services Special Topics .25-8
	Prerequisite: Determined by Unit Section This course offers students the opportunity to learn new emergency medical services career skills and knowledge. Specific up-to-date content will vary with each topic presented and will be related to emergency medical services careers. (F,Sp,Su)

EMTA - Emergency Medical Technology

EMTA100 Medical First Responder 4
Prerequisite: None 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 course personnel. Successful completion enables the student to apply for state licensure as a medical first responder. (F,Sp,Su)
EMTA101 Basic EMT I 4
Prerequisite: Reading Level 5 and Writing Level 6 Co-requisite Course(s): EMTA102 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)
EMTA102 Basic EMT II 2
Prerequisite: None Co-requisite Course(s): EMTA101 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)
EMTA103 Basic EMT III 4
Prerequisite: Minimum 3.0 in (EMTA101 and EMTA102) Co-requisite Course(s): EMTA104 and EMTA112 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)
EMTA104 Basic EMT IV 2
Prerequisite: Minimum 3.0 in (EMTA101 and EMTA102) Co-requisite Course(s): EMTA103 and EMTA112 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. Successful completion of this course and EMTA101, EMTA102, EMTA103, and EMTA112 enables the student to apply for licensing as a Basic EMT. (F,Sp,Su)
EMTA105 Ambulance Driving 1
Prerequisite: None This is a course to provide the EMT with the knowledge and practical experience in the operation of an ambulance. The course will focus on safety, defensive driving techniques, and specialized driving maneuvers. (F,Sp)
EMTA112 Basic EMT Clinical 2
Prerequisite: Minimum 3.0 in (EMTA101 and EMTA102) Co-requisite Course(s): EMTA103 and EMTA104 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 a community service component. Classroom time enhances assessment, history taking skills, and report writing. (F,Sp,Su)
EMTA114 Rescue/Extrication/Dangerous Situations 3
Prerequisite: None A course to provide EMS or rescue personnel with skills in light and heavy vehicle extrication, industrial rescue techniques, extrication from farm machinery, and other specialized rescue techniques. Emphasis is placed on patient and rescuer safety. (F,Sp)
EMTA115 First Aid and CPR 2
Prerequisite: None This course is designed to provide the knowledge and skills necessary to respond to and treat emergency situations until professional medical help is obtained. First aid and CPR certificates are issued upon successful completion of the course. (F,Sp,Su)

EMTA222 EMS Instructor Coordinator 6

Prerequisite: 3 years field experience and Department Approval
A Michigan Department of Consumer & Industry Services approved course for EMS personnel interested in becoming an instructor coordinator. Includes teaching and testing methods, lesson plan development, writing performance objectives, course administration, MDCIS application for course approval, and meeting state requirements. Student teaching required. (Su)

ENGL – English**ENGL122 Writing About Literature and Ideas** 4

Prerequisite: Minimum 2.0 in WRIT121 or WRIT131 or (Reading Level 5 and Writing Level 8)

An alternative to WRIT122. ENGL122 introduces the students to various literary forms and develops analytical skills in reading, writing, and research techniques. Writing assignments begin with short essays and conclude with an extensive literary research paper. (F,Sp,Su)

ENGL132 Honors Writing-Literature and Ideas 4

Prerequisite: Minimum 3.5 in (WRIT121 or WRIT131)

An alternative to WRIT122. ENGL132 is an introduction to various literary forms, in addition to the development of analytical reading and writing skills and research techniques leading to a literary research paper. (Same as ENGL122 but taught on an advanced level.) (Sp)

ENGL201 Introduction to Poetry 4

Prerequisite: Reading Level 5 and Writing Level 6

Recommended: (WRIT121 or WRIT131) and ENGL122

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. (F,Su)

ENGL202 Introduction to Drama 4

Prerequisite: Reading Level 5 and Writing Level 6

Recommended: (WRIT121 or WRIT131) and ENGL122

Introduces drama and its literary techniques and conventions. Attention is given to principles and theory, but understanding of the plays is emphasized. Representative plays from Greek, European, English, and American dramatists. (Sp)

ENGL203 Introduction to Prose 4

Prerequisite: Reading Level 5 and Writing Level 6

Recommended: (WRIT121 or WRIT131) and ENGL122

This course introduces students to selected prose genres, focusing on the novel, short fiction, and the essay. Students will read selection of works representative of Western and non-Western literary traditions and will consider how different literary forms reflect the diverse functions of language in developing human societies. (F)

ENGL205 The Power of Autobiography 3

Prerequisite: Reading Level 5 and Writing Level 6

Recommended: (WRIT121 or WRIT131) and ENGL122

Autobiographical writing, which includes letters, journals, and diaries, is the focus of this special seminar on prose literature. Works to be read chronicle the literary, artistic, historical, social, and political life transformations experienced by notable twentieth century figures. Course emphasis is on the power of the personal narrative as literature. (F)

ENGL208 Children's Literature 4

Prerequisite: Reading Level 5 and Writing Level 6

Recommended: (WRIT121 or WRIT131) and ENGL122

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)

ENGL211 World Literature I 4

Prerequisite: Reading Level 5 and Writing Level 6

Recommended: (WRIT121 or WRIT131) and ENGL122

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)

ENGL212 World Literature II 4

Prerequisite: Reading Level 5 and Writing Level 6

Recommended: (WRIT121 or WRIT131) and ENGL122

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)

ENGL220 Science Fiction 4

Prerequisite: Reading Level 5 and Writing Level 6

Recommended: (WRIT121 or WRIT131) and ENGL122

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)

ENGL240 The Film as Art 4

Prerequisite: Reading Level 5 and Writing Level 6

Recommended: (WRIT121 or WRIT131) and ENGL122

This course will introduce film as an art form capable of making perceptive comments on our civilization. Thematic analysis of 12 to 15 motion pictures of recognized merit will emphasize the film maker's visual and aural techniques as well as conventions more commonly associated with literature. (Sp,Su)

ENGL245 Popular Culture and Mass Media 4

Prerequisite: Reading Level 5 and Writing Level 6

Recommended: (WRIT121 or WRIT131) and ENGL122

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)

ENGL255 American Literature I 4

Prerequisite: Reading Level 5 and Writing Level 6

Recommended: (WRIT121 or WRIT131) and ENGL122

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)

ENGL256 American Literature II 4

Prerequisite: Reading Level 5 and Writing Level 6

Recommended: (WRIT121 or WRIT131) and ENGL122

Provides a perspective on the further development of traditional American literature from 1865 (the Realism period) to contemporary literature. Features selected essays, autobiographical writings, poems, fiction, and drama from the end of the Civil War to the literature of the late 12th century, including the work of women and ethnic minorities, which have profoundly shaped American literature. (Sp)

ENGL260 African-American Literature 4

Prerequisite: Reading Level 5 and Writing Level 6

Recommended: (WRIT121 or WRIT131) and ENGL122

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. (Sp)

ENGL265 Japanese Literature 4

Prerequisite: Reading Level 5 and Writing Level 6
Recommended: (WRIT121 or WRIT131) and ENGL122
Arranged chronologically, this course draws heavily on many different genres of Japanese literature. The basis for selection of works to be read rests on the insight that each work gives to the Japanese society which produced it, and upon its universal characteristics. (Sp)

ENGL266 British Literature I 4

Prerequisite: Reading Level 5 and Writing Level 6
Recommended: (WRIT121 or WRIT131) and ENGL122
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)

ENGL267 British Literature II 4

Prerequisite: Reading Level 5 and Writing Level 6
Recommended: (WRIT121 or WRIT131) and ENGL122
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)

ENGL270 Literature by Women 4

Prerequisite: Reading Level 5 and Writing Level 6
Recommended: (WRIT121 or WRIT131) and ENGL122
A study of selected works by English and North American women writers. Designed to increase understanding of the themes, images, issues, and modes of expression of women writers. (Sp)

ENGL290 Shakespeare 4

Prerequisite: Reading Level 5 and Writing Level 6
Recommended: (WRIT121 or WRIT131) and ENGL122
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. (Sp)

ENGL295 Independent Study in English 1-4

Prerequisite: Department Approval
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)

ENRI - Enrichment

ENRI105 Life Learn Port 1

Prerequisite: Reading Level 5 and Writing Level 6 and Department Approval
This course provides the opportunity for students to create a portfolio to document learning acquired through work, volunteer, and/or life employment experience. The finished portfolio can then be submitted to the LCC Registrar's Office to request college credit for knowledge and skill-learning outcomes that correspond to LCC courses. (Sp)

ENRI152 Workshop: READ Success Skills 1

Prerequisite: None
Designed for beginning college students, whether recent high school graduates or returning adults. Develops college reading survival skills. Concentrates on reading comprehension, speed and flexibility, study techniques, concentration and memory, note-taking, test-taking, and vocabulary expansion. (Su)

ENRI162 Workshop: WRIT Success Skills 1

Prerequisite: None
This course is designed for new and returning students, as well as others from the community. It helps students to develop their writing skills, including the study of writing for various disciplines, the writing process, and the basics of grammar, sentence style, and punctuation. (Su)

ENVR - Environmental Science

ENVR121 Environmental Rules and Regulations 3

Prerequisite: Reading Level 5 and Writing Level 6
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)

ENVR122 Environmental Sampling & Instrumentation 4

Prerequisite: Reading Level 5 and Writing Level 6 and Math Level 5
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)

ENVR131 Industrial Process Safety 3

Prerequisite: Reading Level 5 and Writing Level 6
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)

ESLP - English as a Second Language

ESLP014 Integrated Skills I 6

Prerequisite: Placement Test
Designed for high beginning level non-native speakers of English who have basic literacy skills. Emphasis on reading and vocabulary skill-building activities designed to prepare students for future academic success. Integrated skills format allows reading, grammar, speaking/listening, and writing activities to be combined using themes. (F,Sp)

ESLP015 ESL Writing Skills I 4

Prerequisite: Placement Test
Designed for high beginning level non-native speakers of English who want to improve their ability to write paragraphs. Students learn simple and progressive verb forms in the present, past and future tenses. A process approach to writing is used and students are introduced to basic word processing skills. (F,Sp)

ESLP016 Communication Skills I 4

Prerequisite: Placement Test
Designed for high beginning level non-native speakers of English. Students build awareness of American English pronunciation and focus on troublesome pronunciation features; students practice speaking English and improve basic listening comprehension in a variety of contexts, including academic, social, and professional settings. (F,Sp)

ESLP024 Integrated Skills II 6

Prerequisite: Minimum 2.5 in (ESLP014 and ESLP 015) or Placement Test
Low intermediate level integrated skills course or non-native speakers of English. Emphasis is on reading and vocabulary skill-building activities designed to prepare students for future academic success. An integrated skills format allows reading, grammar, speaking/listening, and writing activities to be combined using themes. (F,Sp)

ESLP025 ESL Writing Skills II 4

Prerequisite: Minimum 2.5 in (ESLP012 or ESLP015) or Placement Test
Designed for low intermediate level non-native speakers of English. Students progress from writing paragraphs to writing academic style essays and use basic word processing skills. Grammatical structures worked on include the simple and perfect verb tenses, sentence combining, and recognizing sentence fragments. A process approach to writing is used. (F,Sp)

- ESLP026 Communication Skills II** 4
Prerequisite: Minimum 2.0 in (ESLP013 or ESLP016) or Placement Test
 Designed for low intermediate level non-native speakers of English. Instruction focuses on the features of American English pronunciation, as well as improving listening comprehension and oral communication through functional situations, such as role plays, discussions, and informal reports. (F,Sp)
- ESLP034 Integrated Skills III** 6
Prerequisite: Minimum 2.5 in (ESLP024 and ESLP 025) or Placement Test
 Designed for high intermediate level non-native speakers of English. Emphasis is on reading and vocabulary skill-building activities designed to prepare students for future academic success. An integrated skills format allows reading, grammar, speaking/listening, and writing activities to be combined using themes. (F,Sp)
- ESLP035 ESL Writing Skills III** 4
Prerequisite: Minimum 2.5 in (ESLP022 or ESLP025) or Placement Test
 Designed for high intermediate level non-native speakers of English. Students write essays using a process approach to writing. Grammatical structures worked on include parts of speech, vocabulary usage, compound and complex sentences, and correct usage of all verb tenses, including perfect tenses. Students use word processing skills. (F,Sp)
- ESLP036 Communication Skills III** 4
Prerequisite: Minimum 2.0 in (ESLP023 or ESLP026) or Placement Test
 Designed for high intermediate level non-native speakers of English. Instruction focuses on improving listening comprehension and oral communication skills through group discussions, oral presentations, and projects. Grammar instruction is integrated into the themes for each unit. (F,Sp)
- ESLP100 Computer Literacy ESL Students** 1
Prerequisite: None
Recommended: ESLP025, ESLP035, or ESLP115 concurrently or equivalent
 For English as a Second Language students with little or no previous experience using computers. Students will learn vocabulary for the parts of the computer and for performing basic functions. By the end of the course, students will be able to perform basic word processing skills. (F,Sp,Su)
- ESLP103 Focus on Pronunciation** 4
Prerequisite: Minimum 2.0 in (ESLP033 or ESLP036) or Placement Test
 This course is designed for advanced level non-native speakers of English who wish to improve the intelligibility of their speech. Students will have an individual speech profile. Emphasis will be on building awareness of and practicing American English stress, intonation, and rhythm patterns, and clear pronunciation of individual sounds. (F,Sp,Su)
- ESLP105 Applied Grammar for Writing** 4
Prerequisite: Writing Level 4 or minimum 2.0 in ESLP035 or ESLP115 concurrently
Recommended: Minimal typing skills desirable
 This course is designed for advanced non-native speakers of English who need to improve the grammar of their writing. Emphasis is on editing skills. Student will keep a language learning journal to identify their own patterns of errors. Students will learn strategies for acquiring correct grammatical structures and will learn to edit their own writing. (F,Sp)
- ESLP110 Bridge to Academic Reading** 4
Prerequisite: Minimum 2.5 in (ESLP034 and ESLP 035) or Placement Test
 Designed for low-advanced level non-native speakers of English needing to prepare for reading college-level texts. Emphasis on building teamwork skills, vocabulary, and developing reading strategies and skills to improve overall comprehension. A basic skill reading level 3 is granted upon successful completion of this course. (F,Sp)
- ESLP113 Academic Listening/Notetaking** 4
Prerequisite: Minimum 2.0 in (ESLP033 or ESLP036) or Placement Test
 This course is designed for advanced level non-native speakers of English who wish to pursue an academic degree or transfer program. Emphasis will be on improving overall listening comprehension, identifying the organizational structure of academic lectures, taking effective notes from a variety of sources, and improving vocabulary. (F,Sp)

- ESLP114 Academic Reading Skills** 4
Prerequisite: Minimum 3.0 in ESLP110 or Reading Level 4
 Designed to prepare advanced level non-native speakers of English for future academic success. Emphasis is on vocabulary building and developing reading strategies and skills, including critical reading for efficient processing of general academic texts. Basic skills reading level 5 is granted upon successful completion of this course. (F,Sp,Su)

- ESLP115 Composition Academic Purposes** 4
Prerequisite: Minimum 2.5 in (ESLP032 or ESLP035) or Placement Test
 Designed to prepare advanced level non-native speakers of English for future academic success. Students use a process approach to writing to produce various types of essays using a variety of complex sentences and grammatical structures. Basic skills writing level of 4 is granted upon successful completion of this course. (F,Sp,Su)

FASH - Fashion

- FASH100 Fashion Sketching** 3
Prerequisite: None
 Students will learn the techniques of fashion sketching and producing fashion illustrations using various media. Topics will include figure croquis, garments, design and inspiration, pattern flats, and computer applications. Students will produce a fashion portfolio. (F,Sp,Su)
- FASH101 Special Topics in the Fashion Industry** .25-8
Prerequisite: Determined by Unit Section
 The Special Topics Series in Fashion offers students the opportunity to acquire new skills and knowledge. A variety of topics related to the Fashion Industry prepares students to learn up-to-date content for the twenty-first century workplace. Topics may vary with semester and section offering. (F,Sp,Su)
- FASH110 Computer Aided Design & Color** 3
Prerequisite: None
Recommended: CADD105 or CITF108 or CITF110 or concurrently or equivalent
 Students will develop a foundation in the fundamentals of design theory with computer applications. Topics will include elements and principles of design, color principles, theories and systems, color mixing, hue, value and intensity. (F,Sp)
- FASH120 Fashion Industry** 3
Prerequisite: None
 This course is an introduction to the fashion industry including apparel, textiles, manufacturing, global marketing, merchandising, retailing and e-Commerce. (F,Sp)
- FASH130 Apparel Analysis and Selection** 3
Prerequisite: Reading Level 3 and Writing Level 2
 Students will study methods of evaluating the quality and production of ready to wear apparel. Topics include cost and quality of various apparel and home fashion products for mass production. (F,Sp)
- FASH144 Visual Merchandising & Display** 3
Prerequisite: Minimum 2.0 in FASH110
Recommended: ARCH100 or concurrently or equivalent
 Students will apply the elements and principles of design in visual merchandising and display. Students will identify and explain the use of display fixtures and lighting systems, apply color theory and present merchandise effectively in visual display. (F,Sp)
- FASH150 Apparel and Textile Design** 3
Prerequisite: Minimum 2.0 in (INTR185 and FASH110)
Recommended: CITF108 or CITF110 or CADD105 or concurrently or equivalent
 Students will study the development and production of textile and apparel designs and patterns via selected computer-software packages. Implications for use in the textile and apparel industry will be discussed. (F,Sp)

FASH230 Costume History 3
Prerequisite: Reading Level 5 and Writing Level 6
 Students will learn the political, economic, technological and sociological factors that have influenced world costumes worn by individuals and groups of men, women and children from ancient times to the present. (F,Sp)

FASH250 Adv Computer Aided Textile/Apparel Dsgn 3
Prerequisite: Minimum 2.0 in FASH150
 Students will solve advanced design and trend analysis problems encountered in designing for the various size ranges, style categories, and price ranges in seasonal lines and promotional groups for the manufacturing of apparel. Students will continue to develop design skills with state-of-the-art and industry computer software programs. (F,Sp)

FASH260 Fashion Merchandising Planning & Control 3
Prerequisite: Minimum 2.0 in (MATH117 or MATH118 or Math Level 5)
Recommended: CITA126
 Students learn how to solve problems in retailing, merchandising and marketing based upon formulas and fashion industry practices using computer applications. Topics include planning, buying and selling for the fashion industry. (F,Sp)

FASH263 Fashion Industry Internship 2-4
Prerequisite: Department Approval
Recommended: 2.0 GPA in FASH or INTR program
 Directed worksite experience in the fashion design and merchandising industry. Students will maintain a fashion journal. Regular scheduled progress reports will be given and discussed with a supervising faculty member. (F,Sp,Su)

FASH270 Fashion Portfolio 2
Prerequisite: Minimum 2.0 in (FASH100 and FASH110)
Recommended: FASH150
 Students will develop and preserve their best visual works in this capstone course. Students will continue to develop skills in color rendering using various media and will use computers to digitize their work. Upon completion, students will have developed a format to present their work to obtain immediate employment or transfer. (F,Sp)

FASH275 Directed Study in Fashion 1-4
Prerequisite: Department Approval
Recommended: FASH150
 This class provides advanced students an opportunity to explore, under the direction of an instructor, topics which are not addressed in the fashion curriculum. This can include special projects, field study including travel, research, or other directed study topics in Fashion Technology. Grading criteria and course objectives are determined at the first meeting. (F,Sp,Su)

FILM - Film Production and Direction

FILM118 Fundamentals of Film Production 4
Prerequisite: None
 Introduces storytelling practices using moving pictures. Students will learn to plan and produce short movies, and develop basic skills in plot structure, pre-production, directing, staging scenes, videography, cinematography, non-linear computer editing, traditional film editing, and audience evaluation. (F,Sp,Su)

FILM130 Film Studies: World Cinema 3
Prerequisite: Reading Level 5 and Writing Level 6
 Explores the art and craft of cinema storytelling in social, cultural and political systems outside of the traditional American "Hollywood" system. Through exposure to films created by international filmmakers, the developing student will expand their repertoire of techniques used to express classic themes in cinema. (F,Sp)

FILM200 Employment Issues in Film 1
Prerequisite: Reading Level 5 and Writing Level 6
Restriction: FILM Majors only
 This course will develop an individual's understanding of motion picture industry issues particularly as they relate to organizational and self employment. Class sessions and assignments contain practical exercises aimed at developing the individual's employability skills. Film majors will enroll in this course over a three semester sequence to complete all learning outcomes. (F,Sp)

FILM203 Special Topics in Film 3
Prerequisite: Determined by Unit Section
 Provides students with basic photographic skills, an opportunity for intensive study in selected aspects of motion picture production, or multimedia production. (F,Sp,Su)

FILM220 Screenwriting 3
Prerequisite: Minimum 2.0 in WRIT121 or Writing Level 8
Recommended: FILM118
 An introductory course in screenwriting. Students will learn the structure and format of screenplays, including plot development and creation of well-built characters. Real-life considerations of script marketing and relevant practices will also be covered. Those wishing to do advanced work may take an additional semester for credit. (F,Sp)

FILM226 Film & Video Cinematography 4
Prerequisite: Minimum 2.0 in (FILM118 or IMAG118 or MTEC152)
 This is an intermediate-level course that exposes the student to advanced storytelling practices using film and digital video technologies. Hands-on production exercises help the student to develop skills in production and post-production planning, electronic and film cinematography, film editing, and non-linear video editing techniques. (F,Sp)

FILM227 The Film Director 4
Prerequisite: Minimum 2.0 in (FILM118 or IMAG118)
 Storytelling practices emphasizing dialog, Hands-on production exercises develop skills in script writing, production planning, sync sound recording, film and video editing, and working with actors and crew members. Students work individually and as group members, and apply critical thinking and problem-solving processes to produce effective communications programs. (Sp)

FILM281 Motion Picture Internship 3
Prerequisite: Minimum 2.0 in (FILM226 or IMAG226) and (FILM227 or IMAG227)
Restriction: Motion Picture Production and Motion Picture Direction Majors
 An off-campus field study. Students will gain pre-career experience by working in a motion picture production environment under the supervision of a professional producer or technician. Regularly scheduled progress reports will be given and discussed with a supervising faculty member. Students work a minimum of 160 hours per semester. (F,Sp,Su)

FILM290 Motion Picture Portfolio 4
Prerequisite: Minimum 2.0 in (FILM226 or IMAG226) and (FILM227 or IMAG227)
Restriction: Motion Picture Production and Motion Picture Direction Majors
 The student will produce a motion picture, demonstrating technical and creative proficiency, under instructor supervision, suitable for presentation for the purpose of securing employment. This course is intended to be the capstone course in the Motion Picture Program. (F,Sp,Su)

FIRE - Fire Science

FIRE100 Principles of Emergency Services 3
Prerequisite: Reading Level 5 and Writing Level 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,Sp)

FIRE101 MI F.F.T.C. Basic Fire Level I 9
Prerequisite: Admission to Fire Academy and Reading Level 5 and Writing Level 4
Co-requisite Course(s): FIRE102 and PFFT119
 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)

FIRE102 MI F.F.T.C. Basic Fire Level II 7
Prerequisite: Admission to Fire Academy and Reading Level 5 and Writing Level 4
Co-requisite Course(s): FIRE101 and PFFT119
 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)

FIRE104 Fire Behavior & Combustion 3
Prerequisite: (Minimum 2.0 in FIRE100 or concurrently) or (minimum 2.0 in FIRE101 and FIRE102)
 This course explores the theories and fundamentals of how and why fires start and spread. (Sp)

FIRE105 Fire/Hydraulics/Water Supply 4
Prerequisite: (Minimum 2.0 in FIRE100 or (FIRE101 and FIRE102)) and (minimum 2.0 in MATH107 or Math Level 5)
 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. (F)

FIRE110 Fire Prevention 3
Prerequisite: (Minimum 2.0 in FIRE100 or concurrently) or (minimum 2.0 in FIRE101 and FIRE102)
 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)

FIRE112 Occupational Health & Safety/FireService 4
Prerequisite: Minimum 2.0 in FIRE104 or concurrently
 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)

FIRE115 Building Construction/Fire Protection 4
Prerequisite: (Minimum 2.0 in FIRE100 or concurrently) or (minimum 2.0 in FIRE101 and FIRE102)
 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, preplanning fire operations, and operating at emergencies. (F)

FIRE122 Hazardous Materials Chemistry I 4
Prerequisite: Minimum 2.0 in CHEM135 and (minimum 2.0 in (FIRE104 or concurrently) or (FIRE101 and FIRE102))
 This course covers basic fire chemistry relating to the categories of hazardous materials including problems with recognition, reactivity, and health encountered by firefighters. (F)

FIRE125 Fire Protection Systems 4
Prerequisite: Minimum 2.0 in FIRE105 (previously FIRE130)
 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)

FIRE150 Strategy and Tactics 4
Prerequisite: Minimum 2.0 in FIRE104 or (minimum 2.0 in FIRE101 and FIRE102)
 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. (Sp)

FIRE210 Fire Investigation I 4
Prerequisite: Minimum 2.0 in (FIRE104 or concurrently) or (minimum 2.0 in FIRE101 and FIRE102)
 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 firesetter, and types of fire causes. (Sp)

FIRE215 Fire Investigation II 3
Prerequisite: Minimum 2.0 in FIRE210
 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. (F)

FIRE220 Hazardous Materials/Fire Service 4
Prerequisite: Minimum 2.0 in CHEM135 and (minimum 2.0 in FIRE104) or (FIRE101 and FIRE102)
 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 1041.120. (Sp)

FIRE245 Fire Officer I & II 4
Prerequisite: Minimum 2.0 in FIRE150
 This course will introduce the firefighter to the duties assigned to company level officers. Topics addressed in this course include budgeting, planning, public relations, personnel management, communications, legal responsibilities, and safety at the company level. (F)

FIRE250 Fire Administration I 4
Prerequisite: Minimum 2.0 in FIRE150
 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. (Sp)

FIRE255 Fire Officer III & IV 4
Prerequisite: Minimum 2.0 in (FIRE245 and FIRE250) or concurrently
 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)

FIRE260 Legal Aspects/Fire Service 4
Prerequisite: Minimum 2.0 in FIRE104 or (minimum 2.0 in FIRE101 and FIRE102)
 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. (F)

FLNG - Foreign Language

FLNG295 Independent Study in Foreign Language 1-4
Prerequisite: Department Approval
 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)

FREN - French

FREN115 Conversational French I 3
Prerequisite: None
 Students learn how to communicate orally in everyday life situations and in travel abroad. Emphasis is on the development of ability to communicate in French. French culture is explored. (F,Sp,Su)

FREN116 Conversational French II 3
Prerequisite: None
Recommended: FREN115 or equivalent
 Continuation of FREN115. Designed for advanced beginners who wish to improve their speaking ability in the context of daily living. Emphasis is placed on contemporary vocabulary, essentials of grammar, and pronunciation through class discussions conducted in French. Students will continue to explore different aspects of life and culture in the francophone world. (F,Sp,Su)

FREN121 Elementary French I 4
Prerequisite: Reading Level 5
 Introductory course open to students with little or no knowledge of French. Students are introduced to basic patterns and structures of French, enabling them to develop listening, speaking, reading, and writing skills. Emphasis is placed on contemporary vocabulary, essentials of grammar, and pronunciation. (F,Sp,Su)

FREN122 Elementary French II 4
Prerequisite: Minimum 1.5 in FREN121
 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)

FREN201 Intermediate French I 4
Prerequisite: Minimum 1.5 in FREN122
 First course of a two-semester sequence. 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)

FREN202 Intermediate French II 4
Prerequisite: Minimum 1.5 in FREN201
 Second course of a two-semester sequence. 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)

GEOG - Geography

GEOG120 Introduction to Geography 3
Prerequisite: Reading Level 5
Recommended: WRIT121
 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)

GEOG121 Physical Geography 3
Prerequisite: Reading Level 5
Recommended: Word software experience
 Emphasizes landforms, natural vegetation, weather and climatic elements, and soils. Offers an extensive study of these forces, noting their ecological principles and their effects on human life. Includes map reading, analysis and interpretation of topographic maps. (F,Sp,Su)

GEOG200 World Regional Geography 4
Prerequisite: Reading Level 5
 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)

GEOG202 Geography of North America 3
Prerequisite: Reading Level 5
 A study of the human 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)

GEOG203 Economic Geography 3
Prerequisite: Reading Level 5
 The study of the distribution of economic activities throughout the world. Emphasizes agriculture, resources, population, industry, urbanization, and trade. (Sp)

GEOG295 Independent Study in Geography 1-4
Prerequisite: Department Approval
 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)

GEOL - Geology

GEOL221 Physical Geology 4
Prerequisite: Reading Level 5 and Writing Level 4 and Math Level 4
 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)

GEOL222 Historical Geology 4
Prerequisite: Reading Level 5 and Writing Level 4 and Math Level 4
 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)

GEOL230 Environmental Geology 4
Prerequisite: Reading Level 5 and Writing Level 6 and Math Level 4
 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)

GERO - Gerontology

GERO100 Introduction to Human Aging 4
Prerequisite: Reading Level 5 and Writing Level 4
 This course provides a basic orientation to the field of gerontology. Emphasis is on the aging process with respect to personal, socioeconomic and cultural issues. Death and dying are discussed. Students will learn how to access and use community resources to assist older adults and their families. (F,Sp)

GERO131 Plan for Older Adults w/Develop Disabil .5
Prerequisite: None
 This course presents an overview of the older adult with developmental disabilities including characteristics, demographics, public policy issues, and functional assessment. Michigan program initiatives are discussed and case studies are presented. (F,Sp)

GERO164 Medical & Alcohol Use in Older Adults .5
Prerequisite: None
 This course examines medication and alcohol use among older adults including prescription and nonprescription medicines, side effects, drug interactions, and strategies for using medicines wisely. Students learn to identify a substance abuse situation and how to make appropriate referrals. (F,Sp)

GERO165 Dementia: Concepts and Causes .5

Prerequisite: None
 This course is an introduction to current concepts of dementia (Alzheimer's disease and related disorders) in older persons. It provides an overview of social, physical, psychological, and environmental factors associated with dementia. Relationships to depression, techniques for communicating with older persons with dementia, family dynamics, and community resources are discussed. (F,Sp)

GERO169 Legal Rights of Older Adults .5

Prerequisite: None
 This course focuses upon issues such as guardianship, conservatorship, power of attorney, the living will, joint tenancy, nursing home residency, and civil commitment, including actual and perceived choices a person has as aging and illness occur. (F,Sp)

GERO170 Depression in Late Life: Recog/Treatment .5

Prerequisite: None
 This course provides an examination of depression in later life. Symptoms, causes, "masks," diagnosis, and assessment of depression are introduced, including information on distinctions between depression and dementia. Basic techniques and guidelines for working with depressed older persons are presented. (F,Sp)

GERO171 Techniq: Caring for Persons w/Dementia .75

Prerequisite: None
 This course provides an introduction to techniques for working with older adults with Alzheimer's disease and related disorders. The psychosocial needs of individuals and their families are a primary focus. Communication techniques, programming approaches, handling problem behaviors, a task breakdown approach, environmental adaptations, and role of the family are discussed. (F,Sp)

GERO173 Activities: Older Adults w/Alzheimers .5

Prerequisite: None
 This course provides an overview of planning principles and processes effective in designing meaningful activities for older adults with Alzheimer's disease and related disorders. Practice opportunities are included. (F,Sp)

GERO191 Special Topics in Gerontology .25-4

Prerequisite: Determined by Unit Section
 This course consists of a series of seminars which address the most current issues in the field of gerontology. The seminars are designed to provide the most up-to-date information on selected, high-interest subjects concerning human aging. (F,Sp,Su)

GERO203 Physical/Mental Health Aging 3

Prerequisite: Minimum 2.5 in GERO100 or concurrently
 Physical and mental health of older adults is examined from an applied perspective for human services providers. Topics include normal and pathological changes; family and social factors; skills and adaptations for maintaining good physical health; assessment; intervention and skills for helping older adults access appropriate treatment in the health care system. (Sp)

GRET - Geographic Information Systems

GRET175 Special Topics in GIS Technology .25-8

Prerequisite: Determined by Unit Section
 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 Geographic Information Systems Technology Program. (F,Sp,Su)

GRET203 Beginning MicroStation 3

Prerequisite: None
Recommended: LAND282 or Basic CAD experience
 This entry-level, computer-aided design and drafting course uses MicroStation software on an Intergraph workstation or PC. Students will create 2-D drawings using basic graphic tools and procedures. (F,Sp)

GRET205 Principles of Geographic Info Systems 3

Prerequisite: None
 This course describes the components of a basic GIS and how they are assembled. Requisition of data, maps, and other information used to build a database will be highlighted. A basic pilot project will be demonstrated step-by-step through various applications in GIS. (F,Sp,Su)

GRET210 Global Positioning Systems 3

Prerequisite: None
 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,Sp)

GRET211 Geomedia-Internet GIS 3

Prerequisite: None
 This course covers the basics of computer mapping systems and how they relate to computer design, graphics, and GIS. C-Map, Map Info., and Mapping Office will be presented. Students will produce a variety of maps as they relate to daily activities, land planning, environmental geography, and information systems. (Sp)

GRET213 Advanced MicroStation 3

Prerequisite: Minimum 2.0 in GRET203
 This course is an advanced application of the MicroStation Software and deals with 3-D and other advanced aspects of this computer-aided drafting and design package. A basic understanding and/or beginning MicroStation class is necessary for success in this class. (Sp)

GRET220 Hydrological Systems 3

Prerequisite: None
 This course will cover the various aspects of water resources as they pertain to the geographic information system environments. Water systems, natural and man-made, will be emphasized. The evaluation, analysis, and environmental impacts of various water features as they pertain to environmental research and development will be highlighted. (F)

GRET221 Landforms/Soil Systems in GIS 3

Prerequisite: None
 This course will discuss the important classifications of landform and soil systems. The relevance of these systems in the GIS environment will be highlighted. The importance of these systems in the information processing, land use, land planning, site design, and landscape form arenas will be emphasized. (Sp)

GRET223 Environmental Resource Management 3

Prerequisite: None
 This course will cover the broad spectrum of environmental resources such as forestry, agriculture, mining, soils, vegetation, and their impact and management in current computer information systems. Resources in the land planning disciplines will be highlighted as to their function in the present environmental processes, both public and private. (Sp)

GRET240 Cartography in GIS 3

Prerequisite: None
 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. (F)

GRET241 Remote Sensing/Air Photo Interpretation 3

Prerequisite: None
 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)

3	GRET243 ORACLE/Geographic Information Systems 3
	Prerequisite: None
	This course will cover the components of ORACLE needed to build a database for GIS applications. This is a hands-on computer course. Sample databases will be demonstrated. Students will construct several databases that apply to the GIS coverage layers. (F)
3	GRET248 GIS/GPS Field Systems 3
	Prerequisite: None
	MicroStation Analyst (MGA) is an advanced software package dealing with GIS MGA, which generates topologically-structured files from design files for use in performing spatial analysis. It will also cover system query sets and answers to questions posed to topological files. (F,Sp)
3	GRET253 Basics of ARC/View 3
	Prerequisite: None
	This course is an overview and introduction to the ARC/View software. Also covered are the basic components of a viewing program and its applications in GIS. Various demonstrations will be presented and project examples highlighted. Hands-on computer exercises will be completed. (F,Sp)
3	GRET255 Beginning ARC/GIS 3
	Prerequisite: None
	Recommended: Computer experience
	This course will be an introduction to the use of the ARC/GIS software. ARC/GIS is a leading product used in the design of Geographic Information Systems. Basic product use and modeling will be demonstrated. There will be hands-on experience in the lab. (F,Sp,Su)
3	GRET256 Advanced ARC/GIS 3
	Prerequisite: Minimum 2.0 in GRET255
	This course advances the techniques acquired in the beginning ARC/GIS class. The student will learn additional modules and advanced application of modules such as GRID and TIN. The student will also develop projects using data sets. Students will develop a complete GIS project utilizing the full ARC/GIS module. (Sp)
3	GRET258 ARC/View Extensions GIS 3
	Prerequisite: Minimum 2.0 in GRET253
	This course will cover the basic software extensions to the ArcView package. Students will learn the basic commands for the various ArcView extensions. Spatial analysis and other extensions will be highlighted. A GIS project will be completed utilizing all of the various extensions. (Sp)
3	GRET265 Analysis Applications in GIS 3
	Prerequisite: Minimum 1.0 in (GRET204 or GRET255)
	This course expands upon the techniques, methods, and processes involved in developing a full GIS program. Different GIS software packages will be explored, as well as related databases and completed projects. (Sp)
3	GRET266 Project Design in GIS 3
	Prerequisite: Minimum 1.0 in (GRET205 and GRET253 and GRET255)
	This course specifically deals with all of the possible application areas for GIS, both present and future. Project application areas such as toxic materials, traffic flow, mining, forestry, natural resource, energy, and communication will be highlighted. A semester-long application project of your choice will be developed on the computer. (Sp)
3	GRET280 GIS and Energy 3
	Prerequisite: Minimum 2.0 in (AEET102 and GRET205 and GRET253)
	This course will demonstrate the process of designing and mapping energy distribution systems through a Geographic Information System (GIS). GIS and Global Positioning Technologies will be used to create relation maps and databases for a commercial utility project. Mobile GIS technologies utilized by utilities will be demonstrated. This course will include a hands-on project. (F,Sp)

GRET295 GRET Project Lab 1-4
Prerequisite: Department Approval
This project lab is designed for students who wish to pursue a specialty area in GIS beyond that which is offered in our curriculum. Inquiry through research and design is required. (F,Sp,Su)

GRMN - German

GRMN115 Conversational German I 3	
Prerequisite: None	
The first course in a two-semester sequence for persons with little or no knowledge of German. Emphasizes listening and speaking skills. Students learn correct pronunciation, essential language structures, and a practical vocabulary applied in conversational exchanges. Aspects of German culture are introduced through multimedia presentations. (F,Sp,Su)	
GRMN116 Conversational German II 3	
Prerequisite: None	
Recommended: GRMN115 or equivalent	
The second course in a two-semester sequence for persons with little or no knowledge of German. Emphasizes listening and speaking skills. Students learn correct pronunciation, essential language structures, and a practical vocabulary applied in conversational exchanges. Aspects of German culture are introduced through multimedia presentations. (F,Sp,Su)	
GRMN121 Elementary German I 4	
Prerequisite: Reading Level 5	
First course of a two-semester sequence in elementary German. This course offers systematic practice in the four basic language skills: listening comprehension, speaking, reading, and writing. Communicative approach is combined with a solid grammar foundation, as well as familiarization with contemporary life and culture in Germany, Austria, and Switzerland. (F)	
GRMN122 Elementary German II 4	
Prerequisite: Minimum 1.5 in GRMN121	
Second course of a two-semester sequence in elementary German. This course offers more advanced practice in the four basic language skills: listening comprehension, speaking, reading, and writing. Communicative approach is combined with more complex structure as well as familiarization with contemporary life and culture in Germany, Austria, and Switzerland. (Sp)	
GRMN201 Intermediate German I 4	
Prerequisite: Minimum 1.5 in GRMN122	
First course of a two-semester sequence in intermediate German. Intensive practice provided in the basic skills: speaking, listening comprehension, reading, and writing. Includes composition, review of grammar, and viewing and discussion of contemporary German films. Class is taught mainly in German and uses Blackboard technology and Internet searches. (F)	
GRMN202 Intermediate German II 4	
Prerequisite: Minimum 1.5 in GRMN201	
Second course of a two-semester sequence in intermediate German with advanced practice in the basic skills: speaking, listening comprehension, reading, and writing. Includes a review of advanced structures, composition, and viewing and discussion of contemporary German Films. Class is taught mainly in German and uses Blackboard technology and Internet searches. (Sp)	
HEOT - Heavy Equipment Operator Training	
HEOT100 Equipment Introduction 5	
Prerequisite: Department Approval	
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,Su)	

HEOT110 Part 10 MIOSHA	1
Prerequisite: Department Approval	
This course will give the student an overall review of OSHA standards associated with the operation of construction equipment. (F,Sp,Su)	
HEOT120 Backhoe Operator	3
Prerequisite: Department Approval	
This course is intended to train the student to safely inspect and operate a backhoe under conditions normally found on a job site. (F,Sp,Su)	
HEOT121 Excavator Operator	3
Prerequisite: Department Approval	
This course is intended to train the student to safely inspect and operate an excavator under conditions normally found on a job site. (F,Sp,Su)	
HEOT122 Wheel Loader Operator	2
Prerequisite: Department Approval	
This course is intended to train the student to safely inspect and operate a wheel loader under conditions normally found on a job site. (F,Sp,Su)	
HEOT123 Forklift Operator	1
Prerequisite: Department Approval	
This course is intended to train the student to safely inspect and operate a forklift under conditions normally found on a job site. (F,Sp,Su)	
HEOT130 Skidsteer Operator	2
Prerequisite: Department Approval	
This course is intended to train the student to safely inspect and operate a skidsteer under conditions normally found on a job site. (F,Sp,Su)	
HEOT131 Bulldozer Operator	3
Prerequisite: Department Approval	
This course is intended to train the student to safely inspect and operate a bulldozer under conditions normally found on a job site. (F,Sp,Su)	
HEOT132 Trenching and Gradework	3
Prerequisite: Department Approval	
This course is intended to familiarize the student with basic safety practices necessary with trenches and benches and with basic grading and staking. (F,Sp,Su)	

HERT - Heavy Equipment Repair Technician

HERT100 Heavy Engine Rebuild	6
Prerequisite: Department Approval	
Upon completion of this course the successful student will be able to efficiently and accurately rebuild a heavy duty diesel engine. (F)	
HERT101 Heavy Equipment Electronics	5
Prerequisite: Department Approval	
Upon completion of this course the successful student will be able to diagnose and repair electrical problems on heavy duty equipment. (F)	
HERT102 Equipment Hydraulics	6
Prerequisite: Department Approval	
Upon completion of this course the successful student will be able to diagnose and repair hydraulic problems found typically on heavy duty construction equipment. (Sp)	
HERT103 Diesel Fuel System	4
Prerequisite: Department Approval	
Upon completion the successful student will be able to diagnose and repair fuel system failures found on heavy diesel engines. (Su)	
HERT104 Equipment Powertrain	5
Prerequisite: Department Approval	
Upon completion of this course the successful student will be able to diagnose and repair powertrain components in heavy duty equipment. (Sp)	

HERT105 Equipment Service Writing	4
Prerequisite: Department Approval	
Upon completion the student will be able to make repair estimates on a disabled piece of construction equipment. (Sp)	
HERT210 Heavy Equipment Internship	3
Prerequisite: Department Approval	
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)	

HIST - History

HIST150 African-American History	4
Prerequisite: Reading Level 5	
Traces the developments which led to the African slave trade, the slave systems in North and South America, the cultural heritage of the African American in the Americas, and the problems of race in North American culture. (Sp)	
HIST210 Studies in American History	4
Prerequisite: Reading Level 5	
Covers problems of research, writing, philosophy, and interpretation of history, involving a detailed examination of a particular area of American history. (Su)	
HIST211 U.S. History to 1877	4
Prerequisite: Reading Level 5 and Writing Level 6	
A political, legal, economic, social and cultural history of the United States from colonial beginnings to 1877. (F,Sp,Su)	
HIST212 U.S. History: 1877 To Present	4
Prerequisite: Reading Level 5 and Writing Level 6	
A political, legal, economic, social, and cultural history of the United States from the end of reconstruction to the present. (F,Sp,Su)	
HIST214 African History	4
Prerequisite: Reading Level 5 and Writing Level 6	
Recommended: WRIT121 or WRIT131	
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. Covers some of these topics in three other countries of the Third World (e.g., Brazil, Pakistan, and Indonesia). (F)	
HIST220 Michigan History	4
Prerequisite: Reading Level 5 and Writing Level 6	
Recommended: WRIT121 or WRIT131	
A survey of the political, economic, and social development of Michigan from precolonial times to the present. (F)	
HIST230 British History	4
Prerequisite: Reading Level 5 and Writing Level 6	
Recommended: WRIT121 or WRIT131	
A survey of the political, economic, legal, constitutional, and social forces which shaped British history and society from earliest times to the present with special emphasis on the interactions of British and American institutions, values, and ideas. (Sp)	
HIST240 Latin American History	4
Prerequisite: Reading Level 5	
Recommended: WRIT121 or WRIT131	
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)	

HIST250 History of Modern Asia 4
Prerequisite: Reading Level 5
Recommended: WRIT121 or WRIT131
 This course will survey political, social, and economic developments as well as principal cultural trends in the major civilizations of Asia (excluding Western 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)

HIST260 Conflict & Revolution in Southern Africa 4
Prerequisite: Reading Level 5
Recommended: WRIT121 or WRIT131
 Study of historical-cultural origins and contexts of conflicts in Zimbabwe and Southern Africa with emphasis on socioeconomic causes of conflicts, cultural differences and conflicts, problems of development as sources of conflicts, inter-African conflicts, settler-African conflicts, international dimensions of conflicts, and solutions to conflicts. (Sp,Su)

HIST263 Seminar: Modern Russia 3
Prerequisite: Reading Level 5 and Writing Level 6
Recommended: WRIT121 or WRIT131
 A survey of Russia and its people from the Russian Revolution of 1917 to the present. Also examined are the multinational character of the former USSR and the forces that shaped Soviet history, society and politics, including Russian relations during the Cold War and after. (Su)

HIST295 Independent Study in History 1-4
Prerequisite: Department Approval
 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)

HMFS - Hotel/Motel and Food Service Operator

HMFS101 Introduction to Hospitality and Tourism 3
Prerequisite: Reading Level 3 and Writing Level 4
 Career opportunities in various types of hotels, restaurants and tourism operations are discussed; includes trends and explains the importance of the various segments as they work together to provide quality guest service. (F,Sp,Su)

HMFS110 Sanitation and Safety 3
Prerequisite: None
 Safe food handling, prevention of food spoilage, and transfer of bacteria, maintenance of equipment and facilities, and importance of good personal hygiene in the work place are discussed; HACCP explained, OSHA laws described and illustrated. Includes examinations for national and state sanitation. (F,Sp,Su)

HMFS125 Hospitality Service Excellence 4
Prerequisite: None
 This course is designed to provide a foundation in dining room operations, the art of excellent service, creating positive guest relations, and hospitality professionalism. Students will learn to develop critical thinking and interpersonal skills as they relate to superior service, variety of table service styles and professional etiquette. Focus is on the dynamics of providing total customer satisfaction. (F)

HMFS131 Food Production Basics 4
Prerequisite: Minimum 2.0 in HMFS101 or concurrently
Recommended: Minimum 2.0 in HMFS110
 This course provides an overview of food preparation techniques and dining room service in both lecture and lab setting. Focus is placed on proper use of kitchen equipment, purchasing procedures, cooking methods, knife skills, soups, sauces, vegetable and meat cookery, quality guest service and basic food production. (F,Sp)

HMFS132 Food Production 4
Prerequisite: (Minimum 2.0 in HMFS110 or concurrently) and (minimum 2.0 in HMFS131)
Recommended: Minimum 2.0 in (HMFS101 and HMFS135)
 This course presents advanced food preparation procedures with guidelines on organization of food and beverage production. Food purchasing and proper storage prior to production is examined. The course also includes terminology, theory, planning, organization, productivity techniques, costing, purchasing, sales, service, and management of meals for public consumption. (F,Sp)

HMFS134 Nutrition and Healthy Eating 3
Prerequisite: None
 Eating out sensibly discussed plus explanation of nutrients and their role in maintaining health. Examination of food patterns, weight control and maintaining a healthy lifestyle with reasonable exercise. Includes nutritional analysis of 24-hour food consumption. (F,Sp)

HMFS135 Hospitality Purchasing 3
Prerequisite: Minimum 2.0 in HMFS101 or concurrently
Recommended: Minimum 2.0 in HMFS131
 Responsibilities of a purchasing agent and role with vendors in an effective purchasing program are explained; focus on writing specifications, purchasing for all categories of foods and supplies, cutting test procedures and standard receiving practices. Emphasis on how to make effective managerial purchasing decisions. (F)

HMFS137 Catering Management 4
Prerequisite: None
Recommended: Minimum 2.0 in (HMFS110 and HMFS132 and HMFS135)
 Sequential steps to successful catering are presented from determining client needs, planning of menus, purchasing, costing and pricing events establishing equipment requirements, examining both on and off-premise functions, recognizing sanitation concerns, and designing contractual agreements with clients. Lab preparation and presentation of a catered event. (Sp)

HMFS170 Menu Management and Design 3
Prerequisite: Minimum 2.0 in HMFS131 or concurrently
Recommended: Minimum 2.0 in (HMFS101 and HMFS135)
 Design a menu using accurate descriptive terms, calculation of selling prices, layouts recommended, selection of fonts and colors. Includes analysis of menus including accuracy (truth in menu), the menu as a marketing tool, and current trends. Semester project included. (F)

HMFS177 Intro to Hotel/Food Service Operations 1
Prerequisite: None
 An introduction to the hotel-motel-food service industry, its management departments, and responsibilities. Designed specifically for Japan Adventure and Japan Horizon students. (F,Sp,Su)

HMFS190 Internship 3
Prerequisite: Department Approval
Recommended: Have completed a minimum of 30 credits
 This 200 hour internship is a capstone course required for all Hospitality students that will provide hands-on experience in a food service faculty or lodging property. The rotational work experience and required course projects will coincide with industry principles, techniques, skills, and procedures mastered in previous courses. Students are responsible to find their own internship site. (F,Sp)

HMFS203 Hospitality Law 3
Prerequisite: Minimum 2.0 in HMFS101 or concurrently
Recommended: Minimum 2.0 in (HMFS131 and/or HMFS206)
 Legal problems and issues commonly faced in hospitality operations including rights and responsibilities of innkeepers, restaurants, caterers, and other food establishments, guest relationships, guest property rights, frauds, employment safety, tax and liquor laws. Current court cases discussed. (Sp)

HMFS204 Hospitality HR Management	3	HMFS251 Wine Appreciation	1
Prerequisite: None		Prerequisite: Must be 21 years of age	
Recommended: HMFS101 and HMFS170 and HMFS203		Selection and storage of five basic wine types, how they are made and served; evaluation of wines based on appearance, bouquet and taste. Discussion on food compatibility with comparative taste evaluations. (F,Sp)	
Supervisor's role as a leader, coach and personnel manager; topics include managing culturally diverse workers plus recruitment, selection, orientation, training, evaluating, and disciplining employees. Discussion on retaining employees, sexual harassment, and worker motivation. (F,Sp)			
HMFS205 Hospitality Leadership	3	HMFS252 Wines of America	1
Prerequisite: Minimum 2.0 in HMFS101 or concurrently		Prerequisite: Must be 21 years of age	
Recommended: Minimum 2.0 in (HMFS131 and HMFS203 and HMFS204)		A study of the wine making industry in America with emphasis on wines from California, New York, Michigan and Ohio. Comparative taste evaluations and discussion of food compatibility. (F)	
This course takes a look at principles, practices and activities needed to become a leader in today's hospitality industry. Topics include principle centered leadership, proactive leadership activities, advanced planning methods for successful leadership, balancing leadership and personal activities and recognizing, developing and maintaining habits that will produce positive outcomes for both leaders and employees of the industry. (F,Sp)			
HMFS206 Rooms Division Management	3	HMFS253 Wines of France	1
Prerequisite: Minimum 2.0 in HMFS101 or concurrently		Prerequisite: Must be 21 years of age	
Reservation and sale of hotel rooms, operation of front office, review of check-in and check-out procedures, credit card processing, property security, daily audit and the importance of keeping accurate records. Includes yield management and determining room rates, forecasting based on statistical analysis, posting accounts and budgeting. (Sp)		Examine, in depth, the history and regional differences exhibited by the major wine producing areas of France - the world's leader and most famous wine producer. Through tasting, students will travel through the regions of Bordeaux, Burgundy, Champagne, Alsace, Rhone, and Loire River Valley. (Sp)	
HMFS215 Hospitality Sales and Marketing	3	HMFS254 Mixology	4
Prerequisite: Minimum 2.0 in HMFS101 or concurrently		Prerequisite: None	
Recommended: Minimum 2.0 in (HMFS131 and/or HMFS206) and HMFS170		Mixology is designed for students who would like to enhance their income as a bartender as well as students who plan on making the hospitality industry their life's vocation. Students will learn about service, beer, wine, spirits, bar equipment, sanitation, skills needed to handle alcohol-related issues and prepare 150 mixed drinks. (F,Sp,Su)	
Design and evaluation of sales promotions, strategic marketing plans and marketing alternatives; includes techniques for market analysis, needs assessment and creation of packages and joint ventures such as co-branding. Trends in branding and methods to evaluate marketing effectiveness will be discussed. Project included. (F,Sp)			
HMFS229 Convention and Meeting Management	3	HMFS260 Gourmet Basic Cookery	2
Prerequisite: Minimum 2.0 in HMFS101 or concurrently		Prerequisite: None	
Recommended: Minimum 2.0 in (HMFS131 and/or HMFS206) and HMFS170		Recommended: HMFS110	
Determining client needs, evaluating capability of facility and community resources and marketing for convention business is included. Methods of evaluating successful conventions and meetings are examined and the use of software programs to book events and maintain client records. (Sp)		Beginning basics of menu planning, recipe selection, purchasing of ingredients, correct preparation, and service. Cost issues and sanitation concerns emphasized. Preparation and evaluation of meals included. (F,Sp)	
HMFS232 Food and Labor Cost Control	3	HMFS261 Gourmet Italian Cookery	2
Prerequisite: Minimum 2.0 in (HMFS131 or concurrently) and (minimum 2.0 in ACCG101 and Math Level 4)		Prerequisite: None	
Strategies for making a profit and controlling food, beverage, and labor costs are examined. Includes discussion of quality versus cost issues and an analysis of records to detect problems. Includes examination of facility management strategies to reduce costs and save energy. Methods for increasing revenues are discussed and evaluated. (F,Sp)		Recommended: HMFS110	
HMFS240 Current Topics in Hospitality	3	Regional and national foods from Italy with specialty menus from each major region. Meal planning, food purchasing, and food preparation included. Local community experts contribute their expertise to the class. Preparation and evaluation of meals included; opening and closing kitchen procedures practiced. (F,Sp)	
Prerequisite: Minimum 2.0 in HMFS101		HMFS263 Gourmet American Cookery	2
Recommended: Minimum 2.0 in (HMFS203 and HMFS206 and HMFS215)		Prerequisite: None	
This course provides an examination of current trends, issues and topics affecting the hospitality industry. Each offering will change emphasis with possible topics such as Internet marketing, projected and pending legislation, casino and resort management, technological advancements, facilities management, leadership development, and industry globalization. (F,Sp)		Recommended: HMFS110	
HMFS250 Wines of the Southern Hemisphere	1	Explore why the U.S. is considered "the Melting Pot" of the world. During this course, you will travel through 8 different regional cuisines. Sanitation, nutrition, and personal hygiene are essential topics, along with various kitchen safety practices. (F,Sp,Su)	
Prerequisite: Must be 21 years of age		HMFS264 Gourmet Barbecue Cookery	2
This course will provide an introduction to the various wine growing regions, the grape varieties grown, and the types of wine produced in various countries in the Southern Hemisphere. Availability of the wines and suitable food pairings will also be addressed. Students will be engaged in the evaluation of wines based on appearance, bouquet and taste. (F)		Prerequisite: None	
		Recommended: HMFS110	
		Innovative approaches to preparing flavorful grilled foods; includes meats, vegetables, hors d'oeuvres, plus salads and desserts. Learn how to create memorable picnics! Preparation and evaluation of meals included; opening and closing kitchen procedures practiced. (F,Sp,Su)	
		HMFS266 Gourmet Chinese Cookery	2
		Prerequisite: None	
		Recommended: HMFS110	
		Learn basic techniques in the preparation of popular favorites such as sweet and sour pork, chicken almond ding and egg rolls; emphasis on proper saute' methods and "red" cooking techniques. Preparation and evaluation of meals included for diverse taste, texture, and aroma; opening and closing kitchen. (Sp)	

HMFS268 Gourmet Middle Eastern Cookery 2
Prerequisite: None
Recommended: HMFS110
 Unique ingredients and preparation procedures from various Middle Eastern countries are examined and explained. Includes preparation of entrees, side dishes, and desserts followed by detailed evaluations as to quality and customer acceptability. Preparation and evaluation of meals included; opening and closing kitchen procedures practiced. (F,Su)

HMFS270 Vegetarian Cuisine 2
Prerequisite: None
 This course will examine the growing trend of vegetarian cookery and how it has evolved over the years. Information will be provided on the different types of vegetarian cuisines, as well as how this has impacted today's lifestyles. Preparation and evaluation of meals included; opening and closing kitchen procedures practiced. (F,Sp)

HMFS272 The Cuisine of India 2
Prerequisite: None
 This course is designed to explore foods from India, including an introduction to Indian cuisine, its history, indigenous foods, herbs and spices used, and geography. Indian cuisine has a very rich history. Its taste is varied by region being simple, flavorful, colorful, and at times very intense. Preparation and evaluation of meals included; opening and closing kitchen procedures practiced. (F,Sp)

HMFS273 Gourmet Cajun Cookery 2
Prerequisite: None
Recommended: HMFS110
 Louisiana is home of Cajun and Creole cooking. Learn how to prepare a variety of recipes from this popular cuisine utilizing different herbs, spices, and techniques. Preparation and evaluation of meals included; opening and closing kitchen procedures practiced. (Sp)

HMFS274 Gourmet Lean Cookery 2
Prerequisite: None
Recommended: HMFS110
 Healthy ingredient alternatives examined to reduce the fat, salt, and calories in preparation of a variety of favorite recipes. Includes discussion of food composition and making healthier food choices through improved purchasing decisions. Preparation and evaluation of meals included; opening and closing kitchen procedures practiced. (F,Sp)

HMFS275 Bakery Production 4
Prerequisite: None
Recommended: HMFS110
 Learn the roles of each baking ingredient, formula, scaling, mixing, and baking techniques to achieve high quality products. Production of artisan breads, quick breads, laminated doughs, pies, cakes, tortes, butter creams, ganache, pastries, garnishes and sauces made in a commercial bakery. The student will learn to prepare, decorate, portion and plate all items. (F,Sp,Su)

HMFS276 Ice Carving Seminar .5
Prerequisite: None
 This course is designed to expose the student to the tools, techniques, and skills required to carve a block of ice. The student will be carving from a block of ice before the conclusion of the course. This is a hands-on, one-day course. (F,Sp)

HMFS280 Food Decorating Garnishes 3
Prerequisite: None
Recommended: HMFS110 and HMFS132
 Garnishing and presentation of various cold foods such as canapes, hors d'oeuvres, and vegetable carvings; plus the use of spices, sauces, and dressings. Food sculpting included. Set-up of lunch reception included. Preparation and evaluation of meals included; opening and closing kitchen procedures practiced. (Sp)

HMFS281 Soups and Sauces 3
Prerequisite: None
Recommended: HMFS110 and HMFS132
 Compose several different types of stocks using raw materials. Topics discussed: seasonings in stock, glazes prepared from stocks, preparation of various soups, proper garnish of soups, and major classifications and uses of sauces. (Sp)

HMFS285 Creative Baking for the Home 2
Prerequisite: None
 Learn to bake pies, cookies, breads, muffins, cakes and various other desserts the way your grandmother did. The recipes will change with the seasons of the year. (F,Sp)

HONR - Honors

HONR151 Honors Colloquy I 1
Prerequisite: Honors Program Approval
 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)

HONR152 Honors Colloquy II 1
Prerequisite: Honors Program Approval
 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)

HONR155 Community Service Practicum I 1
Prerequisite: Honors Program Approval
 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)

HONR156 Community Service Practicum II 1
Prerequisite: Honors Program Approval
 This is an opportunity for sophomore Honors Program students to volunteer in a community agency of their choice. 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)

HONR295 Honors Independent Study 1-3
Prerequisite: Honors Program Approval
 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)

HORT - Horticulture

HORT100 Field Experiences in Horticulture 2
Prerequisite: None
 This course will introduce the student to various aspects of the horticulture profession through discussion, videos, slides, field trips, and guest speakers. Topics will include greenhouse operators, bedding plant growers, nursery growers, sod producers, floral shop operators, retail garden centers, and garden suppliers wholesalers. (Sp)

- HORT102 Introduction to Ornamental Horticulture** 3
Prerequisite: None
 An introductory course involving botanical and horticultural principles and practices. Basic plant structures and their functions as well as soil and plant nutrition are discussed. Job opportunities and the role of horticulture will also be covered. Field trips and laboratory experiments will highlight the course. (F,Sp)
- HORT103 Indoor Plants and Flowers** 2
Prerequisite: None
 This hands-on course will allow the student to work with various aspects of the growth and propagation of typical flowering and foliage plants. The student will grow a collection of plants and explore various horticultural practices with their own plant material in a laboratory setting. (F,Sp)
- HORT105 Pests and Problems of Ornamental Plants** 3
Prerequisite: None
 This course is for the professional or homeowner interested in a knowledge of basic environmental and specific pest problems of trees and shrubs. Problems related to soil, light, water, planting, and fertilizer as well as insects, diseases, and vertebrates will be discussed. Integrated pest management and total plant health concepts will form the basis for problem management. (F,Sp)
- HORT107 Beginning Floral Design** 3
Prerequisite: None
 This is an introductory course for students interested in learning the principles of floral design. Tools and techniques as well as basic arrangement shapes are learned through hands-on experiences. Students will use fresh, silk, and dried flowers to create traditional and contemporary designs. (F,Sp,Su)
- HORT109 Contemporary Floral Design** 3
Prerequisite: None
Recommended: Basic floral design experience
 Contemporary floral designs are taught as well as theme arrangements, tools, and techniques. The basic principles of design are reviewed with the student transferring techniques to stylized arrangements. This is a hands-on course with participants working with floral materials each week. (F,Sp)
- HORT110 Wedding Floral Design** 3
Prerequisite: None
Recommended: Basic floral design experience
 This course is designed for the advanced floral designer who has demonstrated the ability to apply the principles of design. Wedding designs covered include colonial, cascade, crescent, and arm bouquets. This is a hands-on class with students working with floral materials each week. (Sp)
- HORT143 Cut Flowers, Foliage and Potted Plants** 4
Prerequisite: None
 The functional aspects of plant material commonly found in the floriculture industry will be covered. The identification of cut flowers, cut foliage, and potted and foliage plants will be required. A course that would benefit the floral designer, greenhouse grower, or landscape designer. (Sp)
- HORT175 Special Topics in Horticulture** .25-8
Prerequisite: Determined by Unit Section
 This course offers students the opportunity to learn new or advanced skills in horticulture and other related topics. Specific content may vary with each offering and will be related to the Horticulture Technology Program and profession. (F,Sp,Su)
- HORT230 Plant Propagation/Nursery Operations** 4
Prerequisite: Minimum 1.0 in HORT102
 This course will cover the basics of plant propagation and nursery operations. It will focus on the process of setup, planting, and follow-up maintenance. The tools and techniques of seed propagation, as well as cuttings, grafting, budding, and layering will be emphasized. Knowledge of plant selection, soils, pruning, harvesting, and marketing nursery products will be included. (F)

- HORT235 Greenhouse Structures & Environment** 3
Prerequisite: None
 This course is an introduction to the construction and operation of a commercial greenhouse. Types of greenhouses, including construction materials, are discussed. Environmental control such as heating, cooling, and irrigation practices and procedures are presented. In addition, methods of planting, fertilizing, and insect and disease control are also included to provide a basis of knowledge for greenhouse crop production. (F)
- HORT236 Greenhouse Ornamentals** 3
Prerequisite: Minimum 1.0 in HORT235
 This is an advanced course for the greenhouse grower. The course will cover the production techniques for cut flowers, holiday crops, and other greenhouse ornamentals. Topics of discussion will include scheduling and timing crops, spacing, production costs, and cultural practices. (Sp)
- HORT237 Bedding Plant Production** 3
Prerequisite: Minimum 1.0 in HORT102
 An advanced course for the greenhouse grower to produce healthy bedding plants at a profit. Topics will include scheduling, spacing, and production costs as well as cultural practices. New varieties will also be presented. (F)
- HORT238 Garden Center/Nursery Sales** 3
Prerequisite: None
 This course provides business principles for retail sales managers. A thorough discussion of management topics is presented. Emphasis is placed on planning and organizing a garden center, nursery, greenhouse, or florist operation. Effective pricing and merchandising strategies as well as advertising and display techniques are discussed. (Sp)
- HORT295 Horticulture Project Lab** 1-4
Prerequisite: Department Approval
 This project lab is designed for students who wish to pursue a specialty area in horticulture beyond that which is offered in our curriculum. Inquiry through research is required. (F,Sp,Su)

HUMS - Humanities

- HUMS120 Western Art and Music History** 4
Prerequisite: Reading Level 5 and Writing Level 4
 An introduction to the masterpieces of art and music from preliterate times to the 20th century. Audio and visual material will be used to illustrate artistic and musical contributions of Europe and America to the development of Western culture. (F,Sp,Su)
- HUMS140 Art of Being Human** 4
Prerequisite: Reading Level 5 and Writing Level 6
 Through an interdisciplinary exploration of art, dance, history, literature, music, philosophy, religion, and theater, students will analyze human experience and examine their values. An active learning environment using team-teaching will encourage self-discovery and understanding of the issues and concerns found in the Humanities and Performing Arts. (F)
- HUMS160 Mythology** 4
Prerequisite: Reading Level 5 and Writing Level 6
Recommended: WRIT121 or WRIT131
 Classical Greek and Roman myths constitute the first 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)
- HUMS211 History of Art I** 4
Prerequisite: Reading Level 5 and Writing Level 6
Recommended: WRIT121 or WRIT131
 Surveys the history of painting, sculpture, and architecture of world civilizations in Africa, the Americas, Asia and Europe from preliterate times to the 15th century. 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)

HUMS212 History of Art II 4
Prerequisite: Reading Level 5 and Writing Level 6
Recommended: WRIT121 or WRIT131
 Surveys the history of painting, sculpture, and architecture of world civilizations in Africa, the Americas, Asia, and Europe from the 15th to the 20th century. 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)

HUMS213 World Civilizations I 4
Prerequisite: Reading Level 5 and Writing Level 6
Recommended: WRIT121 or WRIT131
 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)

HUMS214 World Civilizations II 4
Prerequisite: Reading Level 5 and Writing Level 6
Recommended: WRIT121 or WRIT131
 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)

HUMS215 American Civilization 4
Prerequisite: Reading Level 5 and Writing Level 6
Recommended: WRIT121 or WRIT131
 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. (Su)

HUMS221 Islamic Civilization 4
Prerequisite: Reading Level 5 and Writing Level 6
Recommended: WRIT121 or WRIT131
 This course examines the historical, literary, artistic, religious and philosophical traditions of Islamic civilization in a global context. It emphasizes the richness, diversity and creativity of Islamic civilization from its beginning to the 21st century. (F)

HUMS225 Great Lakes Native Amer Hist & Tradition 4
Prerequisite: None
 Surveys the Great Lakes Native American culture and people, the differences in oral tradition and written histories of the Great Lakes Anishnaabek (First People), the Talking Circle for community problem solving, and an introduction to the language. (F,Sp,Su)

HUMS260 Seminar: Ancient Egypt 4
Prerequisite: Reading Level 5 and Writing Level 6
Recommended: WRIT121 or WRIT131
 This course explores the achievements of one of the earliest and most successful of world civilizations. Developments in Egyptian art, architecture, and literature will be emphasized and the roles of religion, kingship, and geography will be studied. Great discoveries and discoverers of Egyptian archaeology will also be featured. (F)

HUMS265 Seminar: Ethical Issues in Medicine 3
Prerequisite: None
 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,Su)

HUMS295 Independent Study in Humanities 1-4
Prerequisite: Department Approval
 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)

HUSE - Human Services

HUSE100 Introduction to Human Services 3
Prerequisite: Reading Level 3 and Writing Level 4
 This course presents an overview of human services evolution, the services provided, and the populations served. Emphasis is on community, ethics, and skills used in diverse settings. The approach is generalist in nature. This course complies with the National Community Support Skills, Council for Standards in Human Services Education. (F,Sp,Su)

HUSE105 Personal Dynamics/Interviewing 4
Prerequisite: Reading Level 4 and Writing Level 4
Recommended: Minimum 2.5 in HUSE100 or SOWK101
 The nature of personal development, knowledge and values are examined. The potential influence on rapport is explored. Interviewing techniques of a "helping interview" are demonstrated through role playing, and feedback is provided. This course and HUSE100 together meet the Community Support Skills Standards, Council for Standards in Human Service Education. (F,Sp)

HUSE110 Child Abuse and Neglect 3
Prerequisite: None
 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)

HUSE112 Understanding Substance Abuse 4
Prerequisite: None
 Students learn the multiple factors and cycles contributing to addiction. Reasons for abuse, dependency dynamics, addiction prevention and treatment considerations are explored. Legislation is studied. Issues and treatment regarding addiction and special populations are discussed. Ethical issues include professional competency and responsibility, confidentiality, and the commitment to nondiscrimination. (F,Sp,Su)

HUSE242 The Family: Addiction/Violence 3
Prerequisite: None
Recommended: HUSE105 and HUSE112
 This course provides conceptual frameworks to understand, assess, and effectively intervene/interact in a counseling fashion with the chemically dependent family. Attention is brought to the socioeconomic, cultural, and psychological factors of chemical dependency and family violence. Intervention techniques, the role of law enforcement, legislative bodies, and social services agencies are discussed. (Sp)

HUSE282 Human Services Practicum I 4
Prerequisite: Minimum 2.5 in (HUSE105 or SOWK203) and minimum 2.0 in (WRIT121 or WRIT131) and Department Approval
Recommended: Human Services experience
 This course combines classroom training with beginning field experience (10 hours per week) in a community-based human services agency. Emphasis is on knowledge of the community power structure, funding bases, and the internal working of human services organizations. Opportunities in the labor force, certification requirements, and networking are explored. (F)

HUSE284 Human Services Practicum II 4
Prerequisite: Minimum 2.5 in HUSE282
 This course provides classroom training on principles of human services delivery with advanced practical experience (10 hours per week) in a community-based human services agency. Emphasis is on identifying systems and resources to link the systems with the people and how to mobilize the systems and the people. (Sp)

HUSE293 Human Services Special Topics .25-4
Prerequisite: Determined by Unit Section
 A number of 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. (F,Sp,Su)

HUSE297 Human Services Independent Study 1-3

Prerequisite: Department Approval
 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,Su)

HVAC - Heat, Ventilation and Air Conditioning

HVAC100 Fundamentals of HVAC 3

Prerequisite: None
 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,Su)

HVAC101 HVAC/R Piping 2

Prerequisite: None
 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,Su)

HVAC105 Sheet Metal Fabrication & Installation 2

Prerequisite: None
 Designed to aid the installer in the skills and techniques for installation of residential heating and cooling systems. Topics include sheet metal layout, identification of sheet metal fittings and general furnace installation procedures. (F,Sp,Su)

HVAC110 Applied Electricity I 2

Prerequisite: None
 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,Su)

HVAC111 Applied Electricity II 2

Prerequisite: Minimum 1.5 in (HVAC100 and HVAC110)
 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)

HVAC120 Heating I 3

Prerequisite: Minimum 1.5 in (HVAC100 and HVAC110)
 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)

HVAC130 Air Conditioning I 3

Prerequisite: Minimum 1.5 in (HVAC100 and HVAC110)
 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)

HVAC201 Mechanical Code 4

Prerequisite: Minimum 1.5 in (HVAC120 and HVAC130)
 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. (F,Sp)

HVAC211 Schematics 3

Prerequisite: Minimum 1.5 in (HVAC100 and HVAC110)
 An in-depth study into the cause and effect aspects of schematic diagrams. The student will learn to simplify complicated schematics to obtain the sequence of operation necessary for the proper troubleshooting of heating, ventilation and air conditioning equipment. (F,Sp)

HVAC220 Heating II 3

Prerequisite: Minimum 1.5 in (HVAC111 and HVAC120)
 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)

HVAC221 Introduction to Hydronics 3

Prerequisite: Minimum 1.5 in HVAC220
 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,Sp)

HVAC230 Air Conditioning II 3

Prerequisite: Minimum 1.5 in (HVAC111 and HVAC130)
 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)

HVAC231 Heat Pump 3

Prerequisite: Minimum 1.5 in HVAC230
 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. (F)

HVAC240 Refrigeration I 3

Prerequisite: Minimum 1.5 in HVAC230 or concurrently
 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)

HVAC241 Refrigeration II 3

Prerequisite: Minimum 1.5 in HVAC240
 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)

HVAC250 Pneumatic Control 3

Prerequisite: Minimum 1.5 in HVAC230
 Basic concepts of pneumatic controls and their calibration will be covered. Procedures taught will be based on industry standards for HVAC equipment in commercial structures. (Sp)

HVAC251 Fundamentals of Direct Digital Controls 3

Prerequisite: Minimum 1.5 in HVAC230
Recommended: Basic Windows computers skills
 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. (F)

IDMS - Diagnostic Medical Sonography

IDMS200 Sonographic Introduction 2

Prerequisite: Admission to Diagnostic Medical Sonography Program
 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)

IDMS201 General Sonography I: Abdomen 4
Prerequisite: Department Approval
 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)

IDMS202 OB/GYN Sonography I 4
Prerequisite: Admission to Diagnostic Medical Sonography Program
Co-requisite Course(s): IDMS201 and IDMS234 and IDMS270 and IDMS280
 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)

IDMS234 Sonographic Physics 2
Prerequisite: Admission to Diagnostic Medical Sonography Program
Co-requisite Course(s): IDMS201 and IDMS202 and IDMS270 and IDMS280
 The student will study the fundamental principles of acoustical physics, how sound is produced and manipulated, and how it reacts in various mediums. (F)

IDMS245 Sonographic Instrumentation 2
Prerequisite: Minimum 2.5 in IDMS234
Co-requisite Course(s): IDMS265 and IDMS266 and IDMS271 and IDMS281
 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)

IDMS265 General Sonography II 4
Prerequisite: Minimum 2.5 in IDMS201
Co-requisite Course(s): IDMS245 and IDMS266 and IDMS271 and IDMS281
 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)

IDMS266 OB/GYN Sonography II 4
Prerequisite: Minimum 2.5 in IDMS202
Co-requisite Course(s): IDMS245 and IDMS265 and IDMS271 and IDMS281
 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)

IDMS270 Sonographic Positioning I 1
Prerequisite: Admission to Diagnostic Medical Sonography Program
Co-requisite Course(s): IDMS201 and IDMS202 and IDMS234 and IDMS280
 Sonography students are introduced to sonographic positioning and scanning techniques. Normal anatomy of the liver, biliary tree, aorta, kidneys, spleen, and pancreas will be explored. (F)

IDMS271 Sonographic Positioning II 1
Prerequisite: Minimum 2.5 in IDMS270
Co-requisite Course(s): IDMS245 and IDMS265 and IDMS266 and IDMS281
 Sonography students continue to practice sonographic positioning and scanning techniques. Normal and abnormal anatomy of the liver, biliary tree, aorta, kidney, spleen, transabdominal pelvis, thyroid, musculoskeletal and gravid uterus will be explored. (Sp)

IDMS280 Clinical Experience I 7
Prerequisite: Admission to Diagnostic Medical Sonography Program
Co-requisite Course(s): IDMS201 and IDMS202 and IDMS234 and IDMS270
 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)

IDMS281 Clinical Experience II 7
Prerequisite: Minimum 2.5 in IDMS280
Co-requisite Course(s): IDMS245 and IDMS265 and IDMS266 and IDMS271
 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)

IDMS282 Clinical Experience III 8
Prerequisite: Minimum 2.5 in (IDMS234 and IDMS245 and IDMS265 and IDMS266)
 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)

IDMS285 Sonographic Registry Preparation 3
Prerequisite: (Minimum 2.5 in IDMS245 and IDMS265 and IDMS266 and IDMS281) or Approved DMS Graduate
 Students will be presented with advanced teaching in cross-sectional anatomy and interpretation of pathology on sonographic exams as it relates to the abdomen, small parts, obstetrics, gynecology, sonographic physics, and limited vascular systems. This course is intended to provide final preparation for the American Registry of Diagnostic Medical Sonographers (ARDMS) board registry examination. (Su)

IDMS295 DMS Special Topics 25-8
Prerequisite: Determined by Unit Section
 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. (F,Sp,Su)

IMAG - Photography Technology

IMAG101 Basic Photography for Non-Majors 2
Prerequisite: None
 Students will learn to use camera controls, exposure controls, photographic composition, and lighting to make better photographs. Students must provide their own film-based or digital camera. Designed for students with little or no previous still photography experience who do not plan to major in imaging technology. (F,Sp,Su)

IMAG111 Intro to Photographic Technology I 4
Prerequisite: Reading Level 3 and Writing Level 2 and Math Level 3
 Introduces students to photographic technology on both a theoretical and practical level. The student will learn camera types and related equipment, exposure controls, beginning and intermediate black-and-white film processing and printing, including contrast controls. This course is the introductory course to the Photographic Imaging Technology Program. (F,Sp,Su)

IMAG112 Design for Imaging Technology 3
Prerequisite: Minimum 2.0 in IMAG111 or concurrently
 This course introduces students to design theory and its application to imaging technologies on both a practical and theoretical level. Students will learn and apply design elements and principles to their evolving work. (F,Sp,Su)

IMAG113 Lighting Concepts and Applications 3
Prerequisite: Minimum 2.0 in IMAG111 or concurrently
 Introduces the student to fundamental lighting concepts encountered 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 and electronic flash equipment to produce acceptable images. (F,Sp,Su)

IMAG114 Intro Photographic Color Technology	3	IMAG229 Advanced Imaging Applications	1
Prerequisite: Minimum 2.0 in (IMAG111 and IMAG112 and IMAG113) and Reading Level 5 and Writing Level 2 and Math Level 3		Prerequisite: Minimum 2.0 in IMAG117 and Approved Proposal	
Introduces the student to the theories and applications of contemporary color photographic materials and processes. Students will learn to produce acceptable color images by applying the concepts of film selection, film testing, color temperature, lighting, and color image design to their evolving work. (F,Sp)		This course allows advanced students to work on improving skills or enhance skills in an area of strength or interest. Students will work with an instructor in a directed learning experience. An acceptable written proposal is required prior to registration. This course may be repeated for credit toward an associate degree with department approval. (F,Sp,Su)	
IMAG117 Intro to Photographic Technology II	4	IMAG232 Internship	3
Prerequisite: Minimum 2.0 in IMAG111		Prerequisite: Minimum 2.0 in IMAG117 and Department Approval	
Continuation of IMAG111. Students will learn intermediate and advanced black-and-white exposure, developing, and printing controls and techniques. Students will acquire knowledge and skills to solve technical, aesthetic, and communication problems. (F,Sp)		This course allows advanced students to work as an intern developing competencies in the technical, business, creative, and communicative aspects of photography, film making, or electronic imaging. An acceptable written application and internship agreement is required prior to registration. This course may be repeated for credit toward an associate degree with department approval. (F,Sp,Su)	
IMAG119 Intermediate Lighting	4	IMAG233 The Business of Photography	2
Prerequisite: Minimum 2.0 in (IMAG111 and IMAG113)		Prerequisite: Minimum 2.0 in (IMAG212 and IMAG213 and IMAG214)	
An exploration of intermediate lighting theories, practices and techniques. This course emphasizes the use of natural light and electronic flash as applied to people, locations and advanced studio settings. (F,Sp)		This course exposes the student to the general business practices and approaches used in the photographic marketplace. (Sp)	
IMAG191 Photo Imaging Special Topics	1-3	IMAG234 Portfolio Assembly and Degree Completion	3
Prerequisite: Minimum 2.0 in IMAG117		Prerequisite: Minimum 2.0 in (IMAG210 and IMAG212 and IMAG213 and IMAG214)	
Recommended: IMAG114 and IMAG119		This is a concluding course for the Photography 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. Students present portfolios in a public program. (Sp)	
Photo Imaging Special Topics will be offered for intermediate and advanced photographic imaging students. Topics will cover a broad range of subjects related to photographic imaging and related fields. (F,Sp,Su)		IMAG238 Project Lab Independent Study	3
IMAG210 Intermediate Color Applications and Tech	3	Prerequisite: Minimum 2.0 in IMAG117 and Approved Proposal	
Prerequisite: Minimum 2.0 in (IMAG114 and IMAG117 and IMAG119)		This course allows advanced students to pursue study in areas not formally taught within the curriculum when these studies require the use of the Photography Center facility. Students will work in consultation with an instructor. An acceptable written proposal is required prior to registration. This course may be repeated for credit toward an associate degree with department approval. (F,Sp,Su)	
Introduces the student to the contemporary materials and processes of the negative to positive color photographic print process. Students will learn to produce professionally acceptable prints from a wide variety of color negatives by applying color balancing and printing controls, print finishing techniques, and lab efficiency skills to their work. (F)		IMAG240 Internship	4
IMAG212 Large Format Photography	2	Prerequisite: Minimum 2.0 in IMAG117 and Department Approval	
Prerequisite: Minimum 2.0 in (ARTS171 and IMAG114 and IMAG117 and IMAG119) and (minimum 2.0 in IMAG210 or concurrently)		This course allows advanced students to work as interns developing competencies in the technical, business, creative, and communicative aspects of photography, film making, or electronic imaging. An acceptable written application and internship agreement is required prior to registration. (F,Sp,Su)	
Introduces students to large format and medium format imaging technologies and their applications to commercial illustration. Students will work in areas directly linked to the technical elements of this format. (F)		INSU – Insurance	
IMAG213 Portrait Photography	2	INSU265 Principles Risk and Insurance	3
Prerequisite: Minimum 2.0 in (ARTS171 and IMAG114 and IMAG117 and IMAG119) and (minimum 2.0 in IMAG210 or concurrently)		Prerequisite: None	
Introduces students to medium format imaging technologies and their applications to portrait photography. Students will work in areas directly linked to the technical and expressive elements of these formats. (F)		At the completion of this course, the student will have a working knowledge of the theory of risk, insurance terminology, legal insurance contracts, and use of risk management. (Sp)	
IMAG214 Photojournalism	2	INTR – Interior Design	
Prerequisite: Minimum 2.0 in (IMAG114 and IMAG117 and IMAG119) and ((minimum 2.0 in ARTS228 and IMAG210) or concurrently)		INTR100 Interior Design Fundamentals	3
Introduces students to techniques and practices of photojournalism, documentary photography, and public relations photography. (F)		Prerequisite: None	
IMAG215 Photographic Imaging Technology	2	Practical survey course for residential interior design and decoration. Topics include planning, selecting and arrangement of furnishings, scheduling color schemes, and identification of furniture styles as they relate to the selection and coordination of home furnishings and accessories. (F,Sp,Su)	
Prerequisite: Minimum 2.0 in (ARTS 228 and IMAG210 and IMAG212 and IMAG213 and IMAG214)		INTR101 Special Topics in Interior Design	.25-8
Students will apply critical thinking processes and digital photographic imaging technologies to produce a body of work illustrating their areas of special interest. (Sp)		Prerequisite: Determined by Unit Section	
IMAG228 Independent Study	3	The Interior Design Special Topic Series offers students the opportunity to acquire new skills and knowledge. A variety of topics related to Interior Design prepares students, workers and designers to learn up-to-date content for the twenty-first century. Topics may vary with each semester and section offering. (F,Sp,Su)	
Prerequisite: Minimum 2.0 in IMAG117 and Approved Proposal			
Allows advanced students to pursue study in areas not formally taught within the curriculum. Students will work in consultation with an instructor. Acceptable written proposal required prior to registration. This course may be repeated for credit toward an associate degree with department approval. (F,Sp,Su)			

INTR110 Applied Design/Color Theory 3**Prerequisite:** None

A course in basic design theory. Topics include two- and three-dimensional design fundamentals, elements and principles of design, color, creativity and problem solving as they relate to interior design. Various media will be applied to interior design projects. (F,Sp)

INTR151 Beginning Kitchen and Bath Design 4**Prerequisite:** Minimum 2.0 in ARCH100 or Drafting Placement Test 80%**Recommended:** (CITF108 or CITF110 or CADD105) and CADD100

This course is a beginning study of kitchen planning, design, and remodeling through computer software applications. Lecture and lab components are included. (F,Sp)

INTR170 Interior Design Principles 4**Prerequisite:** (Minimum 2.0 in ARCH100 or Drafting Placement Test 80%) and Reading Level 5 and Writing Level 6

This course is an overview of the basic knowledge required for the education of the professional interior designer. Human needs are the focal point of solving problems of space planning and furniture arrangement. Students will use the elements and principles of design to evaluate function and aesthetics of interior spaces. (F,Sp)

INTR185 Introduction to Textiles 3**Prerequisite:** Reading Level 5 and Writing Level 6

This course examines the basic fundamentals of textiles characteristics and identification; fibers, yarns, fabric construction, finishes and regulations, with emphasis on applications, performance and care in the apparel, interiors and auto industry. (F,Sp)

INTR190 Interior/Materials/Equipment 3**Prerequisite:** None**Recommended:** ARCH100 or equivalent

Study of nonstructural interior finishes and materials, their methods of application and installation and their effect on the environment. Students will study kitchens, baths, cabinets, ceilings, walls, floors, and paint. (F,Sp)

INTR201 Cultural Diversity in Housing 3**Prerequisite:** Reading Level 5 and Writing Level 6**Recommended:** WRIT121 or WRIT127 or equivalent

This multidisciplinary course is the study of how culturally diverse ideas, issues, values, and institutions in global societies have shaped the built environment and the political, social and economic impact this has on the individual and the group. (Sp)

INTR230 World Decorative Arts 3**Prerequisite:** Reading Level 5 and Writing Level 6**Recommended:** WRIT121 or WRIT127 or equivalent

This course is a survey of the decorative arts of the world including furniture, interior architecture, textiles, and accessories. Students will study designers, styles, materials and techniques and their influence upon the political, geographical, economic and religious cultures of Africa, Asia, Europe and the Americas. Period is from antiquity to seventeenth century. (F)

INTR231 Period Interiors 3**Prerequisite:** Reading Level 5 and Writing Level 6**Recommended:** WRIT121 or WRIT127 or equivalent

This course is a study of the decorative art periods including furniture, interior architecture, textiles, and accessories from the Italian Renaissance to the nineteenth century western industrial revolution. (Sp)

INTR232 Twentieth Century Interiors 3**Prerequisite:** Reading Level 5 and Writing Level 6**Recommended:** WRIT121 or WRIT127 or equivalent

This course is a selective survey of interior design covering the history and philosophy of modern and international styles from the turn of the century to the 1990s. (Sp)

INTR251 Advanced Kitchen and Bath Design 3**Prerequisite:** Minimum 2.0 in INTR151**Recommended:** ARCH231

Students will create advanced kitchen and bath design projects that solve problems of storage capacity, accessibility, functionality, ventilation, lighting, safety, kitchen and bath mechanical systems. Topics will include application of universal design, planning principles, esthetics, as well as technological aspects of appliances, fixtures, and other equipment. (F,Sp)

INTR256 Interior Design Professional Practice 3**Prerequisite:** None**Recommended:** MATH117

This course is an in-depth study of the business and professional practices of interior designers. Students prepare written communications, contract forms, and schedules. The study of marketing, ethics, and project management are included. (F)

INTR261 Interior Design Project Laboratory 1-4**Prerequisite:** Department Approval**Recommended:** INTR222 or INTR251 or ARCH221 or ARCH231 or equivalent

This course is a directed study of special projects not incorporated in regular course offerings. (F,Sp,Su)

INTR263 Interior Design Internship 2-4**Prerequisite:** Department Approval**Recommended:** Minimum 2.0 in INTR256 and GPA 2.0 and 20 credits completed in INTR

This course is a work site experience. Students will gain pre-career experience by working in a studio environment under the supervision of a professional. Regularly scheduled progress reports will be given and discussed with supervising faculty member. (F,Sp,Su)

INTR265 Residential Interior Design 5**Prerequisite:** Minimum 2.0 in (ARCH101 and ARCH121 and INTR151 and INTR170)**Recommended:** INTR190 and PHYS120

This course is an integrated design studio with components of interior space planning, interior lighting and construction systems, and residential interior design with computer applications. Students will apply knowledge, skills, processes and theories of interior design to residential studio problems. Residential interior design includes programming, universal design, human factors data and specifying interior materials for a sustainable environment. (Sp)

INTR270 Interior Design Portfolio 2**Prerequisite:** None**Recommended:** ARCH121 and 20 credits completed in INTR or equivalent

The portfolio course is an opportunity for students to organize photographs, matter/frame, and/or digitize their visual works. At the completion of the course the students will have developed a format for a portfolio. (Sp)

INTR275 Commercial Interior Design 5**Prerequisite:** Minimum 2.0 in (ARCH121 and ARCH231 and INTR170 and INTR190)

This course is an integrated design studio with components of three dimensional visualization, commercial specifications and commercial interior design using computer applications. Students will apply knowledge, skills, processes, and theories of interior design to commercial studio problems. Commercial interior design includes programming, schematic design, design development, and contract documents. (F)

INTR280 Interior Design Building Codes 3**Prerequisite:** Minimum 2.0 in INTR170

Explores federal regulations, codes and specifications concerning life-safety issues, barrier free access (Americans with Disabilities Act [ADA]) and universal design requirements relative to non-structural residential and commercial design. Special attention is given to performance, health/safety, and universal design when estimating and preparing specifications for interior materials and products. (F,Sp)

INTR293 Kitchen and Bath Design Internship 2-4**Prerequisite:** Department Approval**Recommended:** MATH117 2.5 minimum and 20 credits completed in INTR. This course is a work site experience. Students will gain pre-career experience by working in a studio environment under the supervision of a professional. Regularly scheduled progress reports will be given and discussed with the supervising faculty member. (F,Sp,Su)**IRXT - Radiologic Technology****IRXT100 Introduction to Imaging/Patient Care 4****Prerequisite:** Admission to Radiologic Technology Program

This course is a survey of the role of the radiographer in the health care industry, exploring the historical perspective of x-ray, certification, licensure, and continuing education requirements. Principles of basic patient care are covered including: aseptic techniques, infection control, vital signs, medical emergencies, venipuncture, and intravenous medication administration. Clinical observations at a college affiliate site and laboratory activities are included. (F)

IRXT111 Radiographic Positioning I 5**Prerequisite:** Admission to Radiologic Technology Program

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)

IRXT112 Radiographic Positioning II 5**Prerequisite:** Minimum 2.5 in IRXT111

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)

IRXT114 Cross-Sectional Anatomy 3**Prerequisite:** Minimum 2.5 in IRXT112

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. Correlations between cadaver cross-sections, CTs, MRIs and radiographs are explored. (F)

IRXT121 Radiographic Exposure I 3**Prerequisite:** Admission to Radiologic Technology Program

The formation of the radiographic image is the focus of IRXT121. Photographic and geometric variables are related to radiographic factors and their various interactions compared and contrasted. Finally, a study of the history of radiology, basics of radiation formation, and anatomy of the X-ray tube are discussed. (F)

IRXT122 Radiographic Exposure II 3**Prerequisite:** Minimum 2.5 in IRXT121

Various beam modifying devices are presented and their relation to formation of a radiographic image studied. A study of manual processing and the theory of image formation is included. Dark room procedures and quality control, both radiographic and photographic, will also be explored. (Sp)

IRXT131 Radiologic Physics 3**Prerequisite:** Minimum 2.5 in IRXT122 and minimum 2.0 in MATH112

Basic physical principles are related to the radiologic process. A study of basic electricity and the operation of the x-ray circuit are presented. Finally, advanced topics regarding the formation of radiation, protection of the X-ray tube, and X-ray attenuation are studied. (F)

IRXT132 Radiobiology and Protection 2**Prerequisite:** Minimum 2.5 in IRXT122 and minimum 2.0 in MATH112

This course focuses on the rationale for good radiation hygiene and methods used to protect the patient and technologist. Current theories regarding the physiological effects of ionizing radiation are explored. (Sp)

IRXT200 Introduction to Radiologic Pathology 2**Prerequisite:** None

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)

IRXT202 Clinical Practice I 4**Prerequisite:** Minimum 2.5 in IRXT111

First in a two-semester sequence of clinical application in radiography. The course is programmed with specific performance activities. Credit is arranged for each individual semester with a ratio of one credit hour to four clinical clock hours. The ratio for lecture is consistent with the one-to-one ratio. (Sp)

IRXT204 Clinical Practice II-S 5**Prerequisite:** Minimum 2.5 in IRXT202

Second course in a two-semester sequence of clinical applications in radiography. The course is programmed with specific performance activities. Credit is arranged for each individual term with a ratio of one credit hour to four clinical clock hours. The ratio for lecture is consistent with the one-to-one ratio. (Su)

IRXT214 Comprehensive Experience I 6**Prerequisite:** Minimum 2.5 in (IRXT204 or IRXT213)

First in a two-semester sequence of clinical application in radiography. Clinical experience is provided under the direct supervision of an ARRT Registered Technologist. Clinical competencies will be given corresponding to completed didactic work. Performance standards are used to evaluate the student's progress. (F)

IRXT215 Comprehensive Experience II 6**Prerequisite:** Minimum 2.5 in IRXT214

Second in a two-semester sequence of clinical application in radiography. Clinical experience is provided under the direct supervision of an ARRT Registered Technologist. Clinical competencies will be given corresponding to completed didactic work. Performance standards are used to evaluate the student's progress. (Sp)

IRXT295 Radiologic Technology Special Topics 25-8**Prerequisite:** Determined by Unit Section

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. (F,Sp,Su)

ISCI - Integrated Science**ISCI121 Integrated Science for Education I 4****Prerequisite:** Reading Level 5 and Writing Level 6 and Math Level 4

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. Recommended for education majors. (F,Sp)

ISCI122 Integrated Science for Education II 4**Prerequisite:** Minimum 2.0 in ISCI121 and Reading Level 5 and Writing Level 6 and Math Level 4

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)

ISCI131 Integrated Science - Physical 4**Prerequisite:** Reading Level 5 and Writing Level 6 and Math Level 4

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)

JAPN - Japanese

JAPN115 Conversational Japanese I 3

Prerequisite: None

First course in conversational Japanese. Designed for people with little or no knowledge of Japanese who wish to acquire conversational skills. Students learn correct pronunciation, basic sentence structures, and practical vocabulary for everyday use and traveling. Selected features of Japanese culture and everyday life in Japan will be introduced. (F,Sp,Su)

JAPN116 Conversational Japanese II 3

Prerequisite: None

Recommended: JAPN115 or equivalent

Second course in conversational Japanese. Designed for people with some prior knowledge of Japanese who wish to improve their conversational skills. Students learn practical vocabulary and essential grammar to converse in Japanese. Selected features of Japanese culture and everyday life in Japan will be introduced. (F,Sp)

JAPN121 Elementary Japanese I 4

Prerequisite: Reading Level 5

First course of a two-semester sequence in elementary Japanese. Designed to provide students with basic knowledge of Japanese for practical communication and skills in speaking, reading, writing, and listening comprehension. Provides information concerning everyday life and culture of Japan. Hiragana and Katakana syllabaries and 40 Kanji will be introduced. (F,Sp)

JAPN122 Elementary Japanese II 4

Prerequisite: Minimum 1.5 in JAPN121

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. Additional 100 Kanji will be introduced. Class is taught mostly in Japanese. (Sp)

JAPN201 Intermediate Japanese I 4

Prerequisite: Minimum 1.5 in JAPN122

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. Additional 150 Kanji will be introduced. (F)

JAPN202 Intermediate Japanese II 4

Prerequisite: Minimum 1.5 in JAPN201

Continuation of JAPN201. Includes more advanced grammar, intensive vocabulary building, writing composition, reading contemporary materials, discussions, and student presentations of Japanese language or culture. Additional 150 Kanji will be introduced. Natural and practical communication will be emphasized. Class is taught in Japanese. (Sp)

JRNL - Journalism

JRNL151 Newswriting and Reporting 3

Prerequisite: Minimum 2.0 in (WRIT121 or WRIT131)

Recommended: Computer and/or keyboarding experience

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)

JRNL251 News Design and Layout 3

Prerequisite: Minimum 2.0 in JRNL151

Recommended: Computer and/or keyboarding experience

This course will equip students to do basic electronic design and layout for newspapers, newsletters, and brochures, among other print media. The news value of information will be the primary criterion for design choices, although fundamental aesthetics also will be covered. (Sp)

JRNL254 Editorial Writing 3

Prerequisite: Minimum 2.0 in (JRNL151 or WRIT121 or WRIT131)

Recommended: Computer and/or keyboarding experience

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)

LABR - Labor Relations

LABR200 Introduction to Labor Relations 3

Prerequisite: None

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)

LABR201 Labor Negotiation and Contract Admin 3

Prerequisite: None

Recommended: LABR200 or LABR203 or related work experience

This course covers key aspects of negotiating/applying collective bargaining agreements including: labor negotiations; contract administration; and grievance processing and arbitration. This hands-on course conveys basic knowledge, legal framework, and practical skills pertaining to negotiations and grievance adjudication. (F)

LABR203 Labor Law 3

Prerequisite: None

Recommended: LABR200 or related work experience

An in-depth study of traditional labor law including NLRB law, court decisions, and historical origins which impact union organizing, representation elections, unfair labor practices, bargaining, strikes, and enforcement of labor contracts. (Sp)

LABR204 Employment Law for Managers 3

Prerequisite: None

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. (F,Sp)

LAND - Landscape

LAND100 Introduction to Landscape Drafting 3

Prerequisite: None

This course covers the use of drafting equipment with an emphasis on lettering, line convention, and title blocks. The students will develop a basic format for design construction drawings. The course provides essential drafting skills for beginning the Landscape Program. (F,Sp,Su)

LAND101 Landscape Special Topics .25

Prerequisite: None

The Landscape Special Topics series will feature topics related to the green industries. The lectures will allow students to sample and explore a wide variety of topics related to plant materials, landscape designs and construction principles. Topics will range from water gardens and bonsais to rose gardens and herbs. (F,Sp)

LAND120 Basics of Landscape Contracting 3

Prerequisite: None

This course will explore the field of landscape contracting and its relationship to landscape architecture and management. Landscape contractors and their role in plan evaluation, landscape material selection and their installation and construction features will be fully analyzed. The role of the individual in the design/build industry will be highlighted. (F)

LAND130 Interior Landscaping 3
Prerequisite: None
 This course includes the identification, culture, placement, and use of foliage and flowering plants in the office, retail, restaurant, and home. Basic principles of landscaping are covered in lecture and hands-on laboratory assignments. Lectures and hands-on classes cover: site analysis and selection of the plant's placement and use within the interior landscape, and the mood design.

LAND132 Residential Landscaping 2
Prerequisite: None
 This course explores the basic design process followed for creating a home landscape. The development of a basic landscape plan for a residential home including placement of plant material, design, water features, and other landscape elements will be discussed. A review of the new home code, maintenance of residential landscape, residential landscape, or nursery person. (F,Sp)

LAND133 Home Landscape Maintenance 3
Prerequisite: None
 This course will present a practical approach to landscape maintenance problems and solutions. Students will be able to identify and schedule for pest control as well as to control lawn and flower problems. Plant selection, installation, pruning and fertilization will be covered. (F,Sp)

LAND140 Evergreen and Deciduous Trees 3
Prerequisite: None
 This course emphasizes identification of both evergreen and deciduous trees, shrubs, woody vines, and ground covers used in the landscape. Identification skills based on leaf, bark, and flower characteristics. Landscape use and bark color of individual plants are also covered. (F,Sp)

LAND141 Flowering Trees, Shrubs, and Vines 3
Prerequisite: None
 This course explores spring flowering trees, shrubs, groundcover, and ground covers. Identification of the most popular flowering trees, shrubs, and vines. Design considerations of flowering plants including size, color, flowers, fruit, bark, foliage and form are discussed as well as landscape requirements. (Su,Sp)

LAND142 Perennial and Annual Flowering Plants 3
Prerequisite: None
 This course covers the identification and basic culture of approximately 100 perennial and annual flowering and herbaceous plants. Specific features of each plant will be discussed in relation to their proper landscape use. Height, masses, and root and water requirements will also be discussed. (F,Sp,Su)

LAND145 Field Experiences in Landscape Arch 3
Prerequisite: None
 This course will introduce the student to various aspects of the landscape architecture profession. Different aspects of the profession will be presented through discussion, a lecture, slides, field trips, and guest speakers. Topics will include urban planning, site design, ecological planning, landscape construction, recreation, and park design. (F,Sp)

LAND150 Principles of Landscape Architecture 3
Prerequisite: None
 Students will explore the broad scale philosophical, historical, and technical aspects of landscape architecture. Concepts and design techniques and design theory are introduced along with experimentalism in the design process. (F,Sp,Su)

LAND152 Landscape Graphics Communication-Begin 3
Prerequisite: Minimum 2.0 in ART 150 or concurrent.
 This course explores basic drawing techniques relative to the field of landscape architecture. Both the formal and informal applications of mechanical and freehand drafting communication are emphasized to include reproduction printing methods. (F,Sp)

LAND153 Landscape Graphics Communication-Adv 3
Prerequisite: Minimum 1.0 in LAND152
 This course acquaints the student with visual presentation techniques used in landscape architecture. Plan, section, and three-dimensional graphics are explored using a range of media. The students will develop sketching and mechanical drafting techniques for the preparation of professional graphic presentations. (Sp)

LAND159 Planting Design I 3
Prerequisite: Minimum 1.0 in (LAND140 and LAND150) or concurrently
 This course provides an overview of the planting design principles from site analysis to construction documents. Planting design principles are emphasized as well as practical aspects of plant selection and design implementation in a range of design situations. Contemporary issues concerning today's design and construction industries are also discussed. (F)

LAND161 Planting Design II 3
Prerequisite: Minimum 1.0 in LAND160
 This course applies the planting design skills gained in LAND160 to a broad range of sites and issues typically encountered in today's landscape design and construction industries. Topics covered include functional uses of plants, native plant material, and planting design in the urban environment. (Sp)

LAND163 Designing Ornamental Gardens 3
Prerequisite: Minimum 1.0 in LAND141 or concurrently
 This course is a practical approach to designing the herbaceous garden. Annuals, perennials, herbs, and ornamental grasses are analyzed to create a design that will be in harmony with its environment. Color, height, texture, form, and fragrance are some of the plant's characteristics which will be discussed. (F,Sp)

LAND164 Site Design 3
Prerequisite: Minimum 2.0 in LAND160
 This course emphasizes use of the design process to solve a variety of urban and non-urban site planning problems. Project design solutions require graphic delineation stressing plan view presentations. A variety of drawing scales, graphic materials, and techniques will be explored. (F)

LAND170 Site Grading I 3
Prerequisite: Minimum 2.0 in LAND160
 This course covers basic through advanced principles, methods, and procedures for grading a site. Use of contour lines, land form interpretation, and earthwork computations are studied and applied to problem solving for both typical and special requirement sites. (F)

LAND171 Site Grading II 3
Prerequisite: Minimum 2.0 in LAND170
 This is an advanced site-grading course that builds on the skills gained in LAND170. The Michigan Soil Erosion Control Act is emphasized with respect to the requirements related to circulation systems and recreational and utility facilities. (Sp)

LAND172 Site Layout 3
Prerequisite: Minimum 2.0 in LAND171 or concurrently
 This course covers plan dimensioning and layout techniques for vehicle and pedestrian circulation systems, building locations, utilities, and sporting and recreational facilities. Professional graphic techniques are emphasized. (Sp)

LAND175 Special Topics in Landscape Architecture .25-8
Prerequisite: Determined by Unit Section
 This course offers students the opportunity to learn new or advanced skills in Landscape Architecture Technology and other related topics. Specific content may vary with each offering and will be related to the Landscape Architecture Technology Program and profession. (F,Sp,Su)

LAND180 Landscape Ecology 3**Prerequisite:** None

This course is for the professional as well as the interested individual covering the relatively new field of landscape environments. Develop a basic understanding of landscape communities, how they developed, and how they function. Plant communities, native species, natural design, and environmental impact are some of the topics covered. (F)

LAND181 Landscape Restoration and Management 3**Prerequisite:** None**Recommended:** LAND180

This course will cover the detailed steps necessary to complete a total restoration of a damaged ecosystem. Specific system designs dealing with wetlands and prairies in particular will be highlighted. Specific native plants, animals, and insects will be discussed. Field experiences and native plant identification are a critical part of this course. (Sp)

LAND182 Wetland Delineation/Evaluation 2**Prerequisite:** None

This course will explore the basic elements of wetland identification. Wetland indicator vegetation, hydric soils, and wetland hydrology will be covered. The U.S. Army Corps. of Engineers Wetland Delineation Manual will be used as the guideline for this class. Certification credits can be secured by taking this course. (Sp)

LAND183 Planned Wetlands Evaluation/Restoration 2**Prerequisite:** None

This course will discuss goals which are desirable for designing planned wetlands, constructed, restored or enhanced with specific targeted functions in mind. The class will focus on assessment of wetland functions during the design process and tools available to accomplish this. Wetland design, restoration, evaluation, and management will also be discussed. (Sp)

LAND184 Natural Landscape Design 3**Prerequisite:** Minimum 2.0 in LAND100

This course provides an overview of the major natural landscape ecosystems. The design process is applied to woodland, wetland, and prairie design systems. The use of native and exotic plant material is presented in the natural design process. Landscape designs are created for a variety of natural settings. (F,Sp)

LAND220 Wetland Restoration 5**Prerequisite:** None

This course will present current information available from the MDNR, EPA, and Army Corp of Engineers as it relates to wetland regulations and policy. Wetland delineation, mitigation, design, construction, and planting will be highlighted. Restoration enhancement and creation of wetlands will be outlined and developed. (F)

LAND222 Landscape Construction Techniques-Begin 3**Prerequisite:** None

This course will deal with the basic concepts needed to operate as a landscape contractor in the design/build industry. The fundamentals of landscape design evaluation, development of materials lists, and cost takeoffs will be demonstrated. Basic site analysis, site survey, drainage and grading techniques will be demonstrated. (F)

LAND225 Landscape Cost Estimation 3**Prerequisite:** None

This course is an introduction to the study of landscape contracting and the cost estimating process. The class covers the project management process and the costing factors associated with it. The areas of material costs, equipment cost, labor costs, and related management charges will be evaluated. The preparation of bids and the bidding process will be highlighted. (F,Sp)

LAND232 Professional Residential Landscape Dsgn 3**Prerequisite:** Minimum 2.0 in (LAND100 or ARCH101)

This course is designed for the individual interested in residential and small commercial design projects on a professional scale. Several design problems will be presented and detailed projects will be developed. (F,Sp)

LAND233 Grounds Management**Prerequisite:** None

The student will evaluate a landscape design and/or specific site plan with total management of the site in mind. Seasonal management such as pruning, transplanting, pesticide applications and fertilization as well as cost evaluations will be based on commercial and office sites. This course is for the professional grounds manager. (F,Sp)

LAND242 Ecological Land Planning 3**Prerequisite:** None

This course will introduce the student to the land planning process. The ecological method of land planning will be emphasized with projects demonstrated. Field trips to planning meetings and project sites will be an integral part of this course. (Sp)

LAND250 Landscape Construction Methods 3**Prerequisite:** Minimum 2.0 in LAND150

This course examines the properties and uses of concrete, asphalt, masonry, wood, and other landscape construction materials. Basic design and installation methods of landscape structures are emphasized in addition to the introduction of professional construction drafting techniques. (F)

LAND252 Landscape Construction Details 3**Prerequisite:** Minimum 2.0 in LAND250

Focuses on graphic techniques for drawing construction details and coordination of details with site plan layout. Studies detailing utilities, irrigation systems, circulation systems, recreational facilities, and various light construction features. Design-build procedures are stressed, including material tabulation and cost estimating. (Sp)

LAND276 Landscape Documents and Specifications 2**Prerequisite:** Minimum 2.0 in LAND171

This course explores the relationship and principles between specifications and working drawings. The cost of projects as well as bid preparations will be highlighted. The student will prepare bids, write specifications, and participate in a class bid opening. (F)

LAND281 CAD Basics in Landscape Design 1**Prerequisite:** None

This basic introduction to computer-based landscape design software packages will include basic computer concepts related to landscape drafting and design principles. Hands-on computer exercises will feature landscape modules of site design and selection. (F,Sp)

LAND282 Computer Drafting/Design Landscape Arch 3**Prerequisite:** None

This course assumes no previous computer experience. A beginning class for the individual interested in computers and what they can do for you in landscape design, maintenance, construction, plant selection, land survey, and cost estimating. AutoCAD will be surveyed and utilized for the computer-aided drafting and design portion of this course. (F,Sp,Su)

LAND283 Beginning LANDCADD 3**Prerequisite:** Minimum 2.0 in LAND282 within 1 year

This course assumes basic AutoCAD experience and covers the Site Design LANDCADD package. Site planning and the related modules in site analysis, coordinate geometry, planting design, plant selection, and construction details will be demonstrated and hands-on exercises will be completed. A 3-D landscape design project will also be completed and plotted. (F,Sp)

LAND284 Advanced LANDCADD 3**Prerequisite:** Minimum 2.0 in LAND283 within 1 year

This course continues the use of LANDCADD modules and project development. The student will complete detailed drawings utilizing the site planning package. 3-D customization will also be covered including solid modeling, macro commands, line type creation, and customized symbol library. This is an advanced LANDCADD class. (Sp)

LAND285 Computer Landscape Animation 3
Prerequisite: Minimum 2.0 in LAND282 within 1 year
 This course will familiarize the student with the animation aspects of computer design and presentation. The student will learn to produce an animation project using the latest computer technology. Students will also become familiar with the integration of video and animation in various applications. (Sp)

LAND286 LANDCADD: Photo Imaging 3
Prerequisite: Minimum 2.0 in LAND282 within 1 year
 This computer course will cover how to use photo-imagery and animation in a landscape design situation by way of lecture, video, and computer usage. Computer painting as well as imaging will be demonstrated. Various software will be utilized. (Sp)

LAND289 Landscape Arch Computer Design/Studio 3
Prerequisite: Minimum 2.0 in LAND282 within 1 year
 This course involves the use of computer animation presentation software in the three-dimensional arena. Various 3-D presentation softwares will be utilized to create graphic animations and presentations. (Sp)

LAND295 Landscape Project Lab 1-4
Prerequisite: Department Approval
 This project lab is designed for students who wish to pursue a specialty area in landscape architecture beyond that which is offered in our curriculum. Inquiry through research and design of landscapes is required. (F,Sp,Su)

LBST - Liberal Studies Special Topics

LBST290 Seminar Special Topics 1-4
Prerequisite: Determined by Unit Section
Recommended: Reading Level 5
 This course provides students the opportunity to acquire knowledge and skills in various Liberal Arts topics. Topics may include a Study Abroad experience in a particular discipline, multidisciplinary or honors seminars, or subjects of general interest to the community and may vary with each semester and section offering. (F,Sp,Su)

LEGL - Legal Assistant/Paralegal

LEGL115 Paralegal Career/Ethics 2
Prerequisite: Reading Level 5 and Writing Level 6
 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. Surveys paralegal employment and regulation. 2.0 minimum required to continue program. (F,Sp,Su)

LEGL120 Legal Research I 3
Prerequisite: Minimum 2.0 in (LEGL115 and LEGL215)
 Introduces research procedures and resources for finding federal and Michigan law, using digests, encyclopedias, reporters, statutes, court rules, treatises, administrative publications, citators, etc. Students complete research assignments utilizing the publications, and the assignments must be completed using the Michigan Uniform System of Citation. Some classes may be at off-campus libraries. (F,Sp)

LEGL121 Legal Writing I 3
Prerequisite: Minimum 2.0 in (WRIT122 and LEGL115) and (minimum 1.0 in LEGL120 or concurrently)
Recommended: LEGL215
 Students will learn to analyze court opinions and apply them to particular fact situations. This skill will then be used to write summaries of court opinions and documents such as: legal memoranda and appellate briefs. Learning methods include reading assignments, class discussion, lecture, and writing assignments of increasing difficulty. (F,Sp)

LEGL160 Critical Thinking in Law 3
Prerequisite: None
 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)

LEGL210 Litigation Procedures 4
Prerequisite: Minimum 2.0 in (LEGL115 and LEGL215)
 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,Su)

LEGL211 Tort Law 2
Prerequisite: Minimum 2.0 in (LEGL115 and LEGL215)
 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)

LEGL215 Business Law I, Basic Principles 3
Prerequisite: None
 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, constitutional rights, no-fault auto insurance, landlord-tenant law, and bailments. Taught in traditional classroom style or online. (F,Sp,Su)

LEGL216 Business Law II, Commercial Law 3
Prerequisite: Minimum 1.0 in LEGL215
 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,Su)

LEGL217 Business Law III, Business Organization 3
Prerequisite: Minimum 1.0 in LEGL215
 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)

LEGL218 Litigation Specialties 3
Prerequisite: Minimum 2.0 in (LEGL211 and LEGL215)
 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)

LEGL219 Advan Business Law for Accounting Majors 4
Prerequisite: Minimum 1.0 in LEGL215
Recommended: Accounting background
 This self-paced 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. This course is taught online. (F,Sp)

LEGL220 International Legal Issues/Organization 3
Prerequisite: Minimum 2.0 in LEGL215
 This class will introduce global issues and organizations from the legal perspective and related economic and ethical perspectives. Cases based on events from around the globe will be used to illustrate principles, structures, and perspectives of citizens from many countries. Students will examine how these topics impact their daily activities. (Sp)

LEGL221 Real Estate Transaction	3
Prerequisite: Minimum 2.0 in (LEGL115 and LEGL215)	
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. (F)	
LEGL222 Probate Law and Procedure	3
Prerequisite: Minimum 2.0 in (LEGL115 and LEGL215)	
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. (Sp)	
LEGL223 Domestic Relations	3
Prerequisite: Minimum 2.0 in (LEGL115 and LEGL215)	
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. (Sp)	
LEGL224 Administrative Law	3
Prerequisite: Minimum 2.0 in (LEGL115 and LEGL215)	
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. (F)	
LEGL225 Legal Research and Writing II	3
Prerequisite: Minimum 2.0 in (LEGL120 and LEGL121)	
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. (F,Sp)	
LEGL226 Legal Interview and Investigation	3
Prerequisite: Minimum 2.0 in (LEGL115 and LEGL215)	
Interviewing and investigation methods including information gathering, analysis, and effective communication. Emphasis will be placed on the role of the paralegal with numerous practical exercises. (Sp)	
LEGL227 Bankruptcy and Collections	3
Prerequisite: Minimum 2.0 in (LEGL115 and LEGL215)	
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. (Su)	
LEGL228 Computer Applications for the Law Office	3
Prerequisite: Minimum 2.0 in (CITA119 or CITA219) and LEGL120	
Recommended: Windows and keyboarding experience	
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. (F,Sp)	
LEGL229 Immigration Law	3
Prerequisite: Minimum 2.0 in (LEGL115 and LEGL215)	
Recommended: Reading Level 5 and Writing Level 6	
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. (F,Su)	

LEGL230 Paralegal Career Portfolio	1
Prerequisite: Minimum 2.0 in LEGL225 or concurrently	
Students will review legal documents and writing samples they have drafted throughout the paralegal program, and will revise selected documents. They will refine or prepare a cover letter, resume, and other application materials. Students will then assemble these materials in a career portfolio suitable for presentation at a job interview. Interviewing and job search skills will also be emphasized. (F,Sp)	

LEGL260 Paralegal Internship	3
Prerequisite: Department Approval	
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)	

LING - Linguistics

LING230 Introduction to Linguistics	3
Prerequisite: None	
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. (Sp)	

MASG - Massage

MASG110 Massage for Non-Majors	1
Prerequisite: None	
This course provides instruction in basic Swedish massage therapy skills for non-majors. Along with a brief introduction to the history and principles of massage therapy, the student will learn to perform a professionally draped, full-body Swedish massage on a partner for health enhancement. (F,Sp,Su)	
MASG130 Introduction to Therapeutic Massage	1
Prerequisite: Reading Level 5 and Writing Level 6	
This course provides an introduction to the basic principles and techniques of therapeutic massage. Students learn basic Swedish massage techniques and its application to the back, arms and legs. 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,Su)	
MASG131 Therapeutic Massage I	4
Prerequisite: Minimum 2.5 in (BIOL145 and MASG130) and Department Approval	
This course provides information on the theory and practice of therapeutic massage. Swedish massage techniques with variations are developed into a sequence for a full body therapeutic massage for healthy adults. Students will learn a model for making ethical decisions and how to establish and maintain therapeutic relationships. (F,Sp)	
MASG136 Medical Elements of Massage	3
Prerequisite: Minimum 2.5 in (MASG131 or concurrently) or (minimum 2.5 in MASG270 and Reading Level 5 and Writing Level 4)	
This course will introduce the student to pathology of body systems and will address the positive or negative impact that massage therapy may have on those conditions. The student will also learn some basic medical vocabulary words to correspond with each body system. (F,Sp,Su)	
MASG141 Massage Clinic I	1
Prerequisite: Minimum 2.5 in (MASG131 and MASG136) or concurrently	
Students will progressively utilize the knowledge, skills, and practical experience attained throughout the Therapeutic Massage Program in a clinical setting. The student will be engaged in weekly scheduled massage sessions with clients in this first of three clinical courses. Instruction in adult CPR and basic first aid is included in accordance with American Heart Association guidelines. (F,Sp,Su)	

MASG150 Therapeutic Massage Special Topics .25-4
Prerequisite: Determined by Unit Section
 This course offers students the opportunity to learn new skills and knowledge related to therapeutic massage. Specific up-to-date course content will vary with each offering and will be related to therapeutic massage. (F,Sp,Su)

MASG151 Applied Massage Techniques 4
Prerequisite: Minimum 2.5 in MASG131 or concurrently
 This course will introduce the student to various massage therapy techniques and how these techniques relate to individuals with specific needs. The focus will be on designing and implementing appropriate massage therapy techniques for chair massage, infants, pregnant women, athletes, chronic and terminally ill individuals, the elderly, and clients with psychological issues. (F,Sp)

MASG161 Massage Practicum I .5
Prerequisite: Minimum 2.5 in MASG151 or concurrently
 Students will apply massage techniques and experience a variety of environments and populations as they perform supervised work in the community. (F,Sp,Su)

MASG162 Massage Practicum II .5
Prerequisite: Minimum 2.5 in (MASG131 and MASG151 and MASG161)
 Students will continue to apply massage techniques and experience a variety of environments and populations as they perform supervised work in the community. (F,Sp,Su)

MASG170 Massage Directed/Independent Study .25-4
Prerequisite: None
 This course includes special research, projects, or directed study in therapeutic 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. (F,Sp,Su)

MASG231 Therapeutic Massage II 4
Prerequisite: Minimum 2.5 in MASG131 or (minimum 2.5 in MASG271 and BIOL145)
 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)

MASG232 Therapeutic Massage III 4
Prerequisite: Minimum 2.5 in MASG231 or MASG282
 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. (F,Sp)

MASG241 Massage Clinic II 1
Prerequisite: Minimum 2.5 in MASG141
 Students will progressively utilize the knowledge, skills, and practical experience attained throughout the Therapeutic Massage Program in a clinical setting. The student will be engaged in weekly scheduled massage sessions with clients in this second of three clinical courses. (F,Sp,Su)

MASG242 Massage Clinic III 1
Prerequisite: Minimum 2.5 in MASG241
 Students will progressively utilize the knowledge, skills, and practical experience attained throughout the Therapeutic Massage Program in a clinical setting. The student will be engaged in weekly scheduled massage sessions with clients in this last of three clinical courses. (F,Sp,Su)

MASG251 Alternative Massage Techniques 4
Prerequisite: Minimum 2.5 in MASG151
 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. (F,Sp)

MASG254 Busn Applications Therapeutic Massage 2
Prerequisite: (Minimum 2.5 in MASG231 or concurrently) or (minimum 2.5 in MASG270)
 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. (F,Sp,Su)

MASG256 Clinical Assessment Therapeutic Massage 1
Prerequisite: Minimum 2.5 in (MASG232 or MASG283 or concurrently)
 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,Su)

MASG271 Massage Therapy-Intermediate 2
Prerequisite: Minimum 2.5 in MASG270 and Reading Level 5 and Writing Level 6
 This course builds and expands upon the information and techniques learned in MASG270. The student is introduced to a variety of specialized bodywork theories and techniques. (F,Sp,Su)

MASG275 Touch for Health 1
Prerequisite: None
 This course introduces the student to the combination of ancient Oriental principles combined with the modern practice of applied kinesiology. The student will learn basic muscle testing and techniques to balance the body's natural energies, thereby putting the body into balance optimizing overall health. (F,Sp)

MASG277 Polarity Therapy I 2
Prerequisite: None
 This course introduces the student to polarity therapy as a form of touch therapy that balances the life energy of the physical body. Hands-on application of polarity energy balancing techniques and theory are covered. Guided meditations are used as a tool for centering and focusing, enhancing the student's ability to feel energy flow within themselves and others. (F,Sp)

MASG278 Polarity Therapy II 2
Prerequisite: Minimum 2.5 in MASG277
 This course will deepen the student's understanding of polarity therapy. Advanced hands-on techniques and sequences will be taught to balance the various energy patterns, elements, and specific areas of the physical body. Lectures will be on the philosophical, energetic, mental, emotional, and spiritual principles inherent in the polarity model. (F,Sp)

MASG279 Business Applications/Massage Therapy 2
Prerequisite: Minimum 2.5 in MASG270
 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, ethics, research, marketing strategy, goal-setting, motivation, and professional legalities. (F,Sp)

MASG282 Clinical/Rehab Massage Techniques I 4
Prerequisite: Minimum 2.5 in (BIOL145 and MASG 271)
 This course will introduce the student to the clinical and rehab massage techniques commonly used to treat chronic pathological conditions of the upper portions of the human body. A review of anatomy and physiology relevant to massage will be coupled with an introduction to the more commonly occurring pathological conditions of the head, neck, upper extremities, and torso followed by the introduction of massage techniques typically employed to treat those conditions. (F)

MASG283 Clinical/Rehab Massage Techniques II	4
Prerequisite: Minimum 2.5 in MASG282	
This course will introduce the student to the clinical and rehab massage techniques commonly used to treat chronic pathological conditions of the lower portions of the human body. A review of anatomy and physiology relevant to massage will be coupled with an introduction to the more commonly occurring pathological conditions of the abdomen, pelvis, hips, lower extremities, feet, and other lower torso areas followed by the introduction of massage techniques typically employed to treat those conditions. (Sp)	
MASG285 Maternal/Infant Massage	3
Prerequisite: Minimum 2.5 in MASG283	
Course includes massage techniques specifically beneficial to women during pregnancy, as well as in labor and post-partum recovery. Massage techniques beneficial to infants and young children will also be introduced. Will include supervised clinical practice in the women's / infants' inpatient care units of area hospitals. (F,Sp)	
MASG286 Chair Massage	1
Prerequisite: Minimum 2.5 in MASG270	
This course introduces students to the techniques of a 15-20 minute acupressure/shiatsu chair massage, a style of structured body work using a special chair. Student will learn palpation skills and identification of bony landmarks and muscles. Use of body mechanics to reduce strain on the therapist is emphasized. (F,Sp)	
MASG287 Positional Release	1
Prerequisite: Minimum 2.5 in MASG282	
Recommended: MASG283 concurrently	
This course will introduce the student to a technique for relieving neuromuscular discomfort called Strain-Counterstrain. The typical locations for tender points, their significance to the pain-spasm cycle, and how to treat them will be emphasized. Palpatory skills, local anatomy, bio-mechanical theory and practice, communication skills, and relaxation inducing techniques will be covered. (F,Sp,Su)	
MASG288 Sports Massage Techniques	1
Prerequisite: Minimum 2.5 in MASG282 or concurrently	
The student will learn massage techniques and therapies beneficial to athletes. Pre- and post-athletic event modalities and athletic training massage are emphasized. Course includes relevant anatomy, physiology, pathology, massage applications, and protocol for setting-up events. Participation at instructor-approved sporting event required. (F,Sp)	
MASG291 Massage Lab Practicum I	1
Prerequisite: Minimum 2.5 in MASG271 or concurrently	
This course consists of supervised practice of massage techniques in basic massage and polarity therapy. (F,Sp,Su)	
MASG292 Massage Lab Practicum II	1
Prerequisite: Minimum 2.5 in MASG271 and Pass grade in MASG291 and (minimum 2.5 in MASG282 or concurrently)	
This course consists of supervised practice of massage techniques in basic massage, polarity therapy, and massage of the head, neck, shoulders, chest, and upper extremities. (F,Sp,Su)	
MASG293 Massage Lab Practicum III	1
Prerequisite: Pass grade in MASG292 and (minimum 2.5 in MASG283 or concurrently)	
This course consists of supervised practice of massage techniques in basic massage, polarity therapy, sports massage, and massage of the abdomen, back, hips, and lower extremities. (F,Sp,Su)	

MATH - Mathematics

MATH001 Math Minus Anxiety Workshop	.5
Prerequisite: None	
This workshop addresses anxiety as it relates to mathematics. The session will focus on causes and management of math anxiety. Some problem solving and study skills will be included. Students at any math level may enroll. (F,Sp)	

MATH050 Math-Principles and Practices	4
Prerequisite: Math Level 3 and Reading Level 3 and Writing Level 2	
This course reviews mathematical operations involving fractions and decimals. Topics include percents, ratios, proportions, U.S. and metric measurements, integers, statistical graphs, Pythagorean Theorem, perimeter, area, and volume. It also introduces algebraic concepts using expressions and equations. Problem solving, estimation, and reasoning skills are taught. The calculator and real-life applications are integrated throughout the course. (F,Sp,Su)	
MATH107 Introductory Algebra	4
Prerequisite: (Minimum 2.0 in MATH050 or Math Level 4) and Reading Level 5 and Writing Level 2	
Graphing Calculator required. Topics include properties of real numbers and exponents, variable expressions, solving linear and quadratic equations, polynomial operations including factoring, graphing, solving systems of equations, rational expressions and equations, ratio and proportion, radicals, and inequalities. Graphing calculator, diverse, real-life applications, and geometry are integrated throughout the course. (F,Sp,Su)	
MATH112 Intermediate Algebra	4
Prerequisite: (Minimum 2.0 in MATH107 within 2 years or Math Level 5 within 2 years) and Reading Level 5 and Writing Level 4	
Graphing calculator required. This is an extension of beginning algebra, using the graphing calculator, with emphasis on graphing and diverse, real-life applications, including linear, quadratic, rational, and other functions. Also emphasized are polynomials, rational expressions, radicals, rational exponents, equations, inequalities, systems of equations, with an introduction to complex numbers, interpreting data and matrices. (F,Sp,Su)	
MATH114 Technical Math I	4
Prerequisite: (Minimum 2.0 in MATH050 within 2 years or Math Level 4) and Reading Level 4	
This course introduces and/or reviews algebra, geometry, and trigonometry. Topics include order of operations, simplifying algebraic expressions, powers, roots, formulas, area, volume, ratio and proportion, linear and quadratic equations, linear systems of equations, graphing, angles, triangles, Pythagorean Theorem, and right triangle trigonometry. Emphasis is placed on problem-solving techniques for technical applications. (F,Sp,Su)	
MATH115 Technical Math II	4
Prerequisite: Minimum 2.0 in MATH114 within 2 years and Reading Level 5 and Math Level 5	
A continuation of MATH114. Topics include: congruent and similar triangles; polygons; circles with angles, chords, and tangents; applications of right and oblique triangles using the Pythagorean Theorem, trig functions, law of sines, law of cosines, and law of cotangents. Emphasis is placed on problem-solving techniques for technical applications. (F,Sp,Su)	
MATH117 Math for Business	4
Prerequisite: (Minimum 2.0 in MATH107 within 2 years or Math Level 5) and Reading Level 5 and Writing Level 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)	
MATH118 The Art of Geometry	3
Prerequisite: (Minimum 2.0 in MATH107 within 2 years or Math Level 5) and Reading Level 5 and Writing Level 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)	

- MATH119 Investigations with Math** 3
Prerequisite: (Minimum 2.0 in MATH107 within 2 years or Math Level 5) and Reading Level 5 and Writing Level 4
 Uses strategies of arithmetic, geometry, and algebra to solve problems and effectively communicate solutions in a variety of occupational disciplines. Applies reasoning, problem solving, teamwork, mathematical thinking and modeling, visual models, and hands-on activities to measurement, proportions, percents, graphs, formulas, variables, geometry concepts, coordinate systems, and statistical reasoning and probability. (F,Sp)
- MATH121 College Algebra I** 4
Prerequisite: (Minimum 2.0 in MATH112 within 2 years or Math Level 6) and Reading Level 5 and Writing Level 4
 This course provides the foundation in college algebra essential for all subsequent mathematics courses. (After completing MATH121, students may take MATH122, 130, 141 and STAT170.) Topics include polynomial, rational, radical, exponential, and logarithmic functions; solving equations/inequalities algebraically and graphically; and mathematical modeling/regression in problem solving. (F,Sp,Su)
- MATH122 College Algebra II and Trigonometry** 3
Prerequisite: (Minimum 2.0 in MATH121 within 2 years or Math Level 8) and Reading Level 5 and Writing Level 4
 Second in two-course sequence, following MATH121. Topics include right triangle trigonometry, trigonometric functions, graphs, identities and equations, inverse trig functions, laws of sines/cosines, binomial theorem, systems of linear equations, vectors, polar coordinates, sequences, series, permutations, combinations. Degree credit may not be earned in both MATH121-122 and MATH126. (F,Sp,Su)
- MATH126 College Algebra and Trigonometry** 5
Prerequisite: (Minimum 3.5 in MATH112 within 2 years or Math Level 7) and Reading Level 5 and Writing Level 4
 Intensive course covering the same material as MATH121-122. Topics include algebraic and transcendental functions, solving equations/inequalities algebraically and graphically, mathematical modeling, trigonometric identities, laws of sines/cosines, binomial theorem, vectors, polar coordinates, sequences, series, permutations and combinations. Degree credit may not be earned in both MATH126 and MATH121-122. (F,Sp,Su)
- MATH130 Finite Mathematics with College Algebra** 4
Prerequisite: (Minimum 2.0 in MATH112 within 2 years or Math Level 6) and Reading Level 5 and Writing Level 4
 This course is for students whose programs do not require trigonometry. Topics include linear, exponential, quadratic, polynomial and logarithmic functions, mathematics of finance, matrices, linear programming, permutations, combinations, probability, and Markov chains. In addition, students will solve applied problems by completing required computer assignments. (F,Sp,Su)
- MATH141 Calculus with Applications** 3
Prerequisite: (Minimum 2.0 in MATH121 or MATH126 or MATH130 within 2 years or Math Level 8) and Reading Level 5 and Writing Level 4
 This course provides an introduction to calculus with an emphasis on applications in business, economics, social/life sciences and other fields not requiring an extensive study of calculus. Topics include functions, derivatives, the definite integral and their applications. (Mathematics, Physical Science, Computer Science, and Engineering majors should take MATH151.) (F,Sp,Su)
- MATH151 Calculus I** 4
Prerequisite: (Minimum 2.0 in MATH122 or MATH126 within 2 years or Math Level 9) and Reading Level 5 and Writing Level 4
 The first course in a three semester calculus sequence. Topics include limits, continuity, derivatives of algebraic, trigonometric, exponential and logarithmic functions, linear approximation, integration and the fundamental theorems of calculus. Applications of the calculus to both physical and geometric problems are emphasized. (F,Sp,Su)
- MATH152 Calculus II** 4
Prerequisite: (Minimum 2.0 in MATH151 or MATH161 within 2 years) and Reading Level 5 and Writing Level 4
 The second course in a three-semester calculus sequence. Topics include techniques and applications of integration, L'Hopital's rule, derivatives of inverse trigonometric functions, improper integrals, sequences and infinite series, power series representation of functions, conic sections, and polar coordinates. (F,Sp,Su)
- MATH161 Honors Calculus I** 4
Prerequisite: (Minimum 3.0 in MATH122 or MATH126 within 2 years) and Reading Level 5 and Writing Level 6
 First course in a three semester honors calculus sequence. Topics include limits, continuity, derivatives of algebraic, trigonometric, exponential and logarithmic functions, linear approximation, integration, and fundamental theorems of calculus. Applications of calculus to both physical and geometric problems is emphasized, in addition to a special emphasis on concepts and theory. (F,Sp)
- MATH162 Honors Calculus II** 4
Prerequisite: Minimum 2.0 in MATH161 within 2 years
 Second course in a three semester honors calculus sequence. Topics include techniques and applications of integration, L'Hopital's rule, derivatives of inverse trigonometric functions, improper integrals, sequences and infinite series, power series representation of functions, conic sections and polar coordinates. Special emphasis is placed on concepts and theory. (Sp)
- MATH201 Math for Elementary Teachers I** 4
Prerequisite: (Minimum 2.0 in MATH112 within 2 years or Math Level 6) and Reading Level 5 and Writing Level 6
 This course is the first in a two-course sequence providing mathematical background for prospective elementary teachers. Emphasis is on active engagement in mathematical investigations to develop problem-solving skills and conceptual knowledge essential for teaching elementary school mathematics. (F,Sp)
- MATH202 Math for Elementary Teachers II** 4
Prerequisite: Minimum 2.0 in MATH201 within 2 years and Reading Level 5 and Writing Level 6
 This course is the second in a two-course sequence providing mathematical background for prospective elementary teachers. Emphasis is on active engagement in mathematical investigations to develop problem-solving skills and conceptual knowledge essential for teaching elementary school mathematics. (Sp)
- MATH253 Calculus III** 4
Prerequisite: (Minimum 2.0 in MATH152 or MATH162 within 2 years) and Reading Level 5 and Writing Level 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 3-space, vector valued functions, partial derivatives, multiple integrals, and line integrals. Applications of all these topics are presented. (F,Sp,Su)
- MATH254 Introduction to Differential Equations** 3
Prerequisite: Minimum 2.0 in MATH253 within 2 years and Reading Level 5 and Writing Level 4
 An introduction to the basic methods for solving ordinary differential equations. Topics include the methods of undetermined coefficients, variation of parameters, series, Laplace transforms, and numerical methods. Applications are emphasized. (F,Sp,Su)
- MATH260 Linear Algebra** 3
Prerequisite: Minimum 2.0 in MATH253 within 2 years and Reading Level 5 and Writing Level 4
 This introduction to linear algebra includes the study of systems of linear equations, matrix algebra, vector spaces, linear transformations, eigenvalues and eigenvectors, with applications. (Sp)

MATH281 Honors Math Seminar I 1
Prerequisite: (Minimum 2.0 in MATH151 or MATH161) and Department Approval
 Students solve a set of challenging mathematics problems which are not normally encountered in other classes. Creative and independent thinking is encouraged and developed. (Sp)

MATH282 Honors Math Seminar II 1
Prerequisite: Minimum 2.0 in MATH281 and Department Approval
 Students solve a set of challenging mathematics problems which are not normally encountered in other classes. Creative and independent thinking is encouraged and developed. (Sp)

MATH295 Independent Study in Mathematics 1-4
Prerequisite: Department Approval
 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)

MFGM - Manufacturing Maintenance

MFGM100 Maintenance Safety Practices 2
Prerequisite: Reading Level 3 and Writing Level 4
 This course covers the basics of safety in the machine maintenance occupations, included are local, state and federal safety regulations. This course is a prerequisite for, or to be taken concurrently with all MFGM courses that have a lab. (F,Sp,Su)

MFGM105 Handtools and Measurements 3
Prerequisite: Minimum 2.0 in MFGM100 or concurrently
 This course teaches the student the proper and safe use of hand tools used in the manufacturing maintenance profession. The proper use of torque wrenches, power hand tools, wrenches, marking and striking devices, measurement devices, taps and dies, and other miscellaneous hand tools is covered. (F,Sp)

MFGM110 Power Transmissions 4
Prerequisite: Minimum 2.0 in (MFGM100 or concurrently) and (minimum 2.0 in PMMT105 (previously MACH105))
 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. (F,Sp)

MFGM112 Industrial Pneumatics 3
Prerequisite: Minimum 2.0 in MFGM100 or concurrently
 This course introduces students to the theory of industrial pneumatic systems. The theory of gas laws, pumps, filters, valves, etc., will be discussed as they are applied to the industrial pneumatics systems. The use of lecture and labs will give students a hands-on approach to the use of pneumatics. (F,Sp)

MFGM151 Lubrication and Bearings 4
Prerequisite: Minimum 2.0 in (MFGM100 and MFGM110)
 This course covers instruction in advanced theory and practice of machine tool repair including applying lubrication principles, performing bearing maintenance, laser alignment, ultrasonic measurement, infrared, vibration analysis, and more. (F,Sp)

MFGM161 Rigging 3
Prerequisite: Minimum 2.0 in MFGM100 or concurrently
 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. (Sp)

MFGM170 Fork Lift Truck Driver Training .5
Prerequisite: None
 Students will learn the basic safety guidelines and basic operational procedures of industrial fork trucks. The instruction will combine lecture, written materials and hands-on operation of a fork truck. (F,Sp,Su)

MFGM171 Special Topics in MFGM .25-8
Prerequisite: None
 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)

MFGM175 Industrial Hydraulics 4
Prerequisite: Minimum 2.0 in ((MFGM100 or concurrently) or ELTE100) and Math Level 5
 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. (F,Sp)

MFGM201 Advanced Hydraulics 4
Prerequisite: Minimum 2.0 in (MFGM175 (previously MFMG101) or concurrently)
 Advanced Industrial Hydraulics builds upon the theory of fluid power and circuits covering electrohydraulic systems and components, proper voltage, electrical feedback and various other hydraulic powered systems as they are used in industry today. This will be done with lectures and labs related to each of the respective components. (F,Sp)

MFGM220 Industrial Presses 2
Prerequisite: Minimum 2.0 in MFGM100 or concurrently
 This course covers different types of mechanical presses, terminology, purposes and functions in industry. Includes movies and slides of mechanical action, maintenance systems and safety, supplemented by visits to plants using presses. (F,Sp)

MFGM250 Manufacturing Internship 3
Prerequisite: Department Approval
Recommended: 2.5 GPA or greater
 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)

MGMT - Management

MGMT101 Management Special Topics 1-3
Prerequisite: None
 This course explores current issues, knowledge, skills, attitudes and/or behaviors relevant to the professional development of managers and management students. (F,Sp)

MGMT150 Managing Customer Relations 3
Prerequisite: None
 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)

MGMT200 Creative Thinking for Business 3
Prerequisite: None
Recommended: Have taken at least two or more BUSN, MGMT or business experience
 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)

<p>MGMT223 Developing Supervisory Skills 3</p> <p>Prerequisite: None</p> <p>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)</p> <p>MGMT224 Human Resource Management 3</p> <p>Prerequisite: None</p> <p>This is a survey course which 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)</p> <p>MGMT225 Principles of Management 3</p> <p>Prerequisite: None</p> <p>Designed to reflect the dynamics of our changing world, this course covers such topics as management functions/processes, quality, ethics, global issues and the challenges and opportunities of diversity. Emphasis is on theories and skills of the middle management and organizational level. (F,Sp)</p> <p>MGMT227 Training and Development for Business 3</p> <p>Prerequisite: None</p> <p>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)</p> <p>MGMT228 Organizational Behavior 3</p> <p>Prerequisite: None</p> <p>Recommended: MGMT223 or MGMT224 or MGMT225</p> <p>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)</p> <p>MGMT229 Compensation Management 3</p> <p>Prerequisite: Minimum 1.5 in MGMT224</p> <p>Recommended: LABR204</p> <p>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)</p> <p>MGMT231 Team Development 3</p> <p>Prerequisite: None</p> <p>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)</p> <p>MGMT234 Diversity in the Workplace 3</p> <p>Prerequisite: Reading Level 5</p> <p>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)</p>	<p>MGMT235 Independent Study in Management 1-3</p> <p>Prerequisite: Department Approval</p> <p>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,Su)</p> <p>MGMT237 Managing for Continual Improvement 3</p> <p>Prerequisite: None</p> <p>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. (Sp)</p> <p>MGMT239 Time and Stress Management 3</p> <p>Prerequisite: None</p> <p>This course explores the relationship between time and stress management; stress is the causal factor for many of our physical and psychological problems. Methods for positively harnessing its energy are suggested, and techniques and strategies for using time and energy wisely are offered. Emphasis is placed on creating action plans and initiating corrective actions. (Sp)</p> <p>MGMT280 Management Internship 3</p> <p>Prerequisite: Department Approval</p> <p>Recommended: Have completed a minimum of 30 Credits</p> <p>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 related, and provide an appropriate learning situation. (F,Sp)</p> <p>MGMT290 TIME Series Topics 1-3</p> <p>Prerequisite: None</p> <p>This course offers a variety of unique and timely business, management, and marketing topics in a flexible and innovative format. The topics in this series are designed to provide relevant and challenging learning experiences for business students, lifelong learners, career changers, career seekers, and individuals seeking personal and professional development. (F,Sp,Su)</p> <p>MGMT300 Leading for Possibility 3</p> <p>Prerequisite: None</p> <p>Recommended: Have taken previous MGMT courses, and/or are enrolled in the Northwood 3+1 Program, or have management work experience</p> <p>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)</p> <p>MGMT304 Organizational Development 3</p> <p>Prerequisite: None</p> <p>Recommended: Have taken previous MGMT courses, and/or are enrolled in the Northwood 3+1 Program, or have management work experience</p> <p>Based on the assumption that all managers 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)</p> <p>MGMT329 Advanced Management Communication Skills 3</p> <p>Prerequisite: None</p> <p>Recommended: Have taken previous MGMT courses, and/or are enrolled in the Northwood 3+1 Program, or have management work experience</p> <p>This is an advanced course in communication skills for business, both oral and written. It includes components of listening, non-verbal signals, oral presentations, facilitation, interviewing techniques, meeting management, business reports, memos, letters, email, and resumes. This class is both informational and experiential. (F,Sp)</p>
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MGMT332 Ethics: Assumptions for the Future 3**Prerequisite:** None**Recommended:** Have taken previous MGMT courses, and/or are enrolled in the Northwood 3+1 Program, or have management work experience

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)

MGMT335 Managerial Statistics 3**Prerequisite:** Math Level 5**Recommended:** Have taken previous MGMT courses, and/or are enrolled in the Northwood 3+1 Program, or have management work experience

This course covers applications of statistical tools and techniques to improve managerial decision-making processes. It includes basic descriptive statistics, probability, probability distributions, confidence intervals, hypothesis testing, analysis of variance, regression analysis and forecasting models. (F,Sp)

MGMT337 Human Resource Management Skills 3**Prerequisite:** None**Recommended:** Have taken previous MGMT courses, and/or are enrolled in the Northwood 3+1 Program, or have management work experience

Skill areas involved in the management of human resources are developed at an advanced level. Techniques for setting objectives with employees, conducting performance appraisals, and working with employee problems are practiced. Students plan techniques for managing teams and for leading and motivating employees. (F,Sp)

MGMT338 Current Topics in Management 3**Prerequisite:** None**Recommended:** Have taken previous MGMT courses, and/or are enrolled in the Northwood 3+1 Program, or have management work experience

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)

MGMT339 Management Style/Corporate Strategies 3**Prerequisite:** None

Numerous current materials relating to management styles and corporation strategies in Japan will acquaint the student with management as practiced in Japan. Alternative managerial styles are presented. (This course is offered only as part of the Japan Adventure Program.) (Sp,Su)

MGMT345 Context and Transformation 3**Prerequisite:** None**Recommended:** Have taken at least three or more BUSN or MGMT courses, or are enrolled in the Northwood 3+1 Program, or have several years business experience

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)

MGMT346 Managerial Finance 3**Prerequisite:** None**Recommended:** Have taken previous MGMT courses, and/or are enrolled in the Northwood 3+1 Program, or have management work experience

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. (Sp)

MGMT348 Strategic Management and Policy 3**Prerequisite:** Minimum 1.0 in (MGMT225 or MGMT300) and any MGMT course between MGMT 304 - 346 (inclusive)

This course synthesizes learning from the areas of management and marketing to gain an overall organizational perspective which is applied to strategic plan formulation and implementation for the whole organization. The process involves pursuing organizational mission while managing the relationship of the organization to its environment. (F)

MILS - Military Science**MILS101 Leadership in the Military Profession** 1**Prerequisite:** None

This course analyzes the military profession and organization of the U.S. Army from several academic perspectives and explores the technical, ethical, and personal ramifications of service as an officer in the U.S. Army. This course provides an introduction to military leadership which draws upon examples from military history. (F,Sp)

MILS120 Intro to Army Leadership & Prob Solving 1**Prerequisite:** None

Fundamentals of basic Army leadership. Military problem solving process. Military briefing and writing skills. Goal setting and time management. Introduction to the Army's developmental counseling program. (F,Sp)

MILS201 Leadership: The Military Leader 1**Prerequisite:** None

This course examines individual leadership development using standardized assessment technology to evaluate potential to command and lead. Communications, administrative, personal relations and decision-making skills training, ethical career assessment, and sources of professional obligation will be reviewed. Lab includes rappelling and smallbore rifle marksmanship. (F,Sp)

MILS220 Challenges in Army Leadership 1**Prerequisite:** None

Application of military case studies. Recognizing challenging situations for military leaders and units. Applying sound ethical leadership practices to implement decisions. Understanding basic military small unit tactics. (F,Sp)

MKTG - Marketing**MKTG100 Current Issues in Business** 3**Prerequisite:** None

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)

MKTG101 Marketing Special Topics 1-3**Prerequisite:** None

This course explores recently identified current issues, knowledge, skills, attitudes and/or behaviors relevant to the professional development of professionals in the marketing field and students of marketing. (F,Sp,Su)

MKTG119 Marketing/Managing Your Profess Image 3**Prerequisite:** None

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)

MKTG120 Sales 3**Prerequisite:** None

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)

- MKTG122 Field Sales Internship** 3
Prerequisite: Department Approval
Recommended: Have completed a minimum of 30 Credits
 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, sales related, and provide an appropriate learning situation. (F,Sp,Su)
- MKTG130 Retailing** 3
Prerequisite: None
 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. (F,Sp)
- MKTG131 Merchandising** 2
Prerequisite: None
 This course covers functions and policies of: what, when, where, how much, how to, and from whom to buy. The course provides introduction to merchandising, merchandise management, store management and operations, how to evaluate and set up effective controls, and new trends in merchandising. Career opportunities are also explored. (Sp)
- MKTG140 Introduction to Advertising** 3
Prerequisite: None
 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)
- MKTG200 Principles of Marketing** 3
Prerequisite: None
Recommended: BUSN118
 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)
- MKTG202 Managerial Marketing** 3
Prerequisite: Minimum 1.0 in MKTG200
Recommended: MKTG204 and Second Year Student
 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)
- MKTG204 Marketing Research** 3
Prerequisite: Minimum 1.0 in MKTG200
 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)
- MKTG210 Marketing on the Internet** 3
Prerequisite: None
Recommended: MKTG200 and basic understanding of computers and their use on the Internet
 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)

- MKTG221 Consumer Behavior** 2
Prerequisite: None
 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)
- MKTG229 Public Relations** 2
Prerequisite: None
 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)
- MKTG231 Independent Study in Marketing** 1-3
Prerequisite: Department Approval
 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,Su)
- MKTG235 Marketing Internship** 3
Prerequisite: Department Approval
Recommended: Have completed a minimum of 30 Credits
 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,Su)

MTEC - Media Technology

- MTEC110 Intro to Broadcast & Electronic Media** 4
Prerequisite: Reading Level 5 and Writing Level 6
 This is an introductory survey course which examines various electronic media industries and the historical, technological, regulatory, economic, programming, and societal contexts in which they exist. (F,Sp)
- MTEC120 Audio Production I** 4
Prerequisite: Reading Level 5 and Writing Level 6
Recommended: Basic computer skills
 A beginning course which covers the basics of audio theory and production techniques. Included are topics in microphone selection and use, analog and digital audio formats, analog and digital audio editing, interconnection and signal flow, loudspeakers, and audio mixing. This class provides the foundational theory for the other classes in the audio series, including production, recording, and sound reinforcement. (F,Sp,Su)
- MTEC121 Audio Recording I** 4
Prerequisite: Minimum 2.0 in MTEC120
Recommended: Basic computer skills and MTEC220
 A beginning course in audio recording that covers the basic principles of multitrack recording, both studio and remote. Emphasis is placed on microphone selection and placement, use of mixing consoles, and multitrack recorders for the recording session. (F,Sp)
- MTEC122 Sound Reinforcement** 4
Prerequisite: Minimum 2.0 in MTEC120
 This is a first course in sound reinforcement. Students learn to design and set-up various reinforcement systems. Included are front-of-house, amplifiers, speakers, monitors, computer-controlled wireless, and the use of chain motors to suspend sound support systems. (Sp)
- MTEC130 Radio Production I** 4
Prerequisite: Minimum 2.0 in MTEC120 or concurrently
 Survey of the radio broadcast industry including careers, qualifications, responsibilities, and station operation. Introduces radio studio production and on-air presentations. This course also includes performance exercises related to commercial production news and sports broadcasting. (F,Sp,Su)

MTEC140 Desktop Video Production 4**Prerequisite:** Reading Level 5 and Writing Level 6

This course instructs students on the process of using digital video production equipment to create desktop media projects. Using preproduced and self-produced media, the student will create several short-form projects. Classroom exercises include instruction in scriptwriting, storyboarding the production, non-linear audio and video editing and importing desktop graphics. (F,Sp)

MTEC150 TV Production I 4**Prerequisite:** Reading Level 5 and Writing Level 6

This course places special emphasis on the components of effective visual communication. Pre-production processes related to program development, scriptwriting, storyboarding, lighting, and floor plot designs are emphasized. An introduction to television production processes are included in classroom activities. Class sessions contain instructional and performance exercises. (F,Sp)

MTEC152 Video Production Techniques 4**Prerequisite:** Minimum 2.0 in MTEC140 or MTEC150 or (minimum 2.0 in MTEC120 or concurrently)

Video Production Techniques is designed as an introductory experience to the process of single camera video production. This course will also provide the student with extensive experiences in linear videotape editing. Class sessions will contain instructional and performance exercises which are practical applications of the course content. (F,Sp)

MTEC153 Video Post-Production Technqs 4**Prerequisite:** Minimum 2.0 in (MTEC150 or FILM118)**Recommended:** (MTEC152 or FILM226) or concurrently

Video Post-Production Techniques is designed to provide the student with an extensive experience in non-linear video post-production technologies. Learning activities within and outside the classroom are designed to provide a solid technical and creative foundation in video editing procedures. (F,Sp)

MTEC200 Employment Issues in Media 1**Prerequisite:** Reading Level 5 and Writing Level 6**Restriction:** MTEC Majors only

This course will develop an individual's understanding of media industry issues particularly as they relate to organizational and self-employment. Class sessions and assignments contain practical exercises aimed at developing the individual's employability skills. MTEC majors will enroll in this course over a three semester sequence to complete all learning outcomes. (F,Sp)

MTEC220 Audio Production II 4**Prerequisite:** Minimum 2.0 in MTEC120**Recommended:** Basic computer skills

An advanced audio production course providing audio theory and production practice. Topics include tape editing of musical material, use of audio effects in production, additional production mixing, and audio post-production for video. Students learn to edit and mix using ProTools. An extensive survey of the audio production industry is included. (F,Sp)

MTEC221 Audio Recording II 4**Prerequisite:** Minimum 2.5 in MTEC121**Recommended:** Basic computer skills

A second course in audio recording that covers advanced techniques used in multitrack studio recording. Emphasis is on use of the multitrack studio and signal processing equipment for multitrack mixdown as well as advanced location recording techniques. (Sp)

MTEC223 Sound Reinforcement Practicum 2**Prerequisite:** Minimum 2.5 in MTEC122 and Department Approval

A hands-on course that permits students to apply the theory and practice acquired in MTEC122 to a large-scale practical project. The Spring class offering provides sound reinforcement experiences for local musical theatre. The Summer section provides concert sound reinforcement for bands playing at Riverfront Park during July 4th festivities. (Sp,Su)

MTEC230 Radio Production II 4**Prerequisite:** Minimum 2.0 in MTEC130**Recommended:** Basic computer skills

This course emphasizes advanced training in studio and remote-production techniques. Emphasis is placed on writing, producing, and performing for commercials, news, and sports programs. Students will also be exposed to foundational concepts in radio programming and marketing. (F,Sp)

MTEC232 Radio Workshop 2**Prerequisite:** Minimum 2.0 in MTEC130 and Department Approval**Recommended:** Basic public speaking skills or SPCH120

This course provides an opportunity for practical experience through access to the campus radio facility. Students will work in a variety of station staff positions. Emphasis will be placed on developing media of a professional caliber that students can later use as portfolio or resume materials. (F,Sp,Su)

MTEC240 Script and Copywriting for Media 3**Prerequisite:** Minimum 2.0 in (MTEC110 and WRIT121)**Recommended:** Basic computer skills

This course will help the student develop fundamental writing skills used in preparing script materials for electronic media. Emphasis is placed on practical copywriting techniques applicable to radio and television advertising, promotion, public service and news. (Sp)

MTEC243 Ethics and Social Impact of Media 3**Prerequisite:** Minimum 2.0 in (MTEC110 and WRIT121)**Recommended:** Basic computer skills

Ethics/Social Impact of Media explores the effects of the mass media on American culture and society. Topics such as privacy, censorship, violence, and portrayals of minorities and women are discussed. These discussions take place within an ethical reasoning framework. (F,Sp,Su)

MTEC250 Advanced Video/TV/Production 4**Prerequisite:** Minimum 2.0 in MTEC150**Recommended:** Basic computer skills and (MTEC152 and MTEC153)

An advanced production course focusing on the development of the technical and creative skills necessary to direct the work of a studio production team. Production assignments are modeled after activities found in broadcast production environments. Additional academic exercises include interpretation and translation of script ideas into effective video programming. (Sp)

MTEC252 Lighting for Television and Video 3**Prerequisite:** Minimum 2.0 in (MTEC150 or THEA111 or FILM118) and Reading Level 5 and Writing Level 6**Recommended:** MTEC151

An advanced instructional seminar on lighting techniques for video and television production. Special emphasis is placed on developing creative and technical lighting approaches applicable to a broad range of program subjects. In-class examples and assignments are used for developing individual lighting techniques. (Sp)

MTEC254 Television and Video Graphics 3**Prerequisite:** Minimum 2.0 in (FILM118 or MTEC150)**Recommended:** Basic computer skills

This course is designed to provide the student with an introductory experience to the process of electronic graphic design for television, video, and multimedia production. Electronic Presentation Graphics places emphasis on learning the basics of several different types of graphic software, as well as developing the student's visual design capabilities in support of both television and video communication. (Sp)

MTEC255 Video Workshop 2**Prerequisite:** Department Approval**Recommended:** Basic computer skills

This course provides guided laboratory and practical production experience in the creation of professional video programming. Projects will include opportunities to work in a variety of production and post-production positions. Emphasis will be placed on developing course materials of a professional caliber that students can later use as portfolio or resume materials. (F,Sp,Su)

- MTEC285 Media Portfolio** 2
Prerequisite: Department Approval
Restriction: Media Technology Majors
 The student will assemble a portfolio under faculty supervision that represents the student's attainment of program outcomes and that can also serve as a tool for the purpose of securing employment or acceptance into a four-year school. This course is intended to be a final course in Media Technology. (Sp)
- MTEC290 Guided Independent Study** 1-4
Prerequisite: Minimum 2.0 in (MTEC110 and MTEC120 and MTEC130 and MTEC150) and Department Approval
Restriction: Media Technology Majors
Recommended: 75% of the way through Media Technology Program
 This course provides an opportunity for self-directed learners to explore topics of particular interest more thoroughly. Students will meet intermittently throughout the semester with an assigned faculty member for guidance and evaluation of progress. A proposal detailing the area of independent investigation must be submitted by the student prior to registration. (F,Sp,Su)
- MTEC295 Media Practicum** 3
Prerequisite: Minimum 2.0 in (MTEC110 and MTEC120 and MTEC130 and MTEC150) and Department Approval
Restriction: Media Technology Majors
Recommended: 75% of the way through Media Technology Program
 This course provides an opportunity to gain practical production experience in the media. Students are assigned to work on various audio, video, radio, and television projects within the Media Services Department. Faculty guidance and evaluation are an integral part of the experience. Practicum is intended only for advanced media technology students. (F,Sp,Su)
- MTEC296 Media Internship** 3
Prerequisite: Minimum 2.0 in (MTEC110 and MTEC120 and MTEC130 and MTEC150) and Department Approval
Restriction: Media Technology Majors
Recommended: 75% of the way through Media Technology Program
 This course provides an opportunity for students to work in external media settings under professional supervision. Students work closely with faculty in arranging and evaluating the workplace experience. Interview results determine intern placement. The internship is intended only for media technology majors who have completed at least 75 percent of their academic program. (F,Sp,Su)
- MTEC298 Special Projects** 1-4
Prerequisite: Minimum 2.0 in (MTEC110 and MTEC120 and MTEC130 and MTEC150) and Department Approval
Restriction: Media Technology Majors
Recommended: 75% of the way through Media Technology Program
 This course provides an opportunity for a group of learners to become involved in a common project that will allow each to develop additional skills or to hone present skills. Availability of academically appropriate projects and student interest determines the nature of the experience. (F,Sp,Su)
- MUSC - Music**
- MUSC101 Lansing Vocal Ensemble** 1
Prerequisite: Department Approval
Recommended: Music reading skills
 The purpose of LanSwingers, a vocal jazz ensemble, is to develop artistic and creative vocal jazz skills for ensemble performance. Advanced solo experience, microphone techniques, and vocal improvisational skills will be developed. Students are required to attend live performances. May be taken up to six semesters for credit. (F,Sp)
- MUSC102 Women's Chorus** 1
Prerequisite: None
Recommended: Music reading skills
 An ensemble of women vocalists composed of students and community members, which develops general musicianship and provides training in choral singing. This group performs four to six concerts throughout the year. Students are required to attend live performances. May be taken up to six semesters for credit. (F,Sp)

- MUSC104 LCC Satin Blues Ensemble** 1
Prerequisite: Department Approval
Recommended: Music reading skills
 A select female vocal ensemble focusing upon jazz and contemporary music for women's voices. Artistic and creative vocal skills and improvisation are developed through ensemble, small group and solo performance. Ensemble performs four to six concerts throughout the year. May be taken up to six times for credit. (F,Sp)
- MUSC106 Private Music Lesson** 2
Prerequisite: None
Restriction: Music, Dance and Theatre Majors
 Concentrated one-to-one training in vocal/instrumental skills, techniques and repertory available only to the following students: Music majors pursuing secondary performance venues, provisional applicants to the LCC Music Program, qualifying dual-enrolled high school students intending to enter the LCC Music Program and currently enrolled LCC Theater majors. (F,Sp,Su)
- MUSC108 Concert Choir** 1
Prerequisite: Department Approval
 A group of singers who perform a wide range of music, sacred and secular. This group performs four to six concerts throughout the year. Students are required to attend live performances. May be taken up to six semesters for credit toward a degree. (F,Sp)
- MUSC119 Lansing Concert Band** 1
Prerequisite: Instrumental Audition - Lansing Concert Band
 A community band serving as the official band of the City of Lansing. The group performs throughout the year and plays all types of music but primarily concentrates on traditional concert band literature. Students are required to play in public performances of the band. May be taken up to six semesters for credit. (F,Sp,Su)
- MUSC121 Percussion Ensemble** 1
Prerequisite: Department Approval
Recommended: Music reading skills
 The percussion ensemble rehearses and performs pieces in a variety of styles and periods. Rhythmic reading skills and percussion techniques will be honed and developed further. This ensemble performs two to four times per year. The course may be taken up to six semesters for credit. (F,Sp)
- MUSC122 Guitar Ensemble** 1
Prerequisite: Department Approval
Recommended: Music reading skills
 Explores guitar music of diverse styles (classical, jazz and contemporary) for large group, small combo and solo performance on acoustic, electric and bass instruments. Other instrumentalists/vocalists may join to expand the ensemble. Two to four performances per year. May be taken up to six times for credit. (F,Sp)
- MUSC123 Jazz Ensemble** 1
Prerequisite: Department Approval
Recommended: Music reading skills
 The jazz ensemble will rehearse and perform pieces of various styles and from various periods in jazz and big band sound. Improvisational skills will be taught and developed. The group performs two to four concerts throughout the year. Students are required to attend live performances. May be taken up to six semesters for credit. (F,Sp)
- MUSC138 Keyboard Harmony I** 2
Prerequisite: Reading Level 5 and Writing Level 4
Restriction: Music Majors
 The first in a series of two, this course is designed to develop the practical keyboard skills used in a music career. Students will gain keyboard facility, skill in sight-reading, and the ability to transpose. This series does not teach classical piano performance. MUSC138 will cover all major scales. Students are required to attend live performances. (F)

MUSC139 Keyboard Harmony II 2
Prerequisite: Minimum 2.0 in MUSC138 and Reading Level 3 and Writing Level 4
Restriction: Music Majors
 Last in a series, this course will increase technical skills through playing more advanced compositions and minor scales in all keys. Students will gain skill in accompanying a melody using a variety of patterns. Students will learn to read open score and lead sheets using letter and numeral notation. (Su)

MUSC143 Beginning Piano I - Summer 1
Prerequisite: None
 Course assumes no prior music experience or knowledge. Students are introduced to the rudiments of playing piano. Concepts such as staff notation, rhythmic notation, correct fingering/hand positions, major scales, and primary chords will be the focus for this course. May be taken up to three semesters for credit. (Su)

MUSC144 Beginning Piano I 2
Prerequisite: Reading Level 4 and Writing Level 4
 Course assumes no prior music experience or knowledge. Students are introduced to the rudiments of playing piano. Concepts such as staff notation, rhythmic notation, correct fingering/hand positions, major scales, and primary chords will be the focus for this course. May be taken up to three semesters for credit. (F,Sp)

MUSC145 Beginning Piano II 2
Prerequisite: Minimum 2.0 in MUSC144 and Reading Level 4 and Writing Level 4
 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. Students are required to attend live performances. May be taken up to three semesters for credit. (F,Sp)

MUSC155 Class Voice Commercial I 2
Prerequisite: None
 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. May be taken up to three semesters for credit. (F,Sp)

MUSC156 Class Voice Commercial II 2
Prerequisite: Minimum 2.0 in MUSC155
 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. May be taken up to three semesters for credit. (F,Sp)

MUSC157 Applied Lesson I 2
Prerequisite: Music Major Audition
Restriction: Music Majors
 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,Su)

MUSC158 Applied Lesson II 2
Prerequisite: Minimum 2.0 in MUSC157 or Music Major Audition
Restriction: Music Majors
 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,Su)

MUSC163 Aural Skills I 1
Prerequisite: None
Co-requisite Course(s): MUSC 161
 This course allows students to develop their aural skills through exercises in harmony, melody, and rhythm. Dictation, the ability to sing melodies on sight, and the use of solfège will also be developed. This is the first of two courses to develop aural skills. (Su)

MUSC164 Aural Skills II 1
Prerequisite: Minimum 2.0 in MUSC 163
Co-requisite Course(s): MUSC 161
 This course allows students to continue developing their aural skills through exercises in harmony, melody, and rhythm. Dictation, the ability to sing melodies on sight, and the use of solfège will also be developed. This course is the second in a two-part aural skills course. (Su)

MUSC168 Rudiments of Music 2
Prerequisite: None
 This course is for beginning students to gain an understanding of reading and hearing pitch, rhythm, and musical terminology and theory. Students are introduced to musical notation, key signature, scales, and chords. Students are required to attend live performances. (Su)

MUSC178 Beginning Diction for Singers 2
Prerequisite: Reading Level 4 and Writing Level 4
Recommended: Music reading skills
 Singers are introduced to pronunciation practice. Attention is given to the correct pronunciation of English and foreign languages as applied to vocal technique. Primary focus is on English and Italian IPA skills corresponding with appropriate song material. Secondary emphasis will introduce French or German IPA skills. (Su)

MUSC181 Class Voice I - Summer 1
Prerequisite: None
 The first in a series of two courses for group and individual work on varied song literature. Emphasis is placed on vocal techniques such as breathing, posture, diction, microphone, and stage presence. Students are required to attend live performances. May be taken up to three semesters for credit. (Su)

MUSC182 Class Voice I 2
Prerequisite: None
 The first in a series of two courses for group and individual work on varied song literature. Emphasis is placed on vocal techniques such as breathing, posture, diction, tone production, and stage presence. Students are required to attend live performances. May be taken up to three semesters for credit. (F,Sp)

MUSC183 Class Voice II 2
Prerequisite: Minimum 2.0 in MUSC181
 The advanced course in a series of two. This course will refine techniques and vocal techniques, diction, tone production, and stage presence introduced in MUSC182. Students are required to attend live performances. May be taken up to three semesters for credit. (F,Sp)

MUSC187 Class Guitar - Summer 1
Prerequisite: Minimum 2.0 in MUSC 187
 This course is for beginning and experienced players who desire note-reading skills. Folk, blues, and classical guitar methods are presented using basic electrical techniques. Beginning and advanced techniques are introduced. Students will provide their own guitar and attend live performances. (Su)

MUSC188 Class Guitar 2
Prerequisite: None
 This course is for beginning and experienced players who desire note-reading skills. Folk, blues, and classical guitar methods are presented using basic electrical techniques. Beginning and advanced techniques are introduced. Students will provide their own guitar and attend live performances. The course may be taken up to two semesters for credit. (F,Sp)

MUSC193 Music Theory I	4	MUSC230 Independent Study in Music	1-2
Prerequisite: Minimum 2.0 in (MUSC168 or Music Theory Placement Test) and Reading Level 5		Prerequisite: Department Approval	
Co-requisite Course(s): MUSC163		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)	
First-semester 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)		MUSC233 Music Seminar	1-4
MUSC194 Music Theory II	4	Prerequisite: Department Approval	
Prerequisite: Minimum 2.0 in (MUSC193 or Music Theory Placement Test) and Reading Level 5		Student will be given the opportunity to attend master classes on various related topics or perform in a production on the main stage or comparable space. Limited to individuals who have been selected as cast members or approved for master class. (F,Sp,Su)	
Co-requisite Course(s): MUSC164		MUSC240 World Music History I	4
Second-semester freshman-level 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. (Sp)		Prerequisite: Reading Level 5 and Writing Level 6	
MUSC197 Introduction to Music Technologies	2	An historical and analytical survey of music and the ways civilizations understand music in addressing cultural issues. Characteristic genres, styles, composers and literature of Western art music from Antiquity through 1750 are studied with cross-cultural comparisons to non-Western musics of Asia, India, Middle East, Americas, and world chant traditions. (F)	
Prerequisite: None		MUSC241 World Music History II	4
Recommended: Familiarity with computers; music reading skills		Prerequisite: Reading Level 5 and Writing Level 6	
Second-semester freshman-level 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,Sp,Su)		An historical, analytical and cultural survey of music from 1750 to the present. Characteristic genres, styles, composers and their musical expressions are studied regarding developments of Western art music, popular culture, comparisons with non-Western musics (Africa, Asia, and the Americas), as well as the emergence of world musics today. (Sp)	
MUSC199 Music Appreciation	2	MUSC246 History of Blues and Jazz	2
Prerequisite: Reading Level 5 and Writing Level 4		Prerequisite: Reading Level 5	
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. Students are required to attend live performances. (F,Sp,Su)		An overview of the emergence, development and relevance of two of America's most genuine musical artforms. 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. (Sp)	
MUSC200 Music Fundamentals for Element Teachers	3	MUSC247 History of Rock and Roll	2
Prerequisite: Reading Level 5 and Writing Level 6		Prerequisite: Reading Level 5	
Recommended: Music reading skills		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. (F,Sp)	
This course addresses the cognitive and performance music skills necessary for early childhood, elementary and special education majors. Successful teaching methods for singing, movement, and focused listening will be presented along with skills on appropriate classroom instruments. MUSC200 may be taken as an elective. (F,Sp)		MUSC253 Business of Music	3
MUSC219 Introduction to Music Therapy	3	Prerequisite: None	
Prerequisite: Reading Level 5 and Writing Level 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. Students are required to attend live performances. (F)	
An overview of the history, philosophy, and methodologies and practices of Music Therapy and the use of music in therapeutic aims of restoring, maintaining and improving both mental and physical health. Exploration and assessment of various clinical techniques and the disorders/patient populations they address. Off-campus field experiences required. (F,Sp)		MUSC254 Band Management	2
MUSC221 Sacred Music: History and Styles	2	Prerequisite: None	
Prerequisite: Reading Level 5 and Writing Level 6		This course is designed to assist the professional musician or manager in creating or improving a performing band. All major aspects of band management are covered, including intra-band arrangements, contracts, negotiations, formal and material choice, equipment, finances, promotion and sales, road management, and basic organizational information. Students are required to attend live performances. (Sp)	
Recommended: Music reading skills		MUSC257 Applied Lesson III	2
Investigation of sacred musical traditions and styles with global, cultural, inter-denominational, and inclusive perspectives. Contextual overviews of liturgics, rites and diverse uses of music in worship are explored. Other issues encompass the plurality of world chant traditions, ethnicity, popular/contemporary music-making, and technology as significant forces in sacred music. (F)		Prerequisite: Minimum 2.0 in MUSC158 or Music Major Audition	
MUSC222 Techniques in Sacred Music	2	Restriction: Music Majors	
Prerequisite: Reading Level 5		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,Su)	
Recommended: Music reading skills			
Techniques and skills for the practice of sacred music, including: principles of conducting; effective organization and administration of quality programs; appraisal of pertinent resources; planning worship services; and, fundamentals of recruiting, marketing and budgeting. Repertoires and training methods for various vocal/instrumental ensembles and soloists/cantors will also be addressed. (Sp)			

MUSC258 Applied Lesson IV 2
Prerequisite: Minimum 2.0 in MUSC257 or Music Major Audition
Restriction: Music Majors
 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,Su)

MUSC263 Aural Skills III 1
Prerequisite: Minimum 2.0 in MUSC164
Co-requisite Course(s): MUSC293
 This course is a continuation of the first year of aural skills training. The student will proceed to more advanced training in sightsinging and eartraining. This course is the first in a sequence of two sophomore level aural skills courses. (F)

MUSC270 Rock Guitar 2
Prerequisite: None
 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 required to attend live performances. May be taken up to three semesters for credit. (F,Sp,Su)

MUSC280 Private Composition 1
Prerequisite: Music Major Audition and minimum 2.0 in MUSC 194
Restriction: Music Majors
 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. May be taken up to six semesters for credit. (F,Su)

MUSC293 Music Theory III 4
Prerequisite: Minimum 2.0 in MUSC194 and Reading Level 5
Co-requisite Course(s): MUSC263
 Sophomore-level course in advanced tonal and non-tonal harmonies preparing students for transfer to four-year programs or concluding studies in commercial music. Emphases on chromaticism and harmonic vocabularies of late 19th- and 20th-century musical styles including modality, serialism, pandiatonism, aleatory music, and intermediate jazz theory. (F)

MUSC298 Electronic and Computer Music 3
Prerequisite: Minimum 2.0 in MUSC197
Recommended: Computer experience; Music reading skills
 Students develop and create original musical compositions applying a variety of electronic and computer-based media. Projects include manipulating MIDI (Musical Instrument Digital Interface) data, digital audio effects processing, advanced sequencing, waveforms and basic properties of pitched sound, basic synthesis, editing and storage of synthesizer patches, digital music production, and spatialization. (F,Sp,Su)

NURS – Nursing

NURS119 Special Topics in Nursing .25-8
Prerequisite: Determined by Unit Section
 This course offers students the opportunity to learn new nursing skills and knowledge. Specific up-to-date content will vary with each seminar and will be related to the nursing profession. (F,Sp,Su)

NURS150 Fundamentals in Nursing Care I & II 9
Prerequisite: Admission to Nursing Program and Reading Level 5 and Writing Level 6
 The focus of this course is the nursing process as a problem-solving technique for meeting basic human needs. The concepts of perioperative care and cancer are presented, and the aging process is emphasized throughout. Clinicals are in long-term care facilities and hospitals. (F,Sp)

NURS151 Fundamentals in Nursing Care I 5
Prerequisite: Admission to Nursing Program and Reading Level 5 and Writing Level 6

This course introduces students to the various roles of the professional nurse. Concepts related to healthcare delivery are presented, with a focus on the care of older adults. Nursing Process is presented as a framework for critical thinking and problem solving. Clinical experiences will be provided in local nursing homes. (F)

NURS152 Fundamentals in Nursing Care II 4
Prerequisite: Minimum 2.5 in (NURS151 and NURS200 and BIOL202)
 This course is a continuation of the concepts presented in NURS151. Topics include Altered Nutrition, Cancer, Perioperative Care, and Ethics. Nursing Process is used as a framework for critical thinking and problem solving. Clinical experiences will be provided in hospitals. (Sp)

NURS160 Acute Nursing Care 6
Prerequisite: Successful completion of 1st semester of the Full-time Nursing Program or 3rd semester of the Part-time Nursing Program
 Students are assisted in using the nursing process in the care of adults adapting to common acute health problems. Pathophysiology and nursing interventions affecting the cardiovascular, respiratory, endocrine, gastrointestinal, neurological, and musculoskeletal body systems are presented. Clinical in acute care hospital systems. (F,Sp)

NURS165 Maternity Nursing Care 5
Prerequisite: Successful completion of 1st semester of the Full-time Nursing Program or 2nd semester of the Part-time Nursing Program
 Assessment and nursing care of the childbearing family is the focus of this course. Concepts of family, therapeutic communication, cultural diversity, and human sexuality are discussed. Basic needs and developmental tasks of early childhood through adolescence are included. Clinicals are in maternity units of hospitals and in community settings. (F,Sp,Su)

NURS196 Long-term Care Nurse Intern 8
Prerequisite: Department Approval
 Long-term Care Nurse Intern is a bridge course focusing on new LPN graduates to transition from graduate LPN to practicing nurse caring for long-term care residents. Acute and chronic conditions specific to the elderly are presented via lecture, case studies and clinical practicum integration, and build upon the student's previous knowledge. (F,Sp,Su)

NURS200 Pharmacology-Nursing 3
Prerequisite: Minimum 2.5 in BIOL202 (previously PHGY202) or concurrently
 Drug categories are discussed in-depth as well as nursing responsibilities associated with medication administration. A pharmacology dosage calculation math lab is included. This course will transfer to a BSN program. (F,Sp,Su)

NURS210 LPN/Paramedic to RN Transition 5
Prerequisite: Department Approval and Reading Level 5 and Writing Level 6
Recommended: Current work experience and current BLS and OSHA
 The Transition Course is designed to assist the returning LPN/Paramedic student in the adjustment to the curriculum leading to an Associate Degree in Nursing. Roles, functions, and practice settings for the LPN/Paramedic and Associate Degree Nurse will be compared and discussed. (Su)

NURS260 Mental Health & Leadership Nursing Care 6
Prerequisite: Successful completion of 2nd semester of the Full-time Nursing Program or 4th semester of the Part-time Nursing Program or 1st semester of the Fast Track Nursing Program
Recommended: BIOL204
 The student will plan care for clients with psychosocial and medical health problems with emphasis on therapeutic communication and the development of leadership skills. Clinicals are in psychiatric and medical units of acute care hospitals, day treatment facilities, and community sites. (F,Sp)

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OADM208 Legal Citations and Document Preparation 3
Prerequisite: Minimum 2.0 in OADM206 and Reading Level 5 and Writing Level 4
Recommended: (Keyboarding 40 wpm and MS Office experience) or CITA119
This course introduces legal citations and the preparation of legal documents in various areas of law. Correct citation practice and proper formatting and use of legal language in document production are stressed. Procedures for filing documents with the court system and service of process on parties of court action are introduced. (F,Sp)

OADM210 Medical Coding Concepts 3
Prerequisite: Minimum 2.0 in (OADM197 and OADM198) and Reading Level 5 and Writing Level 4
This course focuses on medical coding concepts in the health care system and deals exclusively with abstracting and coding information from the patient record to optimize reimbursement. The course also provides an opportunity to build the foundation for a future career in medical coding. (F,Sp)

OADM215 Information Management I 3
Prerequisite: Minimum 2.0 in (CITA133 (previously CABS133) or concurrently) and Reading Level 5 and Writing Level 4
This course includes an overview of records management, document maintenance at each stage of the records cycle; use of the Internet for RM projects; selection of proper equipment, service bureaus, and off-site storage facilities; and procedures for control of automated records technology in a systems environment. Students will complete computer applications modules using Microsoft Access. (F,Sp)

OADM216 Information Management II 3
Prerequisite: Minimum 2.0 in (CITA133 (previously CABS133) or concurrently) and Reading Level 5 and Writing Level 6
This course focuses on the establishment and evaluation of an information/records management program, from preparing an inventory to establishing long-term archival storage for electronic as well as paper media. Knowledge of various government and industry standards will be used to determine the parameters within which an information/records management program should be established. (F)

OADM220 Administrative Mgmt in Organizations 3
Prerequisite: Minimum 2.0 in (CITA133 (previously CABS133) or concurrently) and Reading Level 5 and Writing Level 6
This course examines the management of administrative services in the work place and the role of the Administrative Office Manager. Topics include office functions, job analysis, ergonomic planning, and the design, installation and evaluation of office systems. (F,Sp)

OADM222 Advanced Medical Transcription 3
Prerequisite: Minimum 2.0 in OADM207
This course is designed for transcription of advanced healthcare dictation. Students will be required to utilize advanced proofreading, editing, and research skills while meeting increased accuracy and productivity standards. (F,Sp,Su)

OADM228 Financial Management in Health Care 3
Prerequisite: Minimum 2.0 in CITA126 (previously CABS126) and OADM198
This course focuses on concepts of managed care and its significance in the health care system. Managed care and its impact on financial management, decision making, and information requirements of the health care system are emphasized. Students will view managed care, including ambulatory care, from the perspective of both health insurance companies and providers. (F,Sp)

OADM240 Office Internship 2
Prerequisite: Department Approval with keyboarding 50 wpm and (minimum 2.0 in OADM105 or concurrently)
This course is designed to provide on-the-job training relating to an Office Administration major. Students obtain employment in an approved training station to earn credits for satisfactory work performance. A minimum of 120 hours worksite experience is required. (F,Sp)

OADM275 Diversity in Business 3
Prerequisite: Reading Level 5 and Writing Level 4
This course is designed to help students become familiar with, understand, and appreciate people of different cultures to promote a more effective basis for working together in the business world. Emphasis and application is placed upon business etiquette and business practices as they differ in various cultures. (F,Sp,Su)

OADM291 Office Systems Capstone 3
Prerequisite: Minimum 2.0 in (OADM220 or OADM275)
This capstone course concludes associate degree requirements for Office Administration curricula. The course is designed for the administrative professional who is preparing for the Certified Professional Secretary (CPS) Examination. Topics include current techniques in office practices and procedures, including finance, business law, economics, communications, and management, as well as current developments in office systems and technology. (F,Sp,Su)

PARA - Paramedic

PARA221 Paramedic Medical Trauma I 5
Prerequisite: Admission to Paramedic Program and Reading Level 5 and Writing Level 6 and Math Level 3
Co-requisite Course(s): PARA231 and PARA241 and PARA251 and PARA261
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)

PARA222 Paramedic Medical Trauma II 5
Prerequisite: Minimum 3.0 in PARA221
Co-requisite Course(s): PARA232 and PARA242 and PARA252 and PARA262
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)

PARA231 Paramedic Cardiology I 3
Prerequisite: Admission to Paramedic Program
Co-requisite Course(s): PARA221 and PARA241 and PARA251 and PARA261
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)

PARA232 Paramedic Cardiology II 3
Prerequisite: Minimum 3.0 in PARA231
Co-requisite Course(s): PARA222 and PARA242 and PARA252 and PARA262
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)

PARA241 Paramedic Pharmacology I 3
Prerequisite: Admission to Paramedic Program
Co-requisite Course(s): PARA221 and PARA231 and PARA251 and PARA261
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)

NURS265 Pediatric Nursing Care 5

Prerequisite: Successful completion of 2nd semester of the Full-time Nursing Program or 5th semester of the Part-time Nursing Program or 1st semester of the Fast Track Nursing Program

Recommended: BIOL204

Health and illness in the pediatric population are discussed using a systems perspective. The nursing process and course concepts are integrated into care of pediatric patients and families in hospitals, clinics, and other selected health care settings. The students use progressively more complex critical thinking skills. (F,Sp,Su)

NURS280 Advanced Chronic Nursing Care 5

Prerequisite: Successful completion of 3rd semester of the Full-time Nursing Program or 6th semester of the Part-time Nursing Program or 2nd semester of the Fast Track Nursing Program

The student will use the nursing process in caring for adult clients adapting to chronic health problems. Care of client with immune system problems, hepatitis, HIV, diabetes mellitus, heart failure, and COPD is discussed. Clinical experiences are in the acute care facility and clinical visits to community agencies. (F,Sp)

NURS285 Advanced Acute Nursing Care 5

Prerequisite: Successful completion of 3rd semester of the Full-time Nursing Program or 7th semester of the Part-time Nursing Program or 2nd semester of the Fast Track Nursing Program

The student will use the nursing process in caring for adult clients with critical health problems. Homeostatic responses to pathology of the cardiovascular and respiratory systems, fluid-electrolyte shifts, and acid-base imbalances are discussed. Advanced monitoring and patient assessment are incorporated throughout. Clinical experiences include acute care and leadership/management opportunities. (F,Sp)

NURS296 Acute Care Nurse Intern 4.5

Prerequisite: Department Approval

NURS296 is a bridge course focusing on new RN graduates to facilitate transition from graduate to practicing nurse in the care of the acutely ill patient. This course integrates advanced level course content, clinical laboratory experiences, and "real-world" work experiences under the guidance of an experienced RN preceptor. (Sp,Su)

OADM - Office Administration

OADM102 Editing Business Documents 3

Prerequisite: Reading Level 5 and Writing Level 4

Recommended: (OADM103 or WRIT114) and Keyboarding 25 wpm

This course teaches office personnel applied editing skills for business documents. Review of English fundamentals as applied to business situations. Topics include use of standard references, grammar and usage of punctuation, spelling, vocabulary, and proof-reading. (F,Sp,Su)

OADM103 Beginning Keyboarding on the Computer 2

Prerequisite: None

Recommended: Reading Level 5 and Writing Level 4

This course is designed for students having no previous typing experience. Basic keyboarding skills using the touch method are developed. Emphasis is on correct finger usage, developing speed and accuracy using the alphabetic keyboard, number and symbol keys. Basic speed level of 20-32 is developed. Basic letter and report formatting are addressed. (F,Sp,Su)

OADM105 Employability Skills 1

Prerequisite: None

Students will develop the basic employability skills necessary to function in a work environment with an emphasis on the use of technology and lifelong learning. The course is designed for those planning to complete the Information Technology Job Readiness certificate program or the Office Internship course. (F,Sp,Su)

OADM106 Keyboarding Basics 1

Prerequisite: None

Students will develop the introductory keyboarding skills necessary to function in a work environment. The course prepares students for productivity software coursework and is designed for those planning to complete the Information Technology Job Readiness certificate program. (F,Sp,Su)

OADM108 Input Technologies/Business 2

Prerequisite: Reading Level 5 and Writing Level 4

Recommended: Keyboarding and MS Office experience or CITA119

This course is designed to expose students to a variety of emerging input mediums for the office environment. Students will learn speech-to-text input using voice recognition software and handwriting input using Microsoft Office and a graphics tablet and/or a tablet PC. (F,Sp,Su)

OADM109 Keyboarding Improvement 2

Prerequisite: None

Recommended: Previous keyboarding and Reading Level 5 and Writing Level 4

This course is designed to develop speed and accuracy at the keyboard. Students need to know the alphabetic key locations prior to taking this class. A net speed of 25 words per minute on a three-minute timing is recommended. (F,Sp,Su)

OADM195 Human Relations in Work Place 2

Prerequisite: Reading Level 5 and Writing Level 4

This course emphasizes the importance of human relations in the workplace. Through a combination of case studies, self-analysis inventories, and discussion, students explore the dynamics and interrelatedness of career and personal success. Course topics include self-understanding, dealing effectively with people, conflict resolution, problem-solving, career planning, and lifelong learning. (F,Sp,Su)

OADM197 Medical Vocabulary 3

Prerequisite: Reading Level 5 and Writing Level 4

Course provides concepts of medical vocabulary using a body-systems approach. Emphasis centers on medical language foundation needed for health-care field particularly medical office systems. Students will develop understanding of definition, pronunciation, and spelling by prefixes, root words, suffixes, combining forms, and build medical vocabulary from wordparts. (F,Sp,Su)

OADM198 Health Information Management 3

Prerequisite: Minimum 2.0 in OADM197 and Reading Level 5 and Writing Level 4

In this course, students will explore the diversity of health information management settings. Topics include coding and classification, computerized information systems in health care, quality assurance and utilization management, risk management, and legal issues. Developments in telemedicine, health informatics, and other technological trends are also discussed. (F,Sp,Su)

OADM203 Administrative Office Procedures 3

Prerequisite: Reading Level 5 and Writing Level 4

Recommended: (Keyboarding 40 wpm and MS Office experience) or (CITA119 and OADM102)

In this course, students will develop and expand upon the technical skills required of administrative office personnel. Use of office and information technologies is emphasized as students apply their knowledge and skills in a work-based setting. Students will acquire practical skills using state-of-the-art equipment in simulated office activities. (F,Sp)

OADM206 Legal Vocabulary and Transcription 3

Prerequisite: Reading Level 5 and Writing Level 4

Recommended: (Keyboarding 40 wpm and MS Office experience) or CITA119

This course provides the legal language foundation to familiarize students with the most commonly used legal terms in the workplace. Production of mailable communications using transcription equipment and word processing software is emphasized. Students will correctly transcribe dictated materials without altering meaning of the dictation or changing the author's style. (F,Sp)

OADM207 Medical Transcription 3

Prerequisite: Reading Level 5 and Writing Level 4

Recommended: (OADM197 or CHSE120) and (BIOL145 or BIOL151 or BIOL201) and ((Keyboarding 40 wpm and MS Office experience) or CITA119)

This course is designed to develop foundation skills in the transcription of basic health care dictation, incorporating skills in English language, technology, medical knowledge, proofreading, editing, and research while meeting accuracy and productivity standards. (F,Sp)

PARA242 Paramedic Pharmacology II 3
Prerequisite: Minimum 3.0 in PARA241
Co-requisite Course(s): PARA222 and PARA232 and PARA252 and PARA262
 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)

PARA251 Paramedic Skills I 2
Prerequisite: Admission to Paramedic Program
Co-requisite Course(s): PARA221 and PARA231 and PARA241 and PARA261
 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. The student must have excellent basic EMT skills upon entry. (F)

PARA252 Paramedic Skills II 2
Prerequisite: Minimum 3.0 in PARA251
Co-requisite Course(s): PARA222 and PARA232 and PARA242 and PARA262
 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. (Sp)

PARA261 Paramedic Clinical I 3
Prerequisite: Admission to Paramedic Program
Co-requisite Course(s): PARA221 and PARA231 and PARA241 and PARA251
 Provides clinical experience for paramedic students in areas including nursing home; hospital units such as the emergency department, critical care units, burn units, obstetrics, pediatrics, and psychiatric units; and designated EMS agencies under the supervision of licensed paramedics. Students are also evaluated in the management of simulated emergencies. (F)

PARA262 Paramedic Clinical II 4
Prerequisite: Minimum 3.0 in PARA261
Co-requisite Course(s): PARA222 and PARA232 and PARA242 and PARA252
 This course provides clinical experience for paramedic students in areas including hospital units such as emergency departments, critical care units, obstetrics, pediatrics, surgery, and designated EMS agencies under the supervision of licensed paramedics. Students are also evaluated in the management of simulated emergencies. (Sp)

PARA263 Paramedic Internship 3
Prerequisite: Minimum 3.0 in (PARA221 and PARA231 and PARA241 and PARA251 and PARA261)
 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. (Su)

PFAQ - Physical Fitness: Aquatics

PFAQ100 Swimming: Primary Skills 1
Prerequisite: None
 This is an introductory swimming course which focuses on the development of basic swimming strokes, rhythmic breathing, survival swimming, and beginning diving skills. (F,Sp,Su)

PFAQ101 Swimming: Stroke Development 1
Prerequisite: None
Recommended: PFAQ100
 This course stresses development of skills in front crawl and backstroke. Students will be introduced to the backcrawl, breaststroke, and butterfly, with strong concentration on rhythmic breathing. (F,Sp,Su)

PFAQ104 Swimming/Training 1
Prerequisite: None
 This course is designed for persons interested in skill development in all competitive swimming strokes as well as in a fitness program design. The student should be able to swim 500 yards in 10 minutes. (F,Sp,Su)

PFAQ106 Water Walking/Toning 1
Prerequisite: None
 This course utilizes a variety of walking and running moves in shallow or deep water to enhance cardiovascular fitness. Toning exercises for arms, abdominal, and thighs are used extensively. Non-ballistic moves are emphasized. (F,Sp,Su)

PFAQ107 Water Exercise I 1
Prerequisite: None
 This course utilizes a variety of movements performed in shallow or deep water, to improve cardiovascular fitness and flexibility. No swimming skills required. (F,Sp,Su)

PFAQ110 Hydro-Fit Exercise I 1
Prerequisite: None
 This course is designed to give the student an overall water fitness workout with little impact to joints or back. The class uses Hydro-Fit buoyancy equipment to tone and strengthen muscles, develop coordination, and increase flexibility. (F,Sp,Su)

PFAQ111 Hydro-Fit Exercise II 2
Prerequisite: None
Recommended: PFAQ110
 This is a water fitness program using water resistance to tone and strengthen muscles, develop coordination and increase flexibility by using Hydro-Fit exercise equipment. Emphasis is placed on increasing abdominal, shoulder, arm and lower body strength. (This class is similar to Hydro-Fit I, but meets three times per week.) (F,Sp,Su)

PFAQ112 Scuba 2
Prerequisite: None
 This course is a basic course in scuba diving. The course includes both classroom and pool training instruction. Upon successful completion of class, the student is eligible for scuba certification following open water training. (F,Sp,Su)

PFAQ114 Parent/Infant Water Adjustment .5
Prerequisite: None
 This course places emphasis on parent/infant water adjustment, safety, and fun. Emphasis is placed on development of water experience and improvement of motor skills and coordination. (Infant ages between 6 months to 2 years) (F,Sp)

PFAQ115 Parent/Toddler Water Adjustmnt .5
Prerequisite: None
Recommended: PFAQ114
 This course places emphasis on parent/toddler water adjustment, skill development, safety, and fun. Emphasis is on development of water experiences, improvement of motor development, coordination, and social skills. Toddlers should be 2 to 5 years old, depending upon skill development and/or instructor approval. (F,Sp)

PFAQ116 Parent/Child Swim .5
Prerequisite: None
Recommended: PFAQ115
 This course focuses on parent/child water skill development, socialization skills, and safety. Individualized instruction is given for advancement of motor skill and coordination in the aquatic environment. Children should be 4 to 5 years old and/or instructor's approval. (F,Sp)

PFAQ118 Arthritis Aquatics 1
Prerequisite: None
 This course will give the student exercises for range of motion in comfortable water temperatures and will improve and help maintain flexibility and well-being. Arthritis Foundation approved program. (F,Sp)

PFAQ119 Scuba Certification Class 1
Prerequisite: Minimum 2.0 in PFAQ112
 This course is designed to allow students who have completed scuba PFAQ112 or equivalent to complete their open water scuba certification training. Upon successful completion of the class, the student will receive Scuba Schools Internationals' open water certification. (F,Sp,Su)

PFAQ120 Basic Lifeguarding 1
Prerequisite: None
 This course is designed to provide the necessary minimum skills of training to qualify as an entry-level lifeguard. (F,Sp)

PFAQ122 Water Safety Instruction 2
Prerequisite: None
 This course is designed to assist in teaching basic aquatic skills for instructors. Teaching modalities and how different students learn is covered. (F,Sp)

PFDA - Physical Fitness: Dance

PFDA142 Ballroom Swing I 1
Prerequisite: None
Recommended: Enrollment with a partner
 Introduction to the study of ballroom swing including partnership technique, dance posture, basic patterns, music and style of the Swing dances. Includes introduction to dances using different styles and speeds of music such as East Coast swing, West Coast swing, jitterbug, and jive. Enrollment with a partner is strongly recommended. (F,Sp,Su)

PFDA147 Latin Ballroom I 1
Prerequisite: None
Recommended: Enrollment with a partner
 This course includes an introduction to partnership technique, dance posture, basic patterns and music for Latin partnership dancing. Dances will be selected from the following: cha-cha, rumba, mambo, merengue, salsa, samba, and tango. Enrollment with a partner is strongly recommended. (F,Sp,Su)

PFDA151 Ballroom Bronze I Workshop 1
Prerequisite: None
Recommended: Enrollment with a partner
 Introduction to the study of ballroom including partnership technique, dance posture, basic patterns, and music for traditional ballroom dances including waltz, fox trot, cha-cha, rumba, and swing. Enrollment with a partner is strongly suggested. (F,Sp,Su)

PFDA152 Latin Ballroom II 1
Prerequisite: None
Recommended: PFDA147, and enrollment with a partner
 This course is designed to build on the techniques introduced in Latin Ballroom I, Ballroom I, Ballroom Swing I, or Ballroom Topics. Emphasis will be placed on the following dance styles: cha-cha, rumba, mambo, samba, merengue, and tango. Enrollment with a partner is strongly recommended. (F,Sp,Su)

PFFT - Physical Fitness: Fitness

PFFT100 Total Fitness A 2
Prerequisite: None
 Total Fitness encompasses fitness, nutritional health, and general wellness principles. Students will complete an assessment measuring aerobic fitness, strength, flexibility, and nutrition. With supervision of an instructor, students will develop and participate in an exercise plan tailored to their individual needs. The course features flexibility of attendance and modular teaching. (F,Sp,Su)

PFFT101 Total Fitness B 2
Prerequisite: None
 Total Fitness encompasses fitness, nutritional health, and general wellness principles. Students will complete an assessment measuring aerobic fitness, strength, flexibility, and nutrition. With supervision of an instructor, students will develop and participate in an exercise plan tailored to their individual needs. The course features flexibility of attendance and modular teaching. (F,Sp,Su)

PFFT102 Total Fitness C 2
Prerequisite: None
 Total Fitness encompasses fitness, nutritional health, and general wellness principles. Students will complete an assessment measuring aerobic fitness, strength, flexibility, and nutrition. With supervision of an instructor, students will develop and participate in an exercise plan tailored to their individual needs. The course features flexibility of attendance and modular teaching. (F,Sp,Su)

PFFT103 Total Fitness D 2
Prerequisite: None
 Total Fitness encompasses fitness, nutritional health, and general wellness principles. Students will complete an assessment measuring aerobic fitness, strength, flexibility, and nutrition. With supervision of an instructor, students will develop and participate in an exercise plan tailored to their individual needs. The course features flexibility of attendance and modular teaching. (F,Sp,Su)

PFFT104 Therapeutic Massage Fitness Lab 1
Prerequisite: None
Restriction: Therapeutic Massage Student
Co-requisite Course(s): PFHW163
 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,Su)

PFFT107 Jogging: Beginning 1
Prerequisite: None
 This course introduces jogging as a fitness modality and covers how to care for feet, proper equipment choices, clothing, and safety. (F,Sp,Su)

PFFT111 Aerobic Boxing .5
Prerequisite: None
 This course will teach the art of self-defense while improving your aerobic and anaerobic capacity. (F,Sp,Su)

PFFT112 Body Flexibility 1
Prerequisite: None
 This course is designed to increase body flexibility by learning proper stretching techniques and applying these techniques to range of motion and muscle flexibility. (F,Sp,Su)

PFFT113 Core Strength and Flexibility Training 1
Prerequisite: None
 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)

PFFT114 Advanced Circuit Training 2
Prerequisite: None
 This course is designed to incorporate strength conditioning, muscle endurance, flexibility, and cardiovascular training for a total body workout. This can be accomplished in a relatively short time frame by utilizing the circuit training method. (F,Sp,Su)

PFFT119 Fire Academy Fitness Training 3
Prerequisite: None
Restriction: Fire Academy Student
 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)

PFFT120 Aerobic Exercise 2
Prerequisite: None
 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)

PFHT122 Step Aerobics	2
Prerequisite: None	
This course helps students improve cardiovascular efficiency through the use of step platforms. Movement combinations with increasing complexity will be used to increase student's balance and coordination. Toning and stretching exercises will be used to complete muscle balancing and flexibility. Educational material will be distributed to increase student's knowledge of fitness and wellness to improve personal quality of life. (F,Sp,Su)	
PFHT136 Dance Exercise	1
Prerequisite: None	
This course includes warm-ups and exercise from various dance genres including ballet, modern, and jazz designed to develop flexibility, strength, and coordination. Emphasis is placed on toning and stretching. Some sections teach NIA (Neuromuscular Integrative Action) and incorporate other dance forms with yoga and martial arts. (F,Sp,Su)	
PFHT147 Basketball Fitness Training	2
Prerequisite: None	
This course is not a traditional basketball class. Participants will be in a workout class that will have an emphasis on conditioning using basketball drills and basketballs. Class activities will include running, continuous movement, shooting, defensive slides, and dribbling. (F,Sp)	
PFHT151 Cardiac Rehab Exercise	3
Prerequisite: Department Approval	
This continuing course includes medically-monitored exercise and education, which emphasizes reducing the risk factors known to contribute to heart disease. Methods and level of exercise are determined by the participant's physician and the program medical director. Monitored by professional staff. (F,Sp,Su)	
PFHT169 Fit for Life Exercise	1
Prerequisite: None	
This course introduces the older student to the benefits and importance of a regular exercise program to combat the debilitating effects which inactivity has upon aging. The student will learn the benefits of cardiovascular exercise as well as flexibility, mobility, and range of motion. (F,Sp)	
PFHT170 Yoga: Beginning	1
Prerequisite: None	
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)	
PFHT171 Yoga: Continuing	1
Prerequisite: None	
Recommended: PFHT170	
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)	
PFHT180 Seminar: Special Subjects	0-6
Prerequisite: None	
Seminars are designed to meet specific community needs. (F,Sp,Su)	
PFHT261 Adult Lifestyles Exercise	2
Prerequisite: Department Approval	
An opportunity for students to maintain and/or improve their fitness level through supervised aerobic exercise sessions and health education. Emphasis is on regular, safe exercise and healthy lifestyles. (F,Sp,Su)	

PFHW - Physical Fitness; Health/Fitness Wellness

PFHW100 Health and Wellness Seminar	.5-4
Prerequisite: None	
This course introduces the student to 8 hours of various topics. Related to health awareness, wellness, and/or prevention. (F,Sp,Su)	

PFHW105 Medical Altern for Health and Wellness	2
Prerequisite: None	
This course discusses alternatives in maintaining health and correcting illness. The students will examine the six major medical systems, as well as many alternative therapies from around the world. (F,Sp)	
PFHW123 Human Nutrition	3
Prerequisite: Reading Level 5	
Recommended: Biology	
An introductory course in human nutrition. Topics include the role of nutrients; digestion, absorption, and metabolism of nutrients; role of vitamins and minerals; and the introduction of current and controversial topics when relevant. Such topics can include fad diets, obesity, nutrition of athletes, food labels, alcohol, sugar, and food additives. (F,Sp)	
PFHW130 Theory and Practice of Yoga	2
Prerequisite: None	
Recommended: PFHT170	
This course explores the theoretical foundations of yoga and its historical framework. Lecture, discussion, and in-class practice will give participants an opportunity to deepen their understanding of yoga theory and how it pertains to their daily practice. Students will explore how yoga exercises and relaxation practices promote health and fitness through stress reduction. (F,Sp)	
PFHW133 Therapeutic Touch and Yoga	3
Prerequisite: None	
Recommended: PFHW130	
This course will combine the theories and practices of yoga and Therapeutic Touch. The foundation of TT is yoga meditation. Classes provide practice in Energy Theory as it applies to individual learners and as an agent of healing. Balanced with TT will be breathing and relevant research and theory. (F,Sp)	
PFHW161 Self-Awareness: Key to Wellness	2
Prerequisite: None	
This course introduces the student to aspects of self-awareness that can lead to greater vitality in all aspects of life. The student will learn ways in which he or she is influenced by family and cultural beliefs. Tools for changing behavior will be presented. (F,Sp)	
PFHW163 Healthy Lifestyles	2
Prerequisite: Reading Level 5 and Writing Level 6	
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)	
PFHW181 Stress Management	1
Prerequisite: None	
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)	
PFHW190 Seminar: Wilderness Survival Techniques	3
Prerequisite: None	
This course provides basic outdoor survival skills and techniques to campers, outdoor enthusiasts, and group leaders. Among the topics are shelter, fire, water, signals, orienteering, food procurement, hot/cold stress management, toxic bites, edible plants of the world, and survival at sea. Optional three-day field trip exercise. (F,Sp,Su)	
PFHW191 Seminar: Wild Food Plants	3
Prerequisite: None	
This course introduces 77 kinds of edible wild plants and their toxic look-alikes from Michigan and adjoining states. The students learn to distinguish these plants on the basis of observed plant characteristics. The material is illustrated in slides and handouts. Several outdoor experiences are provided. Conservation stressed. (F,Sp,Su)	

PFKN - Physical Fitness: Kinesiology

PFKN105 Psychology of Coaching 1

Prerequisite: None
This course provides a comprehensive introduction to the art and science of coaching, as well as an introduction to the art of positive coaching philosophy. (F,Sp)

PFKN106 Aerobic Instructor Training 3

Prerequisite: None
This course will train the student on how to instruct a safe and effective aerobic fitness class. High and low impact aerobics, step aerobics, and muscle repetition work using light weights and resistance bands will be emphasized. Safe exercise techniques, developing creative choreography, and teaching modifications for special populations will be covered. Certification exams will be given. (F,Sp)

PFKN170 Foundations of Kinesiology 2

Prerequisite: Reading Level 5 and Writing Level 6
This is an introductory professional course in Kinesiology, which examines the multiple aspects of physical education and Kinesiology as a discipline, major, and profession. Sub-disciplines and career options in the field, along with historical perspectives and current issues in physical education, will also be discussed. (F,Sp,Su)

PFKN210 Athletic Training Principles 3

Prerequisite: Reading Level 5 and Writing Level 6
Recommended: Biology
This course is an overview of prevention, management, and rehabilitation as each relates to athletic injury. It also provides an examination of various techniques used for the assessment, treatments, and rehabilitation of athletic injuries. Other topics include legal implications for the athletic trainer, first aid principles, and taping procedures. (Sp)

PFKN250 Measurements in Kinesiology 3

Prerequisite: Reading Level 5 and Writing Level 6 and Math Level 3
Recommended: PFKN170
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)

PFKN250 Growth and Motor Behavior 3

Prerequisite: Reading Level 5 and Writing Level 6
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)

PFKN295 Independent Study in Physical Fitness .5-4

Prerequisite: None
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)

PFSP - Physical Fitness: Team and Individual Sports

PFSP100 Aikido 1

Prerequisite: None
This course is an introduction to the philosophy of Aikido. Basic movements of Aikido as a martial art are introduced. (F,Sp)

PFSP101 Angling: Beginning 1

Prerequisite: None
This course introduces the student to angling with demonstrations of basic angling tackle and techniques. Information is provided on Michigan sport fish and their habitat. Fishing trips are taken for steelhead, walleye, salmon, trout, bass, and other game fish. Students are introduced to the excitement, satisfaction and mystique of fishing. (F,Sp)

PFSP102 Basketball: Beginning 1

Prerequisite: None
This course introduces the student to the fundamental skills of basketball. Course emphasis is placed on ball handling, passing, shooting, and rules. (F,Sp)

PFSP103 Basketball: Advanced 1

Prerequisite: None
Recommended: PFSP102
This course is designed for the student who has a sound understanding of basketball skills. Drills will be used to enhance passing and shooting skill development. Emphasis is placed on team play as well as individual skill improvement. (F,Sp)

PFSP104 Bicycling Camping/Touring 1

Prerequisite: None
This course is a 2 1/2 day bicycle trip in a scenic area of Michigan. The class will include two nights of camping and two days of bike riding 35-45 miles each day. Base camp will be set up or a sag wagon will be used. Carrying your own gear will be optional. (F,Sp,Su)

PFSP105 Bowling: Beginning 1

Prerequisite: None
This course is a basic introduction to bowling. Primary emphasis is placed on spot bowling, release, and approach. Students become familiar with bowling etiquette and scoring. (F,Sp,Su)

PFSP106 Bowling: Advanced 1

Prerequisite: None
Recommended: PFSP105
This course is an extensive review of skills introduced at the beginning and intermediate levels. Students develop strategies in lane reading. (F,Sp,Su)

PFSP107 Fencing: Beginning 1

Prerequisite: None
This course is designed to introduce the student to basic skills and theories in foil fencing. Course emphasis is placed on basic skills such as advance, retreat, lunge, disengage, coupe', one-two double', riposte, counter parry and riposte, and advance-lunge. Group instruction is used. (F,Sp)

PFSP108 Fencing: Intermediate 1

Prerequisite: Minimum 2.0 in PFSP107
This course builds upon the 12 basic fencing skills and introduces rules and complex fencing movements. Students will use acquired skills in fencing bouts. (F,Sp)

PFSP109 Golf: Beginning 1

Prerequisite: None
This course is an introduction to the basics of golf which include equipment, grip, stance and posture, club swing, and the rules and etiquette of golf. (F,Sp,Su)

PFSP110 Golf: Intermediate 1

Prerequisite: None
Recommended: PFSP109
This course will review the basics of golf: equipment, grip, stance and posture, and club swing. Students will be given drills to foster and improve proper swing mechanics for course play. (F,Sp,Su)

PFSP111 Indoor Soccer 1

Prerequisite: None
This course is designed to introduce students to the basics of indoor soccer. Passing and shooting drills are emphasized along with team play. Modifications to soccer rules are used to accommodate indoor soccer rules. (F,Sp,Su)

PFSP112	Judo: Beginning	1
Prerequisite: None		
This course is designed to familiarize students with basic Judo techniques of falling, throwing, and grappling. (F,Sp,Su)		
PFSP113	Judo: Intermediate	1
Prerequisite: None		
Recommended: PFSP112		
This course works toward a series of sequential Judo movements with continued emphasis on throwing and grappling. (F,Sp)		
PFSP114	Karate: Beginning	1
Prerequisite: None		
This course introduces the basic skills of karate: kicking with the feet and knees, and punching with the fist and hands. (F,Sp,Su)		
PFSP115	Karate: Intermediate	1
Prerequisite: None		
Recommended: PFSP114		
This course further develops karate skills in punching with the fists and hands, kicking with feet and knees, and essential body movement in combative activities with an emphasis on free sparring. (F,Sp,Su)		
PFSP116	Karate: Advanced	1
Prerequisite: None		
Recommended: PFSP114 or PFSP115		
This course places primary emphasis on the development of sparring techniques as they relate to punching and kicking. Students spar and move toward the competitive aspect of karate as a martial art. (F,Sp,Su)		
PFSP117	Pool: Beginning	1
Prerequisite: None		
This course introduces students to the fundamentals of pool (pocket billiards). Primary course emphasis is on stance, grip, bridge, aim, and stroke. Cue ball position shots such as stop, follow, draw, and center are covered. (F,Sp)		
PFSP118	Pool: Intermediate	1
Prerequisite: None		
Recommended: PFSP117		
This course reviews the fundamentals of stance, grip, bridge, aim, and stroke. Skill improvement and concentration techniques are stressed. (F,Sp)		
PFSP122	Tai Chi I	1
Prerequisite: None		
This course introduces the first 30 forms of the Yang-style Tai Chi. Students develop techniques to focus on relaxation and inner calmness. (F,Sp)		
PFSP123	Tai Chi II	1
Prerequisite: None		
Recommended: PFSP122		
This course covers more difficult forms in Tai Chi. Yang-style Tai Chi stresses the health and well-being of the whole person. Yang-style movements allow students to move in slow, smooth, steady, and continuous movement. (F,Sp)		
PFSP124	Tennis: Beginning	1
Prerequisite: None		
This course will introduce the student to the following skills: ground strokes, serve, volley, lob, and overhead serving as well as doubles and singles strategy. (F,Sp)		
PFSP125	Tennis: Intermediate	1
Prerequisite: None		
Recommended: PFSP124		
This course will introduce the student to the lob, half volley, and a number of different serves. The student should be able to demonstrate and execute the fundamentals of tennis: ground strokes, net volley, serve, and the knowledge of scoring the game. (F,Sp)		

PFSP126	Volleyball: Beginning	1
Prerequisite: None		
This course introduces the student to the fundamental skills of volleyball. Course emphasis is on proper serving, setting, forearm passing, spiking, positioning, rules, and game strategy. (F,Sp)		
PFSP127	Competitive Volleyball	1
Prerequisite: None		
Recommended: PFSP126		
This course provides the student with a conceptual framework for advanced offensive and defensive systems of volleyball. Individuals work on skill drills and intra-class competition. (F,Sp)		

PFWT - Physical Fitness: Weight Training

PFWT112	Introduction to Weight Training	1
Prerequisite: None		
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)		
PFWT123	Weight Training I	2
Prerequisite: None		
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)		
PFWT124	Weight Training II	2
Prerequisite: None		
Recommended: PFWT112 or PFWT123		
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)		

PHIL - Philosophy

PHIL151	Intro to Logic and Critical Thinking	4
Prerequisite: Reading Level 5		
Introduction to modern logic and elements of reasoning, with special attention given to the roles of language in reasoning, distinguishing deductive from inductive arguments, recognizing levels of meaning and differing world views (Weltanschauungen), analyzing truth-functional relations, avoiding fallacious reasoning or misleading language, and using logical skills in everyday life. (F,Sp,Su)		
PHIL152	Introduction to Ethics	4
Prerequisite: Reading Level 5		
Designed to explore essential requirements for moral reasoning and to call attention to both the factual foundation as well as the traditional criteria utilized for value judgments. Major ethical theories will be discussed, along with their applications to everyday situations. The course will include cross-cultural references, when appropriate. (F,Sp,Su)		
PHIL153	Knowledge and Reality	4
Prerequisite: Reading Level 5		
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)		
PHIL211	World Philosophies I	4
Prerequisite: Reading Level 5 and Writing Level 6		
Recommended: WRIT121 or WRIT131		
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)		

PHIL212 World Philosophies II 4
Prerequisite: Reading Level 5 and Writing Level 6
Recommended: WRIT121 or WRIT131
 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 contemporary global concerns. (Sp)

PHIL260 Contemporary Ethical Problems 4
Prerequisite: Reading Level 5 and Writing Level 6
 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. (Sp)

PHIL295 Independent Study in Philosophy 1-4
Prerequisite: Department Approval
 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)

PHYS - Physics

PHYS120 The Art of Physics 4
Prerequisite: Reading Level 5 and Writing Level 6 and Math Level 4
 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; or other non-science areas. Extensive hands-on activities and laboratory exercises supplement the lecture. (F,Sp)

PHYS200 Applied Physics 4
Prerequisite: Reading Level 5 and Writing Level 6 and Math Level 4
 The basic principles of force, work, rate, resistance, energy waves and power are applied to four systems: mechanical (linear and rotational), fluid (liquid and gases), electrical and thermal systems using unifying concepts through mathematical expressions. Activities and experiments explore physics behind real-world applications. (F,Sp)

PHYS221 Introductory Physics I 4
Prerequisite: Reading Level 5 and Writing Level 6 and Math Level 9
 First semester of algebra-based physics with laboratory, presents 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 complement lecture topics. (F,Sp,Su)

PHYS222 Introductory Physics II 4
Prerequisite: Math Level 9 and minimum 2.0 in (PHYS221 or PHYS201) and PHYS225
 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 complement the lecture topics. (F,Sp)

PHYS251 Physics I: Mechanics 5
Prerequisite: (Minimum 2.0 in MATH152 or MATH162 or concurrently) and Reading Level 5 and Writing Level 6
 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, oscillations. May include relativity, nuclear physics, thermodynamics. Experiments and hands-on activities complement lecture topics. (F,Sp,Su)

PHYS252 Physics II: Electromag, Waves and Optic 5
Prerequisite: Minimum 2.0 in PHYS251 or (PHYS215 and PHYS225) and (minimum 2.0 in MATH152 or MATH162)
 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 complement lecture topics. (F,Sp)

PMMT - Precision Machine/Manufacturing Technology

PMMT100 Manufacturing Processes 4
Prerequisite: None
Recommended: MATH050 or Math Level 4
 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,Su)

PMMT105 Machine Tool Survey 4
Prerequisite: None
Recommended: MATH050 or Math Level 4
 This course informs students of machine tool principles and practices used in industry. Safety, terminology, manual milling, lathe, grinding, drill, basic CNC, measurement and procedures are 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,Su)

PMMT110 TQM in Manufacturing & Production 4
Prerequisite: Minimum 2.0 in (MATH050 or Math Level 4) and Reading Level 5 and Writing Level 4
 Students will learn the basic principles, concepts and philosophy of quality in the manufacturing environment. This course emphasizes process capability, control charts, methods and analysis, production and inventory control of an industrial organization. Using manufacturing systems, students will collect and analyze data to control manufacturing parameters to maintain product specifications. (F,Sp)

PMMT115 Introduction to Plastics 3
Prerequisite: Minimum 2.0 in PMMT100 and Reading Level 5 and Writing Level 4
 This course will provide students an introduction to the plastics industry. Materials and production development will be taught including an overview of basic methods. Plastics terminology will also be covered. Safe operating procedures will be emphasized. (F,Sp)

PMMT120 Effective Use of Machinery Handbook 4
Prerequisite: None
Recommended: MATH114
 Machinery's Handbook is the recognized source for all phases of the metal working industry. This course will familiarize each student with the effective utilization of information contained in Machinery's Handbook. (F,Sp,Su)

PMMT130 Issues in Global Manufacturing 4
Prerequisite: Minimum 2.0 in PMMT110 and Reading Level 5 and Writing Level 4
 This course introduces current issues and trends in the manufacturing environment. Students will learn methods to organize and develop resources for continuous improvement. This course will emphasis team work and inter-related functions within successful companies including research, conceptual design, detailed design, production planning, lean manufacturing, sales, and customer support. (F,Sp)

PMMT140 Tooling Theory and Practices 4
Prerequisite: None
 This course examines tooling used in mechanical material removal. Tooling materials from high-speed steel to diamond will be discussed and demonstrated. Tooling geometry, resharpening methods, speeds and feeds, failure mechanisms and problem diagnosis will be addressed. Students will analyze tooling performance and write up technical reports. (F)

PMMT150 Precision Milling 4
Prerequisite: Minimum 2.0 in PMMT105 (previously MACH105)
 This course builds upon the basics of precision milling taught in PMMT105. It teaches students how to perform milling machine set-up, horizontal and vertical milling, CNC milling, general tooling, precision measurement, and preventative maintenance. (F,Sp)

PMMT160 Precision Lathe 4
Prerequisite: Minimum 2.0 in PMMT105 (previously MACH105)
Recommended: PMMT150
 This course builds upon the basics of precision lathe. It teaches students how to perform lathe set-up, turning operations, preventative maintenance, tooling, materials, basic interpretation of blueprints, measurements, and CNC turning. (F,Sp)

PMMT170 Special Topics in PMMT .25-8
Prerequisite: None
 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)

PMMT180 Precision Grinding 3
Prerequisite: Minimum 2.0 in PMMT105 (previously MACH105)
 This course builds upon the basics of precision grinding. It teaches students how to perform grinding machine set up, surface grinding, grinding of inside and outside diameters, pedestal grinding, measurement and metrology of product, tool selection and more. To complete the course, lectures, demonstrations, and projects are used. (F,Sp)

PMMT190 Metallurgy and Heat Treatment 4
Prerequisite: None
 This course is designed to give students a working knowledge of the properties, uses and heat treat processes of commonly used metals and alloys. The basic principles of metallurgy presented apply to the design, selection, processing and testing of metal products. (F,Sp,Su)

PMMT193 CNC Project Lab 1-4
Prerequisite: Department Approval
 Further skills are pursued involving modern concepts of numerical control of machine tools, including the interrelationship of these new manufacturing methods in the various departments of a company. (F,Sp,Su)

PMMT194 Precision Machine Project Lab 1-4
Prerequisite: Department Approval
 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)

PMMT200 Basic Unigraphics NC 4
Prerequisite: Minimum 2.0 in (PMT105 (previously MACH105) or CNC110) and CADD242
 Unigraphics NC (Numerical Control) is a leader in parametric Computer Aided Manufacturing software used to graphically program CNC machine tools. Course topics will cover preparation of drawings for programming, basic APT programming, Multi-axis programming and Overlay features. Selected programs will be run on CNC machines. (Sp)

PMMT210 Basic Mastercam 4
Prerequisite: Minimum 2.0 in PMMT105 (previously MACH105) or CNC110
 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)

PMMT215 Advanced MasterCAM 4
Prerequisite: Minimum 2.0 in PMMT210 (previously CNC210)
 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,Sp)

PMMT220 Principles of Electric Discharge Machine 4
Prerequisite: None
Recommended: PMMT105 (previously MACH105)
 This course introduces the student to the fundamentals of Electrical Discharge Machining (EDM). Safety, principles of operation, programming and operation of both Ram and Wire EDM are explored. Lectures, demonstrations and projects are used. Projects assigned will require setup, programming and operation of EDM machines. (F,Sp)

PMMT225 Die Construction 4
Prerequisite: None
 This course will provide each student with a basic understanding of the essential principles of cutting and forming operations; die components such as punches, punch plates, die blocks and strippers; and an in-depth knowledge of how to repair and maintain the equipment common to the die industry. (Sp)

PMMT230 Compound Angles 4
Prerequisite: Minimum 2.0 in MATH114
Recommended: MATH115
 This course combines solid trigonometry, enabling students to solve problems involving angles in three-dimensional space in industrial applications. Emphasis on applications of actual tooling setups for complex machining operations is used to make the course relate to real life situations. (Sp)

POLS - Political Science

POLS120 American Political System 4
Prerequisite: Reading Level 5
 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)

POLS121 State and Local Government 4
Prerequisite: Reading Level 5
 A study of state and local governmental institutions' activities, functions, methods of organizing resources and policy making. Consideration is given to relationships between federal, state and local governmental units and problems they confront. Emphasis is placed upon how democracy depends on political participation by an informed public. (F,Sp,Su)

POLS201 Introduction to Political Science 3
Prerequisite: Reading Level 5
 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)

POLS205 Government Internship 3
Prerequisite: None
 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. (F,Sp)

POLS206 Advanced Government Internship 3
Prerequisite: None
 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. (F,Sp)

- POLS240 Introduction to Public Policy** 3
Prerequisite: Reading Level 5
 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)
- POLS250 U.S. Political Parties and Elections** 3
Prerequisite: Reading Level 5 and Writing Level 6
 Emphasizes origins, structure, and functions of US 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 politics. (F)
- POLS260 Comparative Political Systems** 3
Prerequisite: Reading Level 5 and Writing Level 6
 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)
- POLS270 International Relations** 3
Prerequisite: Reading Level 5 and Writing Level 6
 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. (Sp)
- POLS295 Independent Study in Political Science** 1-4
Prerequisite: Department Approval
 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)
- PSYC - Psychology**
- PSYC175 Psychology of Death: Prep for Living** 3
Prerequisite: Reading Level 5
 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)
- PSYC200 Introduction to Psychology** 4
Prerequisite: Reading Level 5
 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)
- PSYC202 Psychology of Personality** 3
Prerequisite: Minimum 2.0 in PSYC200 and Reading Level 5 and Writing Level 6
 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)
- PSYC203 Social Psychology** 3
Prerequisite: Minimum 2.0 in (PSYC200 or SOCL120) and Reading Level 5 and Writing Level 6
 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)

- PSYC205 Human Growth and Development** 3
Prerequisite: Minimum 2.0 in PSYC200 and Reading Level 5 and Writing Level 6
 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)
- PSYC209 Cognitive Psychology** 3
Prerequisite: Minimum 2.0 in PSYC200 and Reading Level 5 and Writing Level 6
 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)
- PSYC210 Brain and Behavior** 3
Prerequisite: Minimum 2.0 in (PSYC200 or BIOL121 or BIOL127) and Reading Level 5 and Writing Level 6
 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)
- PSYC221 Child Psychology** 3
Prerequisite: Minimum 2.0 in PSYC200 and Reading Level 5 and Writing Level 6
 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)
- PSYC222 Adolescent Psychology** 3
Prerequisite: Minimum 2.0 in PSYC200 and Reading Level 5 and Writing Level 6
 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)
- PSYC240 Psychology of Human Sexuality** 3
Prerequisite: Reading Level 5
 An exploration of psychological aspects of human sexuality, including research methods, response, identity, development, attraction and intimacy, communication, orientation, attitudes, diseases, and disorders. (F,Sp)
- PSYC250 Abnormal Psychology** 3
Prerequisite: Minimum 2.0 in PSYC200 and Reading Level 5 and Writing Level 6
 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)
- PSYC295 Independent Study in Psychology** 1-4
Prerequisite: Department Approval
 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)
- RDGR - Reading, Restricted**
- RDGR101 Personal Reading I** 1
Prerequisite: Reading Level 1 and Writing Level 1
 One-credit laboratory course may be taken concurrently with other reading courses to provide extra instruction and practice. One-to-one instruction. (May repeat for credit three times.) (F,Sp,Su)

RDGR102 Personal Reading II 2**Prerequisite:** Reading Level 1 and Writing Level 1

Two-credit laboratory course may be taken concurrently with other reading courses to provide extra instruction and practice. One-to-one instruction. (May repeat for credit three times.) (F,Sp,Su)

RDGR103 Personal Reading III 3**Prerequisite:** Reading Level 1 and Writing Level 1

Three-credit laboratory course may be taken concurrently with other reading courses to provide extra instruction and practice. One-to-one instruction. (May repeat for credit three times.) (F,Sp,Su)

READ - Reading**READ100 Reading Laboratory** 4**Prerequisite:** Reading Level 1 and Writing Level 1

Designed to teach fundamental reading skills through small group/individualized instruction. Intended for students whose reading skills lie within the READ Level 1 literacy range as indicated by the College Placement Test. (F,Sp,Su)

READ108 Individualized Reading 4**Prerequisite:** Reading Level 3 and Writing Level 2

Designed for average readers, especially adults in the working community, who wish to improve their reading proficiency with one-on-one/small group instruction and directed practice. Students concentrate on areas that need strengthening. (May repeat for credit three times.) (F,Sp,Su)

READ111 Reading: Essential Strategies 4**Prerequisite:** Reading Level 2 and Writing Level 2

Designed to provide a transition from mastery of basic reading skills and individualized tutorial literacy instruction to a mainstream, classroom learning experience. Includes emphasis in reading for main ideas, vocabulary development, improving comprehension, drawing conclusions from implied meaning, and application of techniques to insure academic survival. (F,Sp,Su)

READ114 Reading Skills 4**Prerequisite:** Reading Level 3 and Writing Level 2

Designed to increase basic comprehension skills, build vocabulary, and prepare students for college-level reading through the exploration of effective study techniques. (F,Sp,Su)

READ116 Reading Comprehension 4**Prerequisite:** Reading Level 4 and Writing Level 4

Designed to extend beyond reading comprehension at the literal level, develop inferential ability and recognition of structure and expository patterns in reading and increase reading rate for greater reading efficiency. Additionally, attention is given to vocabulary improvement, multiple purposes of reading, importance of flexibility in reading, and increased concentration. (F,Sp,Su)

READ118 Introduction to Phonics 4**Prerequisite:** Reading Level 1 and Writing Level 1

Explores relationship of English language sounds to their corresponding printed alphabetical letters and letter combinations. Examines rules governing variations in these sounds, the process of syllabication, accent, the dictionary pronunciation system, structural analysis of words, and the relationship of phonics to reading and spelling. (F,Sp)

READ165 Critical Reading 2**Prerequisite:** Reading Level 5 and Writing Level 4

This course is designed to go beyond reading comprehension at the literal level and to develop in the individual the ability to grasp implied meanings and draw conclusions. The reader must also be able to perceive the structural and developmental pattern in written material and to judge rationally what he or she reads. (F,Sp,Su)

READ175 Speed Reading - Adv Vocabulary 2**Prerequisite:** Reading Level 5 and Writing Level 4

Designed for the student of an average or better-than-average reading ability. Increases reading rate and comprehension for greater efficiency in studying and in general reading. Special attention is given to vocabulary improvement, the multiple purposes of reading, the importance of flexibility in reading, and increased concentration. (F,Sp,Su)

REAL - Real Estate**REAL271 Introduction to Real Estate** 2**Prerequisite:** None

Overview of the real estate business. Emphasis on points of law and real estate principles useful to the beginning salesperson and/or potential buyer, seller, or investor. (F,Sp)

REAL273 Real Estate Investment 3**Prerequisite:** None**Recommended:** REAL271 or REAL274

The emphasis of this course is on investment analysis, financing, depreciation, capital gains, exchanging, and federal tax implications of real estate acquisitions, ownership, and disposal. (F)

REAL274 Real Estate License Exam 3**Prerequisite:** None

Intense study in the fundamentals of real estate. Preparation for the State of Michigan License Examination, administered by the Applied Measurement Professionals (AMP). This class meets statutory requirements including four hours in fair housing. (F,Sp,Su)

REAL275 Real Estate Financing 3**Prerequisite:** None

This course covers the significance and nature of mortgage lending, mortgage money markets, sources, types of mortgages, instruments, qualifying, the land contract and its use, administration of a mortgage loan, and a loan portfolio and methods of foreclosure. (F,Sp)

REAL277 Property Management 3**Prerequisite:** None

Covers management and the market, marketing residential and commercial rental space, creating an organized management plan, tenant and landlord laws, rent collection, leases, tenant screening, fair-housing requirements, tenant-owner relations, accounting for investment properties, real estate as an investment, managing apartments, office space, retail stores, and special-purpose buildings. (F,Sp)

REAL279 Residential Appraisal 3**Prerequisite:** None

This is a survey course on the appraisal of the single family residence. It is designed to expose the student to the basic economic, political, social, and environmental foundations upon which real estate valuation rests. The student will then encounter the processes by which freestanding, single family dwellings are valued. Students will also be acquainted with professional standards and ethics. (F)

REAL280 Real Estate Law 3**Prerequisite:** None**Recommended:** REAL271 or REAL274

Topics covered in this course include: land and its elements, land titles, land interests, abstracts and title insurance, deeds, easements, liens, mortgages, land contracts, foreclosures and landlord-tenant relations, private land-use controls including restrictions, condominiums, and tax policies pertaining to real estate. (Sp)

RELG - Religion

- RELG211 World Religions I** 4
Prerequisite: Reading Level 5 and Writing Level 6
 This course describes and analyzes the beliefs and practices of Hinduism, Jainism, Buddhism, Sikhism, Confucianism, and Taoism in cultural context, from their origins to the present. It examines their influence on literature and the arts, beliefs and values, socioeconomic and political systems, and science and technology in world civilizations. (F)
- RELG212 World Religions II** 4
Prerequisite: Reading Level 5 and Writing Level 6
 This course describes and analyzes the beliefs and practices of Judaism, Christianity, Islam, and other Western religions in cultural context, from their origins to the present. It examines their influence on literature and the arts, beliefs and values, socioeconomic and political systems, and science and technology in world civilizations. (Sp,Su)
- RELG241 Old Testament Literature** 4
Prerequisite: Reading Level 5 and Writing Level 6
Recommended: WRIT121 or WRIT131
 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)
- RELG242 New Testament Literature** 4
Prerequisite: Reading Level 5 and Writing Level 6
Recommended: WRIT121 or WRIT131
 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. (Sp)
- RELG250 Religions of East Asia** 4
Prerequisite: Reading Level 5 and Writing Level 6
 This course surveys the origins and development of East Asian religions. The religious beliefs and practices of Confucianism, Taoism, Buddhism (Mahayana and Tibetan), and Shinto are examined in terms of their vital role in the development of ancient and modern East Asian civilizations. (Sp)

SCIN - Science Technology Internship

- SCIN287 Science Technology Internship** 4
Prerequisite: Minimum 2.0 in (CHEM151 and CHEM161) and Department Approval
 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)

SCIS - Science Seminars

- SCIS296 Directed Histotechnological Studies** 4
Prerequisite: Reading Level 4 and Writing Level 4 and Math Level 4
Restriction: Histologic Technician Certificate of Completion
Recommended: High School Chemistry and Biology
 This course gives students the opportunity to learn laboratory skills in Histotechnology. Histotechnology is the preparation of tissue specimens for microscopic evaluation. Students are challenged to analyze/evaluate their skills in safety, tissue processing, embedding, microtomy, special staining, quality assurance, problem solving and technical writing. (F,Sp)
- SCIS297 Independent Study in Science** 1-4
Prerequisite: Department Approval
 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)

SDEV - Student Development

- SDEV100 Student Development Seminars** .25-1
Prerequisite: None
 This series of seminars provides students and members of the community with opportunities for personal growth. Topics are relevant to current events and community needs. The discussions and activities will allow students to sample and explore a wide variety of areas related to personal and professional development. (F,Sp)
- SDEV103 Preventing Parent Burnout** 1
Prerequisite: Minimum 2.0 in (CHEM151 and CHEM161) and Department Approval
 This course is designed to facilitate an understanding of parent burnout and its impact on mental and physical functions. The class will address causes, stages and symptoms, family and relationship dynamics, and problem solving. The course will provide multiple skills and mechanisms to cope with stress and prevent parent burnout. (F,Sp,Su)
- SDEV118 Stretching Your Dollars** 2
Prerequisite: None
 Assistance is given in very basic money management, budget procedures, record keeping, wise shopping practices, low-cost entertainment and recreation, effective debt payment methods, and financial goal-setting and planning. Consumer awareness and problems in the marketplace will also be addressed. (F,Sp,Su)
- SDEV121 Exploring Your Potential** 2
Prerequisite: None
 This course is designed to help each person identify past and present achievements which suggest the presence of strengths and potential. The goal of this class is greater realization of one's potential through self-determination. (F,Sp)
- SDEV123 Career Bridge** 2
Prerequisite: None
 Career Bridge enhances a smooth transition to college course work by helping the student identify a career direction, learn techniques of study, and build confidence in the pursuit of his or her educational goal. Positive behavioral choices will also be taught, including time management, the elimination of self-defeating behaviors, and increased self-esteem. (F,Sp,Su)
- SDEV124 Techniques of Study** 2
Prerequisite: None
 Students examine their study habits and work toward practicing skills to enhance classroom performance. Classes include weekly lectures, discussions, and assignments. Skills covered include goal-setting, time management, note-taking, reading and memory strategies, library use, and taking exams. A valuable aid for beginning and advanced students. (F,Sp,Su)
- SDEV125 Career Planning** 2
Prerequisite: None
 Students learn a career planning process by identifying their interests, values, and skills through a variety of self assessment exercises. Students will utilize available resources to research career options and participate in classroom discussions on topics relating to career decision-making. (F,Sp,Su)
- SDEV126 Self-Defeating Behavior** 2
Prerequisite: None
 The goal of this course is to learn how self-defeating behaviors begin and are maintained, and how they can be eliminated. Behavior change is aimed at teaching people how to live life more fully and happily by identifying and cultivating life-giving behaviors. (F,Sp,Su)
- SDEV130 Job Search Skills** 1
Prerequisite: None
 Skills and techniques in the job search process are taught. Course content covers filling out application, writing resumes and cover letters, interviews, and other techniques used in seeking employment. Group discussions focus upon personal attitude toward job hunting. (F,Sp,Su)

SDEV135 Tools for College Success 2**Prerequisite:** None

This course provides an introduction to the college experience and to skills that students need to be successful. Topics covered include academic and self-management issues that affect student performance, such as goal-setting, study skills, time management, communication, relationships, career planning, problem-solving, finances and health. (F,Sp,Su)

SDEV140 Online Learning Skills 1**Prerequisite:** None

Course provides an introduction to online learning. Students will receive training and information on skills needed for online college classes, including Blackboard (course software), internet research, independent learning, online communications, virtual group projects, chat room usage, discussion board postings, online student services, technical support and other relevant study skills. (F,Sp,Su)

SDEV142 Assertiveness I 2**Prerequisite:** None

This course teaches assertiveness. Assertiveness is behavior where a person expresses her or his opinions, feelings, beliefs, wants, personal rights, and values in a way that respects the rights of others. Techniques covered teach participants to identify and practice exercising interpersonal rights and assertive skills. (F,Sp,Su)

SDEV169 Women as Winners 1**Prerequisite:** None

This course is designed to offer participants new tools for insight, self-awareness, and understanding so that they can learn to set their own goals, emancipate themselves from the boundaries they have set for themselves, and, therefore, learn to become more authentic and self-actualizing. (F,Sp,Su)

SDEV190 Success Group 1**Prerequisite:** None

Designed to stress improvement of academic performance, the course provides mutual support and deals directly with the problems of underachievement. Students will learn to set and achieve short-term goals, identify motives and attitudes, and study behaviors that lead to success and those that are related to failure. (F,Sp)

SDEV192 Counseling for College Success 2**Prerequisite:** None

Designed to stress improvement of academic performance, the course provides mutual support and is solution-focused on setting and achieving short-term goals. Students learn to identify motives, attitudes, and behaviors that lead to success. Group interaction will enhance understanding. (F,Sp,Su)

SDEV195 Build Healthy Relationships I 2**Prerequisite:** None

For those who wish to take a serious look at "what helps" and "what hurts" in building human relationships. Insights can be applied to any type of relationship and will help participants focus on changes they can/need to make in building a healthier relational lifestyle. (F,Sp,Su)

SDEV204 Self-Defense and Women I 1**Prerequisite:** None

This seminar is a combination of consciousness-raising and skill-building experiences intended to increase students' understanding, resources, and skills in sexual assault prevention and self-defense. Self-defense techniques taught in this seminar will focus on responses to unarmed attacks. (F,Sp,Su)

SDEV205 Self-Defense and Women II 1**Prerequisite:** SDEV204 or concurrently

This seminar is both a review and expansion of the techniques and skills taught in Women and Self-Defense I (SDEV204). Self-defense techniques taught in this class will focus on "ground defense," responses to armed attacks, multiple attackers, and special assaultive situations. (F,Sp,Su)

SDEV211 Leadership Practicum I 2**Prerequisite:** Minimum 2.0 in SDEV210

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 off campus recruitment and other Enrollment Services activities and college functions. Community service is also required. (Sp)

SDEV225 Parenting in the Millennium 2**Prerequisite:** None

This course will help parents move from "unconscious" to "conscious" parenting, changing from a parental domination to a relationship-centered model. The influence of childhood on parenting style, impact of communication in child-rearing, and understanding the power of the child/parent relationship are included. (F,Sp)

SDEV237 Black Women's Awareness 1**Prerequisite:** None

This class is an exploration of concerns and issues confronting the Black woman in America today. Students will have the opportunity to share their viewpoints and life experiences in response to such questions as: Who is the African-American woman? What are her needs? How can those needs be met? (F,Sp)

SDEV240 Empathy Training 2**Prerequisite:** None

The student will learn how to use empathy as a technique to deal with emotions, values, and decision making in the communication process. The skills will be taught in a small group emphasizing a supportive, experiential atmosphere. (F,Sp,Su)

SDEV245 Dealing with Stress 1**Prerequisite:** None

This course is designed to promote awareness of how stress affects mental, emotional and physical health, and behavior. The goal is to help participants to achieve lifetime coping skills. Topics include personal stressors, mental and physical coping strategies, dietary influences, communication, job or role stress, coping with loss. (F,Sp,Su)

SIGN - Sign Language**SIGN160 Orientation to Deafness 3****Prerequisite:** Reading Level 5

This course is designed to introduce the student to pathological and cultural perspectives on deafness and the implications those perspectives have for persons who are deaf. Elements of the communications process, nonverbal communication, group dynamics, research and oral presentation skills will also be covered, via lectures, readings and group discussions. (F,Sp,Su)

SIGN161 American Sign Language I 3**Prerequisite:** Reading Level 5**Recommended:** Minimum 2.0 in SIGN160 or concurrently

This course provides basic knowledge of American Sign Language vocabulary and grammar. Pantomime is also used to explore nonverbal communication and its function within ASL. Elements of the communication process, ASL presentation skills, and group dynamics will also be covered. Designed for students intending to become sign language interpreters. (F,Sp,Su)

SIGN162 American Sign Language II 3**Prerequisite:** None**Recommended:** Minimum 2.0 in SIGN161

Designed to increase students' knowledge and use of American Sign Language vocabulary and grammar, as well as to focus on specific grammatical elements for more in-depth analysis and practice. Intended for students who plan to become sign language interpreters. (F,Sp,Su)

SIGN163 American Sign Language III	3	SIGN260 Linguistic Principles of ASL	3
Prerequisite: None		Prerequisite: Minimum 2.0 in SIGN163	
Recommended: Minimum 2.0 in SIGN162		An overview of the linguistic organization of ASL, including a linguistic perspective on how ASL is learned and how it is (and is not) influenced by English. Topics relevant to interpreting, such as language variation and translation, will be emphasized. Designed for students intending to become sign language interpreters. (F)	
Designed to provide additional vocabulary and synthesis of grammatical elements of American Sign Language through expressive and receptive use of conversational sign language. Intended for students who plan to become sign language interpreters. (F,Sp,Su)		SIGN261 Principles of Interpreting	3
SIGN164 American Sign Language IV	3	Prerequisite: Successful ITP Screening	
Prerequisite: Minimum 2.0 in SIGN163		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)	
This course is intended to build conceptual understanding and use of American Sign Language. Students will develop American Sign Language skills by interpreting in ASL paragraphs which are presented in English context. Designed for students intending to become sign language interpreters. (F)		SIGN263 Intermediate Sign to Voice	3
SIGN165 Fingerspelling	3	Prerequisite: Minimum 2.5 in (SIGN240 and SIGN261)	
Prerequisite: Minimum 2.0 in SIGN161		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)	
Recommended: SIGN162 or concurrently		SIGN264 Advanced Sign to Voice	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: Minimum 2.5 in SIGN263	
SIGN167 Beginning Sign to Voice	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: None		SIGN265 Advanced Interpreting/Transliterating	3
Recommended: Minimum 2.0 in SIGN162		Prerequisite: Minimum 2.5 in SIGN240	
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)		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)	
SIGN168 Expressive Manual Communication	2	SIGN266 Mock Quality Assurance (QA)	2
Prerequisite: Minimum 2.0 in SIGN162		Prerequisite: Minimum 2.5 in SIGN263	
This course focuses on synthesizing grammatical elements of American Sign Language and using them in an expressive mode. It creates awareness of conversational behaviors used by the deaf community and provides practice of those behaviors in classroom and other settings. Designed for students intending to become sign language interpreters. (Su)		This course provides students with simulated testing interpreter/transliterating settings using interactive videotapes of hearing and deaf individuals with the purpose of developing skills necessary for interpreter evaluation. Designed for students intending to become sign language interpreters. (Su)	
SIGN169 Receptive Communication	2	SIGN267 Sign Internship I	3
Prerequisite: Minimum 2.0 in (SIGN163 or concurrently) and (minimum 2.0 in SIGN167 or concurrently)		Prerequisite: Minimum 2.5 in SIGN240 and SIGN261	
This course enhances the student's receptive and voicing skills, specifically skills needed to pass the Interpreter Training Program Screening Assessment (ITP Test), such as ASL vocabulary recognition, English sentence structure, and vocal tone and volume. Topics will be covered using videos, lectures, guest signers, and in-class activities. (Su)		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)	
SIGN176 Advanced Fingerspelling	2	SIGN268 Sign Internship II	3
Prerequisite: Minimum 2.0 in SIGN166		Prerequisite: Minimum 2.5 in SIGN267	
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. (F,Sp,Su)		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)	
SIGN240 Interpreting/Transliterating	3	SIGN294 Sign Language Interpreting Seminar	2
Prerequisite: Successful ITP Screening		Prerequisite: Minimum 2.5 in SIGN266	
American Sign Language vocabulary will continue to be developed while learning about the interpreting process. Students will analyze text and demonstrate the ability to facilitate communication in both ASL sentence structure or English word order. Course is designed for students intending to be sign language interpreters. (F)		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,Su)	
SIGN250 Deaf Culture and History	3		
Prerequisite: Minimum 2.5 in SIGN163			
This course looks closely at the unique experiences of those in the deaf community. It examines the history of the deaf community in America and the sociology of the hearing-impaired (both deaf and the hard-of-hearing). Designed for students intending to become sign language interpreters. (Sp)			

SIGN295 Independent Study in Sign Language 1-3**Prerequisite:** Department Approval**Recommended:** Minimum 2.0 in SIGN261

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)

SOCL - Sociology**SOCL120 Introduction to Sociology 4****Prerequisite:** Reading Level 5

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)

SOCL180 Latinos in Contemporary U.S. 3**Prerequisite:** Reading Level 5

A survey of social forces that have shaped the experience of Latinos in the U.S. An exploration of Latino relations with non-Latino groups and social institutions using a structural framework which considers race, class and gender. Emphasis is placed on the diversity of the Latino community and current social trends. (F)

SOCL185 Introduction to African-American Studies 3**Prerequisite:** Reading Level 5

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. (Sp)

SOCL254 Marriage and Family 3**Prerequisite:** (SOCL120 or PSYC200) and Reading Level 5

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)

SOCL255 Contemporary Social Problems 3**Prerequisite:** SOCL120 and Reading Level 5

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)

SOCL260 Race and Ethnicity 3**Prerequisite:** SOCL120 and Reading Level 5

An introduction to the sociological study of race and ethnicity in the U.S. and globally. Emphasis is placed on 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)

SOCL295 Independent Study in Sociology 1-4**Prerequisite:** Department Approval

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)

SOWK - Social Work**SOWK101 Introduction to Social Work 3****Prerequisite:** Reading Level 5 and Writing Level 6

This course introduces the principles of social work practice. Emphasis is on social work careers, description of methods, skills and standards of practice, definitions of the helping roles, survey of helping agencies and institutions, and overview of social issues and client needs relative to social work practice. (F,Sp,Su)

SOWK205 Social Welfare 3**Prerequisite:** Minimum 2.0 in SOWK101 or minimum 2.5 in HUSE100

This course introduces the definition and concept of social welfare, its history, programs, attitudes, values, and philosophy. It emphasizes the development of private and public services, changing patterns of services, the evolving changes in the Social Security Act and community action, with attention to current issues in social welfare policy. Offered odd years only. (Sp)

SPAN - Spanish**SPAN115 Conversational Spanish I 3****Prerequisite:** None

First course of a two-semester sequence in conversational Spanish. Designed for persons who have no knowledge of Spanish and who wish to develop basic conversational skills in the language. Course emphasizes pronunciation of Spanish sounds, practical vocabulary, culture, and essential grammar for communication. Class taught largely in Spanish. (F,Sp,Su)

SPAN116 Conversational Spanish II 3**Prerequisite:** None**Recommended:** SPAN115 or equivalent

Second course of a two-semester sequence in conversational Spanish. Designed for persons who have some knowledge of the language and wish to continue developing basic conversational skills. Course emphasizes practical vocabulary, some aspects of Hispanic culture, and essential grammar for communication. Class taught largely in Spanish. (F,Sp,Su)

SPAN121 Elementary Spanish I 4**Prerequisite:** Reading Level 5

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 taught largely in Spanish. (F,Sp,Su)

SPAN122 Elementary Spanish II 4**Prerequisite:** Minimum 1.5 in SPAN121

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 taught largely in Spanish. (Sp)

SPAN201 Intermediate Spanish I 4**Prerequisite:** Minimum 1.5 in SPAN122

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 taught entirely in Spanish. (F)

SPAN202 Intermediate Spanish II 4**Prerequisite:** Minimum 1.5 in SPAN201

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 taught entirely in Spanish. (Sp)

SPCH - Speech Communication

- SPCH110 Oral Communication in the Workplace** 3
Prerequisite: Reading Level 5 and Writing Level 6
 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. (F,Sp,Su)
- SPCH120 Dynamics of Communication** 3
Prerequisite: Reading Level 5 and Writing Level 6
 Introduction to the theory and practice of speaking and listening effectively in interpersonal, group, and public communication situations. The course utilizes readings, lectures, discussions, learning activities, and oral and written assignments to help students both understand the communication process and become more skillful interpersonal, group (team), and public communicators. (F,Sp,Su)
- SPCH130 Fundamentals of Public Speaking** 3
Prerequisite: Reading Level 5 and Writing Level 6
 Helps beginning speakers develop skills and confidence needed to speak effectively to audiences in public situations. Students learn proper techniques for researching, developing, organizing, outlining, and delivering effective informative, panel and persuasive presentations. At the same time they learn interpersonal concepts that affect their work in group presentations. (F,Sp,Su)
- SPCH140 Interpersonal Communication** 3
Prerequisite: None
 Introduction to fundamental principles and skills of interpersonal communication. Students investigate techniques for interacting effectively in family, inter-cultural, 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,Su)
- SPCH260 Nonverbal Communication** 3
Prerequisite: None
 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)
- SPCH270 Mass Communication** 3
Prerequisite: Reading Level 5 and Writing Level 6
 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)
- SPCH280 Intercultural Communication** 3
Prerequisite: Reading Level 5
 Introduction to the theory and practice of successful intercultural communication. Students will investigate how communication is affected by such factors as: dimensions of cultures, cultural values, world views, relationships, and social institutions. Readings, guest speakers, discussions, learning activities, and assignments will help students become ethical and skillful intercultural communicators. (F,Sp)
- SPCH295 Independent Study in Speech** 1-4
Prerequisite: Department Approval
 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)

SPEL - Spelling Development

- SPEL150 Spelling: College Prep** 1
Prerequisite: Reading Level 3 and Writing Level 4
 This eight week course focuses on spelling rules and functions suited to various disciplines within the college and workplace. (F)

STAT - Statistics

- STAT170 Introduction to Statistics** 3
Prerequisite: (Minimum 2.0 in MATH121 or MATH126 or MATH130 or Math Level 8) and Reading Level 5 and Writing Level 4
Recommended: Knowledge of Windows software
 This is a survey course in statistics for students in social science, psychology, education, and other nonbusiness disciplines. Topics studied include descriptive statistics, probability, random variables, normal distribution, t distribution, che-square distribution, F distribution, confidence intervals, hypotheses testing, correlation, and linear regression. In addition, students will solve applied problems by completing required computer assignments using a statistical software package. (F,Sp,Su)
- STAT215 Intro to Probability and Statistics** 4
Prerequisite: (Minimum 2.0 in MATH122 or MATH126 or MATH130 or MATH141 or Math Level 9) and Reading Level 5 and Writing Level 4
Recommended: Knowledge of Windows software and MATH141
 This is a first course in probability and statistics with emphasis on business applications. Topics studied include descriptive statistics, laws of 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 using a statistical software package. (F,Sp)

STEC - Stage Technology

- STEC100 Introduction to Stage Tech Industry** 2
Prerequisite: Department Approval
 This course is an introduction to the stage technology industry for apprentices in the Michigan Stage Technician Apprenticeship Program. It presents the history and current status of the various segments of the industry and introduces basic skills, terminology, safety-concerns, and legal issues designed to prepare the apprentice for on-the-job training. (Su)
- STEC110 Stage Tech Field Experience** 1
Prerequisite: Department Approval
 This course provides Stage Technology majors and MSTAP apprentices with off-campus, on-the-job training opportunities. Students will answer a variety of temporary job calls to support theatrical, arena, conference, sporting, and other events requiring the expertise of stage technicians. The student must be able to travel throughout mid-Michigan and to work odd hours. (F,Sp,Su)
- STEC120 Stage Lighting and Electricity** 3
Prerequisite: None
 Beginning studies in basic electricity and lighting as they relate to the stage. Students will learn fundamentals of electricity, metering, dimming circuits, physics of light and optics, instrumentation, reading of a plot, and various schedules. The student will then apply them in a theater setting. (F)
- STEC122 Advanced Stagecraft** 3
Prerequisite: Minimum 2.0 in THEA114
 Advanced techniques of stagecraft and elements design for the performing arts. Preparation of working drawings and cut lists; fabrication of the design; lighting design techniques and implementation. Application of color theory and textures to scene painting, lighting design, and costuming. Students will assist with set design, lighting, and construction for a theatre production. (Sp)
- STEC130 Audio/Visual Technology** 3
Prerequisite: None
 An introduction to audio/visual equipment, principles and practices used in the stage technology industry with an emphasis on convention and trade show settings. Sound amplification, lighting control systems, simple video camera operation, and various projection devices will be included. (Sp)

STEC140 Theatrical Make-Up/Wardrobe 3

Prerequisite: None
Provides students with a working knowledge of basic principles of makeup application, wardrobe maintenance and procedures in a production environment. Prepares students to provide basic makeup and wardrobe services for live performing arts, including the theatrical play and dance productions, musicals and operas. An enrichment resource for community theater and schools. (F)

STEC150 Stage and Arena Rigging 3

Prerequisite: None
Recommended: Basic Algebra
An introduction to rigging for the entertainment industry. The student will learn fundamentals of high steel, deck, grid, and stationary rigging. Rigging safety practices, safety hardware, rigging equipment, rigging hardware, and calculation of loads for the structure and hardware are covered. The student will apply these practices and equipment to stage and arena settings. (Sp)

STEC290 Guided Independent Study 1-4

Prerequisite: Department Approval
Recommended: 75% completion of the Stage Technology Program
An opportunity for self-directed learners to explore topics of particular interest more thoroughly. Students will meet intermittently throughout the semester with an assigned faculty member for guidance and evaluation of progress. A proposal detailing the area of independent investigation must be submitted by the student prior to registration. (F,Sp)

STEC296 STEC Internship 2

Prerequisite: Department Approval
Recommended: 80% completion of the Stage Technology Program
An off-campus worksite experience that serves as part of a capstone experience for stage technicians. Students will work at venues having a multi-event season and be involved in building, installing, and as members of running crew. Regularly scheduled progress reports will be given and discussed with the supervising faculty member. (F,Sp,Su)

STEC298 Special Projects 1-4

Prerequisite: Department Approval
Recommended: 75% completion of the Stage Technology Program
An opportunity for a group of learners to become involved in a common project that will allow each to develop additional skills or to hone present skills. Availability of academically appropriate projects and student interest determines the nature of the experience. (F,Sp)

SURG - Surgical Technology

SURG100 Fundamentals of Surgical Technology 3

Prerequisite: Admission to Surgical Technology Program
Co-requisite Course(s): SURG101 SURG108 and SURG109 and SURG121 and SURG122
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)

SURG101 The Surgical Patient 2

Prerequisite: Admission to Surgical Technology Program
Co-requisite Course(s): SURG100 and SURG108 and SURG109 and SURG121 and SURG122
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. (F)

SURG103 Surgical Asepsis 2

Prerequisite: None
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)

SURG107 Surgical Technology Review 2

Prerequisite: Must be an accredited program graduate or otherwise qualified to take the Surgical Technology National Certification Exam and Department Approval
This on-line review course will prepare students for the Surgical Technology National Certification Exam. Topics include surgical patient care; surgical asepsis; instruments; fundamentals of surgery; operative procedures; patient safety; positioning; confidentiality; and O.R. policies, standards and procedures. Newly developing, state-of-the-art technologies are examined and test taking skills are reviewed. (F,Sp)

SURG108 Surgical Pharmacology 2

Prerequisite: Admission to Surgical Technology Program
Co-requisite Course(s): SURG100 and SURG101 and SURG109 and SURG121 and SURG122
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)

SURG109 Basic Operative Procedures 2

Prerequisite: Admission to Surgical Technology Program
Co-requisite Course(s): SURG100 and SURG101 and SURG108 and SURG121 and SURG122
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)

SURG110 Advanced Surgical Procedures 6

Prerequisite: Minimum 2.5 in (SURG100 and SURG101 and SURG108 and SURG109 and SURG121 and SURG122)
Co-requisite Course(s): SURG111 and SURG123 and SURG124
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)

SURG111 Surgical Specialty Components/Prof Prep 2

Prerequisite: Minimum 2.5 in (SURG100 and SURG101 and SURG108 and SURG109 and SURG121 and SURG122)
Co-requisite Course(s): SURG110 and SURG123 and SURG124
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)

SURG121 Applied Surgical Techniques I 2

Prerequisite: Admission to Surgical Technology Program
Co-requisite Course(s): SURG100 and SURG101 and SURG108 and SURG109
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)

SURG122 Applied Surgical Techniques II 2

Prerequisite: Minimum 2.5 in SURG121 or concurrently
Co-requisite Course(s): SURG100 and SURG101 and SURG108 and SURG109
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. (F)

SURG123 Applied Surgical Techniques III 8
Prerequisite: Minimum 2.5 in SURG122
Co-requisite Course(s): SURG110 and SURG111 and SURG124
 This clinical session at a hospital provides the student with the application of theory and clinical skills in basic and advanced surgical procedures. (Sp)

SURG124 Applied Surgical Techniques IV 3
Prerequisite: Minimum 2.5 in SURG122
Co-requisite Course(s): SURG110 and SURG111 and SURG123
 This course is a clinical session at a hospital. It covers the application of theory and clinical skills in advanced surgical procedures and surgical specialty areas. (Sp)

SURG150 Surgical Technology Special Topics .25-8
Prerequisite: Determined by Unit Section
 This course provides continuing education 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. (F,Sp,Su)

TDTP - Truck Driver Training Program

TDTP110 Truck Driver Training I 3
Prerequisite: Department Approval and Department of Transportation Physical
 This is the initial course in a sequence of three. This course is intended to begin preparing the student for the State of Michigan CDL written exam and includes a review of D.O.T. rules and proper driver's log book reporting. Vehicle activities include vehicle inspection, drop and hook, and initial driving on secured roadways. (F,Sp,Su)

TDTP111 Truck Driver Training II 3
Prerequisite: Department Approval and Department of Transportation Physical
 This is the second course in a sequence of three. Students will operate the vehicles on the driving range and local roads, developing the skills necessary to interact with highway traffic. Students must pass the CDL written test and obtain their temporary instructional permits during this course. (F,Sp,Su)

TDTP112 Truck Driver Training III 3
Prerequisite: Department Approval and Department of Transportation Physical
 This is the final course in the Truck Driver Training Program. The students will complete range driving and backing, do local highway driving, and complete an extensive road trip. The CDL third-party exam will be administered during this course. (F,Sp,Su)

TDTP201 Truck Driver Internship 2-4
Prerequisite: Minimum 2.0 in TDTP112 and Department Approval
 This course is a work site experience. Students will gain career experience by working with an employed truck driver who serves as a mentor. The student gains experience by applying knowledge gained in the classroom and in the College's truck fleet. (F,Sp,Su)

THEA - Theatre

THEA110 Introduction to Theatre 3
Prerequisite: Reading Level 5
 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)

THEA114 Introduction to Technical Theatre 3
Prerequisite: None
Restriction: Theatre Majors
 Introduction to design stagecraft for performing arts: basic elements of design and their relationship to performance, introduction to color theory - both paint and light, development of design concept, fundamentals of drafting, scale plan analysis, tool usage, shop safety, stage lighting, light plot interpretation, understanding organization of backstage productions. (F,Sp,Su)

THEA120 Introduction to Acting 2
Prerequisite: None
 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)

THEA131 Studio Theatre Performance I 1
Prerequisite: Theatre Studio Interview
Restriction: Theatre Majors
Co-requisite Course(s): THEA141 and THEA171
 Course includes rehearsal, performance, and evaluation of a contemporary script. Focus is on an understanding and implementation of skills acquired in THEA141 and the relationships experienced between actor and director. (F,Sp)

THEA132 Studio Theatre Performance II 1
Prerequisite: Minimum 2.0 in THEA131
Restriction: Theatre Majors
Co-requisite Course(s): THEA143 and THEA173 and THEA181
 Course includes rehearsal, performance, and evaluation of verse script or scenes from Shakespeare or the classical Greeks. Focus on application of skills acquired in THEA142, and on relationship between actor and director. Majors only (Sp,Su)

THEA140 Acting for Non-Majors 2
Prerequisite: Minimum 2.0 in THEA120 or concurrently
Recommended: THEA110
 Fundamentals of acting, including improvisational techniques; mask work; the physical, vocal, and internal development of character; analysis and scoring by beats of a contemporary script. Non-majors only. (F,Sp)

THEA141 Acting I - Contemporary 2.5
Prerequisite: Theatre Studio Interview
Restriction: Theatre Majors
Co-requisite Course(s): THEA131 and THEA171
 Fundamentals of acting, including improvisational techniques; the physical, vocal, and internal development of character; analysis and scoring by beats of a contemporary script. Majors only. (F)

THEA143 Stage Voice for the Actor 3
Prerequisite: Minimum 2.0 in THEA141
Restriction: Theatre Majors
Co-requisite Course(s): THEA132 and THEA173 and THEA181
 Course will cover strategies in vocal production and variety; will focus on exercises to develop vocal flexibility from Lessac, Linklater, and/or Berry techniques; and will experience vocal techniques which lead to greater emotional awareness and responsiveness. For second-year theater majors. (Sp,Su)

THEA150 Acting for the Camera 3
Prerequisite: Minimum 2.0 in THEA131
Recommended: THEA110 and THEA120
 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 (F,Sp)

THEA160 Stage Combat 2
Prerequisite: None
Recommended: THEA120
 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)

<p>THEA171 Dramatic Form and Function I 3 Prerequisite: Theatre Studio Interview Restriction: Theatre Majors Co-requisite Course(s): THEA131 and THEA141 An analysis of modern contemporary classics of the theatre. The student will read and analyze a minimum of eight contemporary scripts from Ibsen to Shepard. The student will develop a comprehensive production concept for one of these scripts. (F,Sp)</p> <p>THEA173 Movement for the Actor 2 Prerequisite: Minimum 2.0 in THEA141 Restriction: Theatre Majors Co-requisite Course(s): THEA132 and THEA143 and THEA181 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. For second-year theatre majors. (Sp,Su)</p> <p>THEA181 Improvisation 2.5 Prerequisite: Minimum 2.0 in THEA141 Restriction: Theatre Majors Co-requisite Course(s): THEA132 and THEA143 and THEA173 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)</p> <p>THEA210 Theatre History 4 Prerequisite: Reading Level 5 and Writing Level 6 Recommended: THEA110 Examination of the history of drama from primitive times to the present, introducing the overall pattern of theatre history with emphasis on European and American development. Required for all majors (F,Sp)</p> <p>THEA220 Play Directing 3 Prerequisite: Minimum 2.0 in (THEA110 or FILM118) Recommended: THEA120 or THEA210 Introduction to the fundamentals of directing a play, including play analysis, stage composition and working with actors. Practical experience through scenework and class exercises will be emphasized. Students will demonstrate their mastery of the principles taught by directing and presenting a short one-act play for an audience. (F)</p> <p>THEA223 Independent Study in Theater 1-3 Prerequisite: Department Approval 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)</p> <p>THEA224 Special Subjects in Theater 1-4 Prerequisite: Department Approval Seminar: Special Subjects in Theater is offered each summer and allows students to take a variety of short-term courses in various theater techniques. The seminar will offer either state-of-the-art techniques or an opportunity to work with professionals. Seminars may include: stage combat, playwriting, new techniques in acting. (Su)</p> <p>THEA233 Studio Theatre Performance III 2 Prerequisite: Minimum 2.0 in THEA132 Restriction: Theatre Majors Co-requisite Course(s): THEA240 and THEA260 and THEA283 Students will rehearse and perform a Shakespeare play. (F)</p> <p>THEA235 Studio Theatre Performance IV 2 Prerequisite: Minimum 2.0 in THEA233 Restriction: Theatre Majors Co-requisite Course(s): THEA241 and THEA271 This course provides the second-year Theatre major with an opportunity to intensively explore two contrasting theatrical periods and styles through the rehearsal and performance of monologues, scenes, or short plays. (Sp)</p>	<p>THEA238 Theatre Company 2 Prerequisite: Department Approval Students will be given the opportunity to direct, design, produce, or perform in College-supported outdoor theatrical events in the amphitheatre or a comparable space. Students will also participate in company class, in which new ideas in acting training will be presented. (Su)</p> <p>THEA240 Acting II - Classics 2.5 Prerequisite: Minimum 2.0 in THEA143 Restriction: Theatre Majors Co-requisite Course(s): THEA233 and THEA260 and THEA283 Students will explore the unique demands of acting and speaking Shakespeare and the qualities of his verse, including alliteration, assonance, rhymes, anathesis, puns, onomatopoeia, imagery, and iambic rhythms. Status, social, and historical context will be addressed. (F)</p> <p>THEA241 Acting III - Acting Styles 2.5 Prerequisite: Minimum 2.0 in THEA240 Restriction: Theatre Majors Co-requisite Course(s): THEA235 and THEA271 Explores acting techniques and styles of different historical periods and/or cultures. Student will survey a cross-section of acting styles and periods then focus on in-depth exploration of particular period or style. Class limited to second-year majors. In-depth area of study selected by instructor. (Sp)</p> <p>THEA260 Dramatic Form and Function II 3 Prerequisite: Minimum 2.0 in THEA143 Restriction: Theatre Majors Co-requisite Course(s): THEA233 and THEA240 and THEA283 Dramatic Form and Function II focuses on the writings of Shakespeare. Students will read a minimum of four of his plays, learning to discover the means by which he achieves his theatrical effects, and to decipher the many clues he gives to actors about their characters. Cultural and historical context is addressed. (F)</p> <p>THEA271 Dramatic Form and Function III 3 Prerequisite: Minimum 2.0 in THEA260 Restriction: Theatre Majors Co-requisite Course(s): THEA235 and THEA241 Students will study 5-8 texts of various periods and styles of western dramatic literature in terms of their historical context and as an aesthetic approach. The class will culminate in the performance, by each student, of a monologue, scene or short play of at least two contrasting periods or styles. (Sp)</p> <p>THEA283 Audition Workshop 2 Prerequisite: None Restriction: Theatre Majors Co-requisite Course(s): THEA233, THEA240 and THEA260 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)</p> <p>THEA285 Stage Makeup 2 Prerequisite: None 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, hairstyling, and appearance changes. (Sp)</p>
TRVL - Travel and Tourism	
<p>TRVL100 Travel Agency Operations 3 Prerequisite: Reading Level 3 In this course students will gain a working knowledge of the reference materials used in the travel industry, as well as industry terminology and overall travel agency operations. (F,Sp,Su)</p> <p>TRVL125 Destinations I 3 Prerequisite: None Examine geography fundamentals as they affect tourism. Emphasis is on travel destinations in North, Central, and South Americas with specific information relative to client appeal. (F)</p>	

TRVL130 Destinations II 3
Prerequisite: None
 Examine geography fundamentals as they affect tourism. Emphasis is on travel destinations in Europe, Africa, and the Middle East with specific information relative to client appeal. (Sp)

TRVL131 Destinations III 3
Prerequisite: None
 Examine geography fundamentals as they affect tourism. Emphasis is on travel destinations in Asia and the Far East (including the Philippines, Japan, Australia, New Zealand and Oceania) relative to client appeal. (F)

TRVL135 Airline and Airport Operations 3
Prerequisite: None
 This course provides an introduction to the responsibilities of airline and airport personnel as well as the functions of an airport and airline carriers. Discussion includes ticket counter operations, the gate area, cargo handling and loading, aircraft weight, and the principles of aeronautics. (Sp)

TRVL140 Airline Computer Reservation I 3
Prerequisite: None
 The first of a three-course sequence utilizing the Worldspan reservation system. Hands-on application in the Travel Computer Lab gives students the skills required for creating airline computer reservation as well as airfare and fare rules. (F,Sp)

TRVL145 Intro to Cruise Sales/Ground Transport 3
Prerequisite: None
Recommended: Minimum 2.0 in (HMFS101 or TRVL150)
 This course explores the travel industry by developing an understanding of the reference materials used to market cruises, railroads, car rentals, and motor coach travel for domestic and international destinations. (Sp)

TRVL151 DS Alaska .5
Prerequisite: None
Recommended: TRVL100 and typing 30 wpm
 This course provides comprehensive and accelerated Destination Specialist exam preparation through The Travel Institute. This course covers Alaska's highlights, sales strategies and sample itineraries to assist the student in meeting and exceeding the client's travel needs. Upon successful completion of this course, students will be eligible to take the DS Certification Exam. (F,Sp,Su)

TRVL152 DS Africa .5
Prerequisite: None
Recommended: TRVL100 and typing 30 wpm
 This course provides comprehensive and accelerated Destination Specialist exam preparation through The Travel Institute. This course covers Africa's highlights, sales strategies and sample itineraries to assist the student in meeting and exceeding the client's travel needs. Upon successful completion of this course, students will be eligible to take the DS Certification Exam. (F,Sp,Su)

TRVL153 DS Caribbean .5
Prerequisite: Registration with The Travel Institute and Department Approval
 This course provides comprehensive and accelerated Destination Specialist exam preparation through The Travel Institute. This course covers the Caribbean's highlights, sales strategies and sample itineraries to assist the student in meeting and exceeding the client's travel needs. Upon successful completion of this course, students will be eligible to take the DS Certification Exam. (F,Sp,Su)

TRVL154 DS East Asia .5
Prerequisite: Registration with The Travel Institute and Department Approval
 This course provides comprehensive and accelerated Destination Specialist exam preparation through The Travel Institute. This course covers East Asia's highlights, sales strategies and sample itineraries to assist the student in meeting and exceeding the client's travel needs. Upon successful completion of this course, students will be eligible to take the DS Certification Exam. (F,Sp,Su)

TRVL155 DS Europe .5
Prerequisite: Registration with The Travel Institute and Department Approval
 This course provides comprehensive and accelerated Destination Specialist exam preparation through The Travel Institute. This course covers Europe's highlights, sales strategies, and sample itineraries to assist the student in meeting and exceeding the client's travel needs. Upon successful completion of this course, students will be eligible to take the DS Certification Exam. (F,Sp,Su)

TRVL156 DS France .5
Prerequisite: Registration with The Travel Institute and Department Approval
 This course provides comprehensive and accelerated Destination Specialist exam preparation through The Travel Institute. This course covers France's highlights, sales strategies, and sample itineraries to assist the student in meeting and exceeding the client's travel needs. Upon successful completion of this course, students will be eligible to take the DS Certification Exam. (F,Sp,Su)

TRVL157 DS Hawaii .5
Prerequisite: Registration with The Travel Institute and Department Approval
 This course provides comprehensive and accelerated Destination Specialist exam preparation through The Travel Institute. This course covers Hawaii's highlights, sales strategies, and sample itineraries to assist the student in meeting and exceeding the client's travel needs. Upon successful completion of this course, students will be eligible to take the DS Certification Exam. (F,Sp,Su)

TRVL158 DS North America .5
Prerequisite: Registration with The Travel Institute and Department Approval
 This course provides comprehensive and accelerated Destination Specialist exam preparation through The Travel Institute. This course covers North America's highlights, sales strategies, and sample itineraries to assist the student in meeting and exceeding the client's travel needs. Upon successful completion of this course, students will be eligible to take the DS Certification Exam. (F,Sp,Su)

TRVL159 DS South Pacific .5
Prerequisite: Registration with The Travel Institute and Department Approval
 This course provides comprehensive and accelerated Destination Specialist exam preparation through The Travel Institute. This course covers South Pacific's highlights, sales strategies, and sample itineraries to assist the student in meeting and exceeding the client's travel needs. Upon successful completion of this course, students will be eligible to take the DS Certification Exam. (F,Sp,Su)

TRVL160 DS Western Europe .5
Prerequisite: Registration with The Travel Institute and Department Approval
 This course provides comprehensive and accelerated Destination Specialist exam preparation through The Travel Institute. This course covers Western Europe's highlights, sales strategies, and sample itineraries to assist the student in meeting and exceeding the client's travel needs. Upon successful completion of this course, students will be eligible to take the DS Certification Exam. (F,Sp,Su)

TRVL168 CTA Exam Preparation 2
Prerequisite: Registration with The Travel Institute and Department Approval
 This course is an interactive, accelerated Certified Travel Associate certification course in preparation for The Travel Institute online exam. This course covers four skill areas: communication and technology, geography, sales and service, and the travel industry. Upon successful completion of this course, students will be eligible to take The Travel Institute CTA Certification Exam. (F,Sp,Su)

TRVL169 CTC Exam Preparation 2
Prerequisite: CTA Certification, registration with The Travel Institute, and Department Approval
 This course is an interactive, accelerated Certified Travel Consultant certification course in preparation for The Travel Institute online exam. This course covers three skill areas: business development, contemporary issues, and professional development. Upon successful completion of this course, students will be eligible to take The Travel Institute CTC Certification Exam. (F,Sp,Su)

TRVL170 Owning and Managing a Travel Agency	3	TRVL275 Travel Industry Practicum	3
Prerequisite: None		Prerequisite: Minimum 2.0 in (TRVL265 and CABS110)	
Recommended: Minimum 2.0 in TRVL100 and TRVL140		In a worksite setting students will combine and analyze day-to-day industry challenges faced by travel associates and the travel industry. They will design, organize and present travel recommendations to potential clients through the coordination of information using the Internet, Microsoft Office, and Worldspan. Techniques for problem-solving, needs assessment, and industry analysis will be included. (F,Sp)	
Learn how to open or acquire a travel agency. Includes an examination of co-ops, consortiums, and franchise options, as well as an overview for managing daily operations. (F)			
TRVL190 Internship	3		
Prerequisite: Department Approval			
Recommended: Have completed a minimum of 30 credits			
This 200 hour internship is a capstone course required for all Travel students that will provide hands-on experience in a travel operation facility. The rotational work experience and required course projects will coincide with industry principles, techniques, skills, and procedures mastered in previous courses. Students are responsible to find their own internship site. (Sp,Su)			
TRVL200 Sales and Marketing for Travel & Tourism	3		
Prerequisite: None			
Recommended: Minimum 2.0 in HMFS101 or TRVL150			
This course develops an understanding of marketing strategies by identifying client needs, product, price, and promotion. It develops professional sales skills, as well as examines and develops advertising pieces. (F)			
TRVL210 Group Travel and Escorting Operations	4		
Prerequisite: None			
Recommended: Minimum 2.0 in TRVL145 and (HMFS101 or TRVL150)			
Learn how to organize and escort both domestic and international group tours. Includes procedures for locating the group, assembling and marketing the tour package, and effectively conducting the tour. (Sp)			
TRVL230 Travel and Tourism Law	3		
Prerequisite: None			
Recommended: Minimum 2.0 in (TRVL100 or TRVL135 or TRVL210) and (HMFS101 or TRVL150)			
This course includes current topics as well as pending laws and discussion of the consequences that result in violating the law for different segments of industry. Students will become aware of the responsibilities and rights that the law imposes on the travel industry. (Sp)			
TRVL250 Airline Computer Reservation II	3		
Prerequisite: Minimum 2.0 in TRVL140			
The second of a three course series utilizing the Worldspan system which progresses to in-depth fare research and application, as well as fare rules, and hotel/car reservations for domestic and international travel. (F,Sp)			
TRVL260 Travel Agency Accounting	2		
Prerequisite: None			
Recommended: Minimum 2.0 in TRVL100			
This course is designed to explain and describe basic travel agency accounting concepts. Approximately one-half of the course will be dedicated to the compilation and interpretation of financial statements. The other half of the course will cover how accounting systems should be constructed for the travel agency business. (Sp)			
TRVL265 Fundamentals of Business Travel	3		
Prerequisite: Minimum 2.0 in TRVL250			
Recommended: Minimum 2.0 in (HMFS101 and TRVL145 and TRVL210 and TRVL230)			
In this course students will learn how to manage the many issues surrounding business/corporate travel. Special requests, international reservations, fare rulings and routings, currency exchange, internet research, and frequent flyer program management for business/corporate travelers, as well as the customs, cultures, and protocol in international travel are emphasized. In addition, extended use of the Sabre computer reservation system is utilized. (F,Sp)			
		VCBL – Vocabulary Improvement	
		VCBL150 Vocabulary: College Prep	1
		Prerequisite: Reading Level 3 and Writing Level 4	
		Recommended: READ118	
		This eight week course focuses on the acquisition of vocabulary appropriate to the various disciplines within the college and workplace. (F,Sp)	
		VIET – Vietnamese	
		VIET121 Elementary Vietnamese I	4
		Prerequisite: Reading Level 5	
		This course is designed for students with little or no knowledge of Vietnamese. Students will acquire elementary reading, writing, speaking and listening skills, with particular emphasis given to tones and pronunciation. Cultural and traditional aspects will underlie every phase of learning. (F)	
		VIET122 Elementary Vietnamese II	4
		Prerequisite: Minimum 1.5 in VIET121	
		A second semester of Vietnamese for students with an elementary knowledge of Vietnamese. Introduces more complex structures and patterns, and a more active use of the spoken and written language. Students will be able to read easy short stories, and communicate with native speakers at the elementary level on many topics. (Sp)	
		WELD – Welding Technology	
		WELD100 Combination Welding	4
		Prerequisite: None	
		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)	
		WELD101 Advanced ARC Welding	4
		Prerequisite: Minimum 1.5 in WELD100	
		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,Su)	
		WELD110 Gas Metal ARC Welding	4
		Prerequisite: None	
		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)	
		WELD111 Gas Tungsten ARC Welding	4
		Prerequisite: Minimum 1.5 in WELD100	
		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,Su)	

WELD120	Structural Fabrication and Inspection	4
Prerequisite: Minimum 1.5 in WELD101		
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)		
WELD125	Structural Blueprint Reading for Welding	2
Prerequisite: Minimum 1.0 in MATH050 or Math Level 4		
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)		
WELD140	Creative Welding	2
Prerequisite: None		
Recommended: Course work or experience in art/design		
This is a course for people with an interest in artwork in a metal medium. Participants will become familiar with welding and cutting processes for the purpose of exploring creative expression. (F,Sp)		
WELD170	Special Topics in Welding	.25-8
Prerequisite: None		
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)		
WELD191	Welding Project Lab	1-4
Prerequisite: Department Approval		
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. (Sp)		
WELD201	Tool and Die Welding	3
Prerequisite: Minimum 1.5 in (WELD101 and WELD111)		
Theory and practice methods involved in welding various alloyed metals, pre-heating 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)		
WELD205	Pipe Welding	4
Prerequisite: Minimum 2.0 in WELD101		
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. (F)		
WELD210	Aircraft Welding	2
Prerequisite: Department Approval		
Presents welding applications and methods used in repairs and inspection of aircraft structures in accordance with approved aviation maintenance techniques. (F,Sp)		
WELD250	Welding Internship	3
Prerequisite: Department Approval		
Recommended: 2.5 GPA or greater		
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)		

WRIT - Writing

WRIT100	Writing Laboratory	4
Prerequisite: Reading Level 1 and Writing Level 1		
Designed to teach fundamental writing skills and to introduce the student to the writing process. Emphasizes sentence structure, components of a paragraph, and critical reading with written response. Intended for students whose writing skills lie within the WRIT Level 1 score range on the College Placement Test. (F,Sp,Su)		
WRIT110	Confidence in Writing	4
Prerequisite: Reading Level 2 and Writing Level 2		
Recommended: Minimal typing skills desirable		
Designed to help students understand the writing process, reduce writing anxiety, and develop basic writing skills. Emphasizes planning, composing, and revising strategies for experiential writing. Provides frequent writing practice in a supportive workshop environment. Students who earn exit competency of 2.5 will have a writing skill level of 4. (F,Sp,Su)		
WRIT114	Business English	3
Prerequisite: Reading Level 3 and Writing Level 4		
This course is designed to review all parts of grammar, punctuation, and sentence structure. Special emphasis will be given to rules covering proper usage of punctuation, capitalization, possessives, number usage, plurals, and mechanics for written business communication. Students taking WRIT 124 or WRIT 127 may find Business English a useful concurrent course. (F,Sp,Su)		
WRIT117	Writing Preparation	4
Prerequisite: Reading Level 4 and Writing Level 4		
Recommended: Minimal typing skills desirable		
Designed to help students improve their writing in preparation for transfer-level academic courses. Students who earn exit competency of 2.5 will have a writing skill level of 6. (F,Sp,Su)		
WRIT118	Personal Writing	3
Prerequisite: None		
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)		
WRIT119	Writing Skills Review	1
Prerequisite: Reading Level 5 and Writing Level 6		
Designed to help WRIT121-122 composition students, and others, improve their basic sentence and mechanics skills by providing intensive writing and editing practice in a workshop setting. (F,Sp,Su)		
WRIT121	Composition I	4
Prerequisite: Reading Level 5 and Writing Level 6		
Composition I is the study and practice of expository discourse to help students write more effectively. It emphasizes writing process, critical thinking, content development, organization, and style. Students will select their best work for their portfolio, which will be externally assessed. (F,Sp,Su)		
WRIT122	Composition II	4
Prerequisite: Minimum 2.0 in (WRIT121 or WRIT131) or (Reading Level 5 and Writing Level 8)		
Builds upon the writing skills developed in WRIT121 to help students write argumentative essays which use logical support and appropriate documentation. Emphasizes research techniques and use of sources, and the development, structure, and style of the research paper. Some sections use computer classrooms. Others are offered over the Internet or interactive television. (F,Sp,Su)		

- WRIT124 Technical Writing** 3
Prerequisite: Reading Level 5 and Writing Level 6
Recommended: Computer and/or keyboarding experience
 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)
- WRIT127 Business Writing** 3
Prerequisite: Reading Level 5 and Writing Level 6
Recommended: Computer and/or keyboarding experience
 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)
- WRIT131 Honors Composition I** 4
Prerequisite: Writing Level 7
 Honors Composition I is the study and practice of expository discourse to help students write more effectively. It emphasizes writing process, critical thinking, content development, organization, and style. Students will select their best work for their portfolio, which will be externally assessed. (F,Sp)
- WRIT132 Honors Composition II** 4
Prerequisite: Minimum 3.5 in WRIT121 or WRIT131
 Builds upon the writing skills developed in WRIT121 to help students write argumentative essays which use logical support and appropriate documentation. Emphasizes research techniques and use of sources, and the development, structure, and style of the research paper. Some sections use computer classrooms. Others are offered over the Internet or interactive television. (F,Sp)
- WRIT260 Creative Writing I** 3
Prerequisite: Minimum 2.0 in WRIT121 or WRIT131
 This course is designed to help 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)
- WRIT264 Writing for Publication** 3
Prerequisite: Minimum 2.0 in WRIT121 or WRIT131
 Study of freelance writing and marketing, with focus on nonfiction. Students review a variety of effective writing techniques, study marketing information for their particular fields such as analyses of potential publishers and query letters, and discuss their writing in a workshop setting. Students prepare manuscripts for submission to editors. Word processing available. (F,Sp,Su)
- WRIT270 Creative Writing II** 3
Prerequisite: Minimum 2.0 in WRIT260
 Emphasizes improving the ability to write effective poems, short stories, and novellas. Students select their own subjects and receive immediate responses through group discussion. (F,Sp)
- WRIT276 Lyric Writing** 3
Prerequisite: Minimum 2.0 in (WRIT121 or WRIT131 or WRIT127)
 This course introduces students to the craft of writing song lyrics. The work of professional songwriters as well as the students' work will be examined and discussed. Students are required to attend live performances. (F)
- WRIT278 Writing the Novel** 3
Prerequisite: Minimum 2.0 in (WRIT260 or WRIT264)
 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)
- WRIT279 Prose Style** 3
Prerequisite: Minimum 2.0 in WRIT121 or WRIT131
 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)
- WRIT280 Creative Writing III** 3
Prerequisite: Minimum 2.0 in WRIT270
 Examines language and style as the most critical choices a creative writer makes in directing the reader's perception of and response to the work. Develops the writer's ability to control tone and style. Manuscripts will be reproduced and discussed in a workshop setting. (Sp)
- WRIT282 Forum for Authors** 3
Prerequisite: Minimum 2.0 in (WRIT264 or WRIT270 or WRIT279)
 An advanced course in freelance writing for authors working on manuscripts. Students meet in a workshop setting to refine ideas, critique writing, solve problems, and develop material for submission to periodical or book editors. Includes advanced study of effective writing techniques and market information. Occasional speakers. Word processing available. (F,Sp)
- WRIT295 Independent Study in Writing** 1-4
Prerequisite: Department Approval
 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)
- WRTR – Writing Restricted**
- WRTR101 Writing Practice I** 1
Prerequisite: Reading Level 1 and Writing Level 1 and Department Approval
 May be taken concurrently with other writing courses to provide extra individualized instruction and practice. (May repeat for credit three times.) (F,Sp,Su)
- WRTR102 Writing Practice II** 2
Prerequisite: Reading Level 1 and Writing Level 1 and Department Approval
 May be taken concurrently with other writing courses to provide extra individualized instruction and practice. (May repeat for credit three times.) (F,Sp,Su)
- WRTR103 Writing Practice III** 3
Prerequisite: Reading Level 1 and Writing Level 1 and Department Approval
 May be taken concurrently with other writing courses to provide extra individualized instruction and practice. (May repeat for credit three times.) (F,Sp,Su)

Faculty/Staff



FACULTY AND ADMINISTRATOR DIRECTORY

- Addai, Isaac**
Professor, Social Science
University of Ghana, BA; Queens University (Ontario), MA; University of Alberta, PhD
- Adorjan, Carol L**
Professor, Mathematical Skills
Michigan State University, BA
- Aguila, Michael**
Instructional Lab Faculty, Mathematical Skills
- Alfaro, Rogelio R**
Professor-Counselor, Counseling Services
Michigan State University, BA; Michigan State University, MA
- Allen, Richard L**
Senior Application Systems Analyst
Lansing Community College, AB; Cleary College, BA
- Anderson, Janet**
Instructor, Nursing
Jackson Community College, ADN; University of Michigan, BSN;
University of Michigan, MSN
- Anderson, Shawn**
Library Access Services and Operations Manager,
Library Information Services
- Anderson, Susan M**
Professor, Science
Alma College, BS; Central Michigan University, MS
- Antcliff, Susan C**
Professor, Art, Design and Multimedia
Western Michigan University, BED
- Appiah-Padi, Radecka**
Director of Learning Support/Instruction, Business,
Media and Information Technologies Division
University of Alberta, MS
- Appiah-Padi, Stephen Kodjo**
Coordinator, Multicultural Programs
University of Alberta, PhD
- Argersinger, Marvin L**
Professor, Automotive Technology
Denver Automotive & Diesel Col, AS
- Atkinson, Julie A**
Program Director, Diagnostic Medical Sonography
Western Michigan University, BBA
- Azima, Alex**
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- Baldwin, Robert**
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Michigan State University, BA
- Barks, Betty L**
Professor, Mathematical Skills
Michigan State University, BS
- Barks, Kay E**
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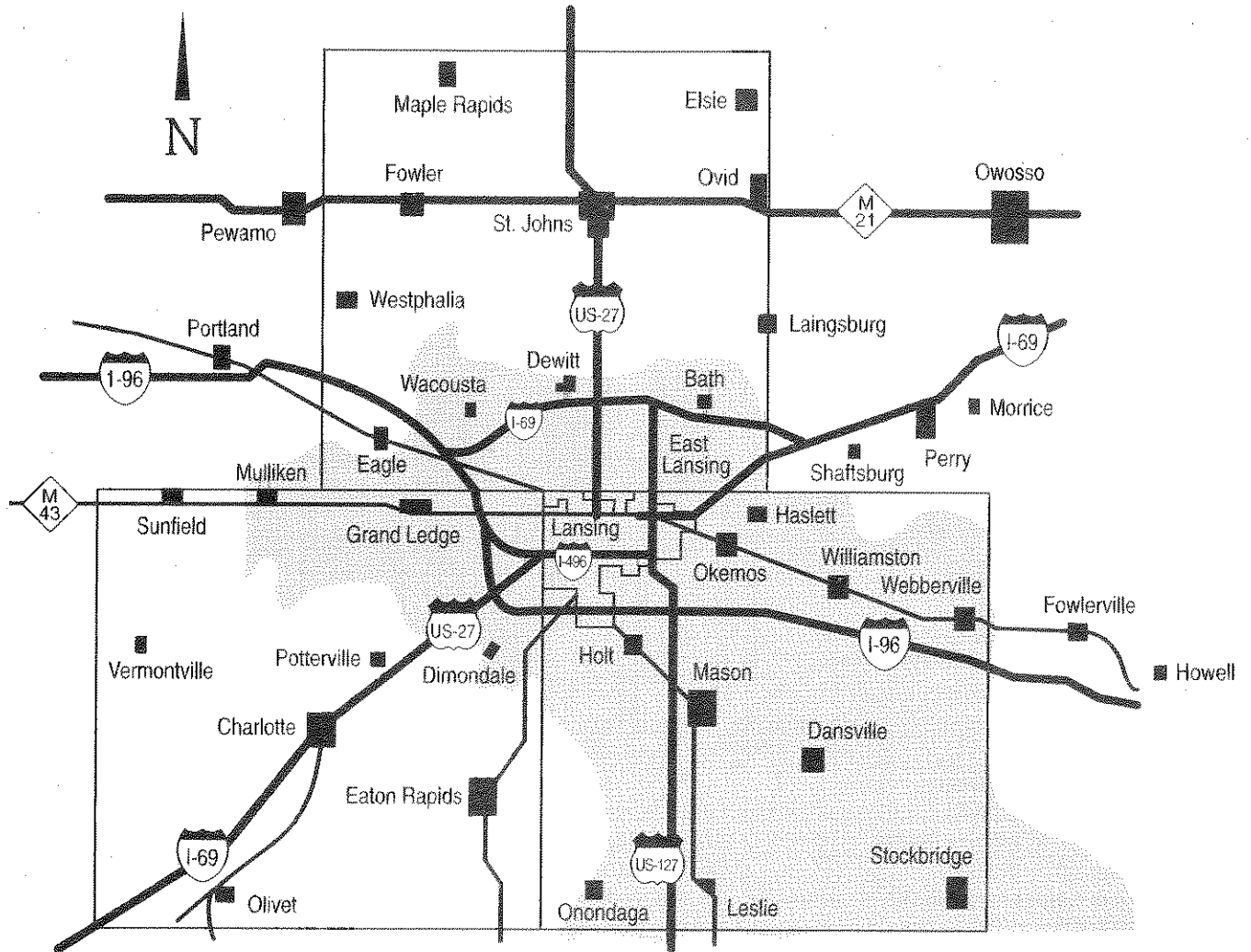
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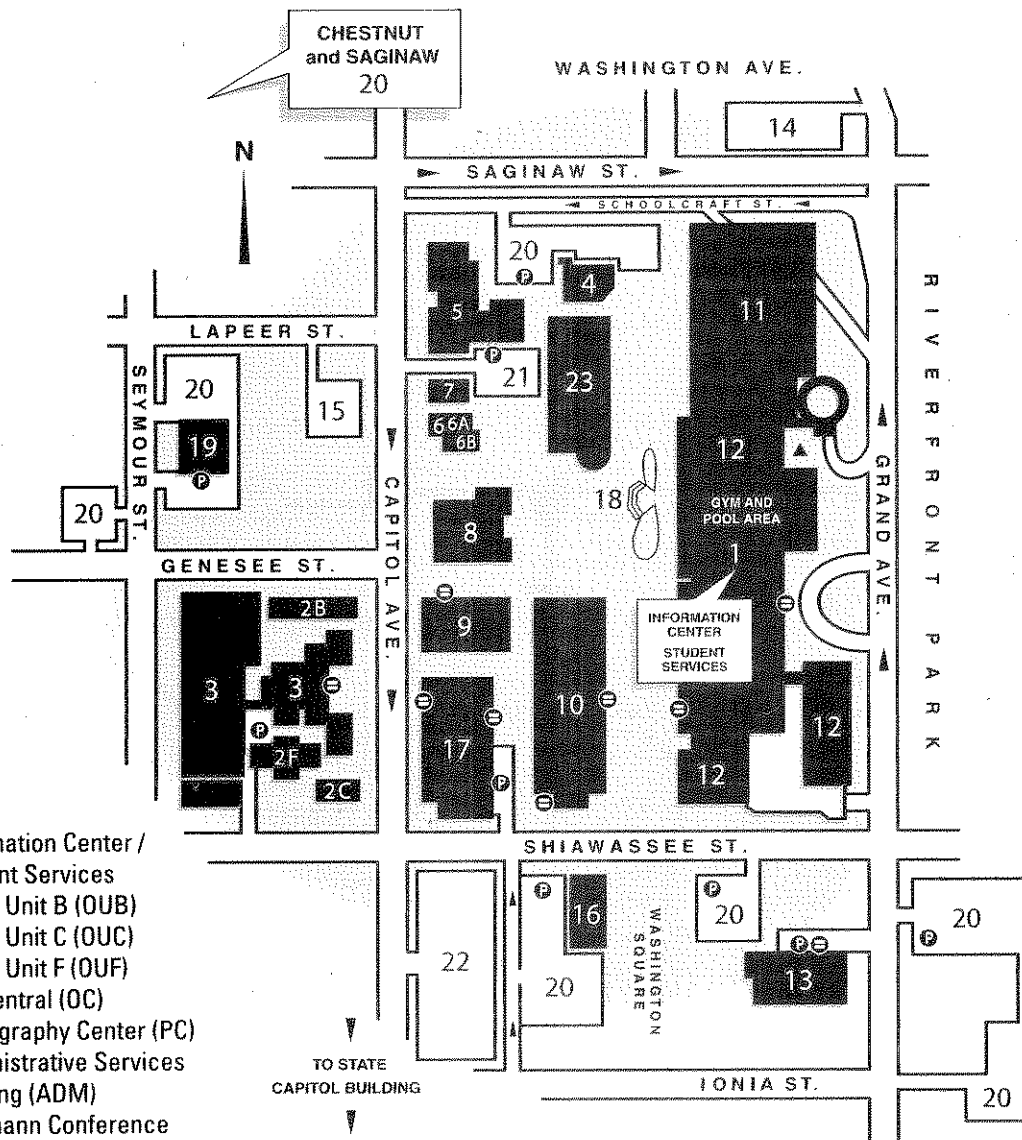
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Maps

Service Area Map



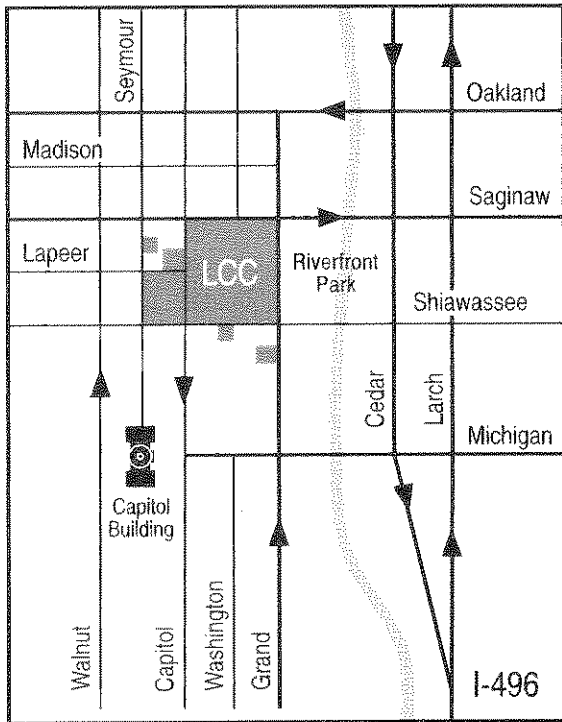
*The following School Districts constitute the LCC Resident District:
 Bath, Dansville, DeWitt, East Lansing, Grand Ledge, Haslett, Holt, Lansing, Leslie,
 Mason, Okemos, Stockbridge, Waverly, Webberville and Williamston.*



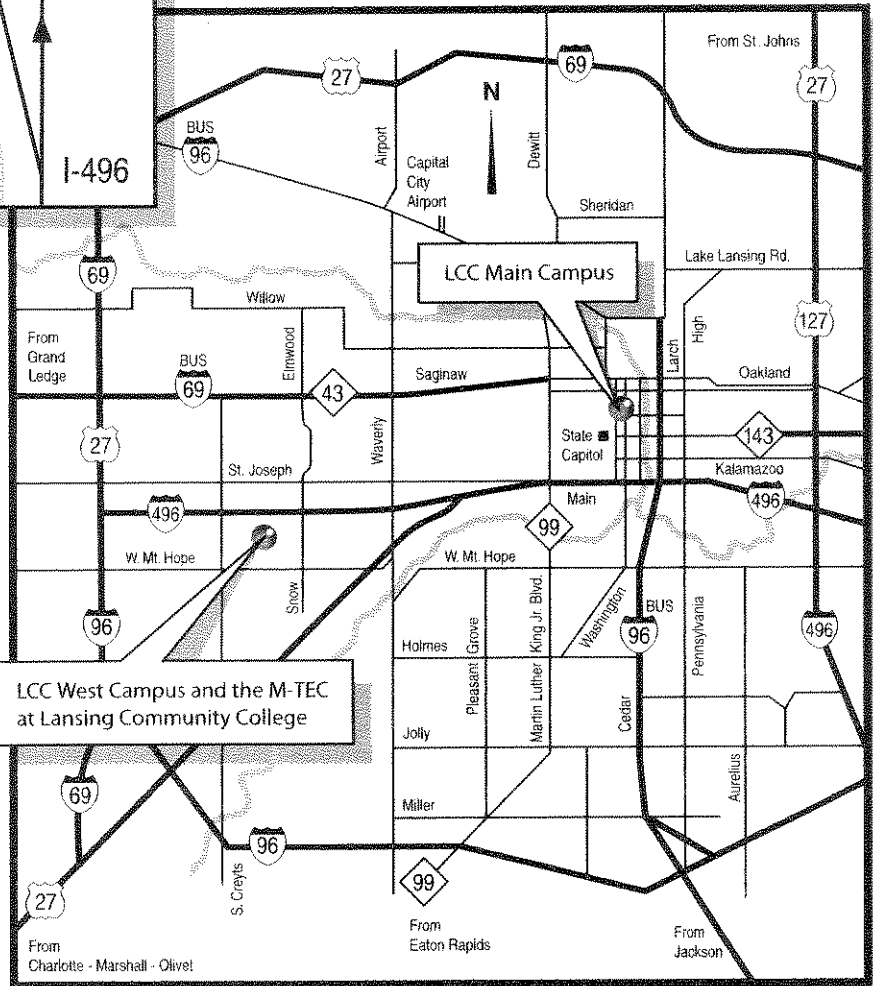
- 1. Information Center / Student Services
- 2B. Office Unit B (OUB)
- 2C. Office Unit C (OUC)
- 2F. Office Unit F (OUF)
- 3. Old Central (OC)
- 4. Photography Center (PC)
- 5. Administrative Services Building (ADM)
- 6. Herrmann Conference Center Complex (HCC)
- 6A. Herrmann Conference Center
- 6B. LCC Board Room
- 7. Rogers-Carrier House (RCH)
- 8. Dart Auditorium (DRT)
- 9. Student Personnel Services (SPS)
- 10. Arts and Sciences (A&S)
- 11. LCC Parking Ramp (StarCard and Cash)
- 12. Gannon Vocational-Technical Center (GVT)
- 13. Academic and Office Facility (AOF)
- 14. Student Employee Parking Lot (Student Employee Parking Card Only)

- 15. Parking Lot (StarCard Only)
- 16. Continental Building (CB)
- 17. Abel B. Sykes, Jr. Technology and Learning Center (TLC)
- 18. LCC Outside Amphitheater
- 19. Business and Community Institute (BCI)
- 20. Employee Parking Lot
- 21. Visitor Parking Lot
- 22. North Capitol Ramp (StarCard and Cash)
- 23. Health and Human Services Building (HHS)

- ⊕ Handicapper Entrances with Electronic Doors (Push-button electronic door at 2nd floor entrance of GVT from parking ramp)
- Ⓟ Handicapper Parking (parking on 2nd floor of Parking Ramp and other marked spaces)



Main Campus



West Campus

- From I-496:
- Turn south on Creyts Road to West Mt. Hope.
- Turn left on West Mt. Hope and continue eastbound for about a half-mile to Sanders Drive.
- Turn left onto Sanders Drive to Cornerstone Drive.

Learning Locations and Building Codes by City

CITY	ABBR.	BUILDING NAME	BUILDING ADDRESS	PHONE
Charlotte	CHS	Charlotte High School	378 State Street	(517) 543-8550
Charlotte	ECMCF	Eaton County Medical Care Facility	530 Beach Street	(517) 543-2940
Dansville	DNSVLE	Dansville High School	1264 East Adams	(517) 623-6120
DeWitt	DEWGFL	DeWitt Family Golf Center	11890 US 27	(517) 669-3075
Dimondale	SUMMIT	The Summit	9410 Davis Highway	(517) 319-1000
East Lansing	BESSEY	Bessey Hall, MSU	Michigan State University	(517) 355-2168
East Lansing	DEMOHA	Demonstration Hall	Michigan State University	(517) 355-1913
East Lansing	ELHAN	East Lansing Hannah Center	819 Abbott Road	(517) 333-2580
East Lansing	HANNAH	Hannah Ballroom-USA Cafe	4750 South Hagadorn	(517) 332-1958
East Lansing	KELLOG	Kellogg Center, MSU	South Harrison Road	(517) 332-6571
East Lansing	LCCEAST*	Lansing Community College East	2827 Eyde Parkway	(517) 483-1863
East Lansing	MSUGAR	MSU 4-H Children's Garden	Michigan State University	(517) 355-5191
Eaton Rapids	EATRAP	Eaton Rapids Schools	208 King Street	(517) 663-3510
Grand Ledge	GLSAWD	Grand Ledge Sawdon Building	220 Lamson	(517) 627-6144
Haslett	APLGAT	Applegate Golf Range	2083 Townner Road	(517) 339-3318
Haslett	HASLCE	Haslett Center for Community Education	1590 Franklin Street	(517) 339-2665
Haslett	HSLT	Haslett High School	5450 Marsh Road	(517) 339-8249
Holt	HOLT	Holt 9th Grade Campus	5780 West Holt Road	(517) 694-7117
Holt	HOLTJR	Holt Junior High School	1784 Aurelius Road	(517) 694-3911
Holt	HOLTHS	Holt High School	5885 West Holt Road	(517) 694-3411
Howell	HWLHS	Howell High School	1200 West Grand River	(517) 548-6281
Howell	LIVCEN*	Livingston County Center	1600 Pinckney Road	(517) 545-3522
Lansing	AIS	AIS Construction Equipment	3600 North Grand River Avenue	(517) 321-8000
Lansing	APSPRT	Apple Sportsplex	3700 Lansing Road	(517) 485-7070
Lansing	BCFI	Black Child and Family Institute	835 West Genesee	(517) 487-3775
Lansing	CAMW	Capital Area Michigan Works	2110 South Cedar Street	(517) 482-5579
Lansing	COACL	Court One Athletic Club-North	1609 Lake Lansing Road	(517) 372-9531
Lansing	CRISTO	Cristo Rey Community Center	1717 North High	(517) 372-4700
Lansing	CROWN	Crown Boxing Center	1010 Ballard	(517) 482-7696
Lansing	HILL	Hill Center for Academics & Technology	5815 Wise Road	(517) 374-4150
Lansing	HOLINS	Holiday Inn South	6810 South Cedar	(517) 694-8123
Lansing	LCATHC	Lansing Catholic Central	501 Marshall	(517) 484-4465
Lansing	LPDR	Lansing Police Department Range	16001 Airport Road	(517) 483-4838
Lansing	MARSHL	Marshall Park	Marshall Street	
Lansing	MSUTEN	MSU Tennis Facility	3571 East Mount Hope	(517) 355-2209
Lansing	PERFRT	Performing Arts Scene Shop	4641 US North 27, #10	(517) 485-1550
Lansing	PLYMCH	Plymouth Congregational Church	2001 East Grand River	(517) 484-9495
Lansing	PROBO	Pro Bowl West	2122 N Martin Luther King Blvd	(517) 882-0226
Lansing	RADISS	Radisson Hotel	111 North Grand Avenue	(517) 267-3443
Lansing	ROYSCT	Royal Scot Golf Course	4722 West Grand River	(517) 321-6220
Lansing	SPHSP	Sparrow Hospital-Lansing	1215 East Michigan Avenue	(517) 483-2700
Lansing	STAR	STAR Institute	5815 Wise Road	(517) 394-1956
Lansing	TRIPER	Trippers	354 Frandor	(517) 336-0717
Mason	CACC	Capital Area Career Center	611 Hagadorn Road	(517) 244-1337
Mason	HRTWD	Heartwood School	625 Hagadorn	(517) 676-3778
Mason	MASUCF	Mason Urgent Care Facility	800 East Columbia Street	(517) 676-0447
Mason	MHS	Mason High School	1001 South Barnes	(517) 676-9055
Mason	MMS	Mason Middle School	235 Temple	(517) 676-6514
Okemos	CRTOE	Court One East	2291 Research Circle	(517) 349-1199
Okemos	OKCE	Okemos Chippewa Middle School	4000 Okemos Road	(517) 349-2209
Owosso	OWOSSO	Owosso High School	765 East North Street	(989) 723-8231
Portland	PORT	Portland Adult and Community Education	1090 Ionia Road	(517) 647-2987
St. Johns	STJCCC*	St Johns Clinton County Center	1013 South U.S. 27, Suite C	(989) 224-2017
Stockbridge	SBHS	Stockbridge High School	416 North Clinton	(517) 851-7770

*Denotes Learning Center Updated listing can be found on www.lcc.edu/ece/location.

