ALPENA
COMMUNITY COLLEGE

College Catalog
2026-2027

Alpena Community College
2026-2027 Academic Catalog

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This catalog is for informational purposes only and is not to be considered a binding contract between Alpena Community College and individual students.

Information in this catalog was accurate as of March 2026 and is subject to change without notice. This publication — which details policies, procedures, rights, responsibilities, programs, and course descriptions — is intended to be used along with Self-Service® and the schedule published each semester to provide current information on registration and course offerings.

Alpena Campus
665 Johnson Street
Alpena, Michigan 49707-1495
Telephone: 989.356.9021

Oscoda Campus
5800 Skeel Avenue
Oscoda, Michigan 48750-1587
Telephone: 989.739.1445

ACC Website: discover.alpenacc.edu

Board of Trustees

Alpena Community College is a public institution that operates under the supervision of a locally-elected Board of Trustees. The seven members of the board serve six-year terms. Current members are:

John Briggs, Chairperson
Thomas Townsend, Vice Chairperson
Susan Stender, Treasurer
Teresa Duncan
Joseph Gentry II
Lisa Hilberg
Florence Stibitz

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A Message from the President

Greetings and welcome to Alpena Community College. Since 1952, ACC has provided high-quality, low-cost, post-secondary educational opportunities to the people of Northeast Michigan. Thousands of students have discovered the value of an ACC education, including:

- Dual-enrolled high school juniors and seniors seeking college credit for transfer purposes
- Young people exploring careers through Early College opportunities
- Vocational students seeking hands-on coursework leading to good jobs and outstanding careers
- Transfer students taking the first two years of a baccalaureate degree closer to home at about one third the cost of a typical state university
- Unemployed workers seeking retraining to transition back into the workforce
- Adults pursuing a dream of a new career
- Workers seeking specific skills upgrades to advance their careers
- Adults engaged in lifelong learning
- People from all walks of life exploring the opportunities higher education provides

ACC is renowned for quality instruction. Faculty and staff, focused on student learning and motivated by student success, stand ready to help you reach your goals. A rich menu of certificates and degree programs is offered on our main campus in Alpena. Educational opportunities are also provided at the Oscoda Campus. Concrete Technology, Utility Technology, and Industrial Technology – Unmanned Remote Robotics are notable examples of unique occupational programs offered at ACC. For students intending to transfer to larger universities for bachelor and advanced degrees, there is no better place to begin than ACC. Quality of instruction, small class sizes, accessibility to instructors, support services, and **low cost** all combine to create an educational experience that delivers value that lasts a lifetime.

Thank you for choosing ACC. We look forward to beginning our journey together.

Sincerely,

Dr. Don MacMaster, President

GETTING TO COLLEGE 101

1. Choose a Program and Apply to ACC

   Look through this catalog and the ACC website to learn more about ACC's academic programs. We encourage you to talk to instructors and ACC staff about academic requirements, employment opportunities, needed skills, and details about each program. We want you to make an informed, confident choice!

   Once you've identified an academic program, complete your application for admission. It only takes a few minutes, and it's FREE! Or, if you prefer, complete an online application at home at discover.alpenacc.edu.

   Once you've received your acceptance letter, sign up for mandatory orientation. You can make reservations at discover.alpenacc.edu or by calling the Admissions Office at 989.358.7234.

   Please note: ACC cannot process your financial aid or placement data without your completed application. Recommended Completion Date: Anytime! (Must be completed prior to ACCUPLACER Assessment, Mandatory Orientation, Financial Aid Processing, and Class Registration)

2. Apply for Financial Aid (FAFSA)

   Submit the Free Application for Federal Student Aid (FAFSA) online as soon as possible at www.fafsa.gov and list ACC as one of your college choices by including our code number, 002237.

3. Take the ACCUPLACER Placement Assessment

   Placement assessment is available to new Alpena Community College students who do not have a recent (within 10 years) high school transcript, G.E.D., SAT scores or other placement indicator.

   To schedule an appointment, contact the Testing Center at 989.358.7209 (Alpena Campus) or 989.358.7445 (Oscoda Campus).

4. Academic Advising

   An advisor will be assigned to you after you submit your Application for Admission. Meet with an advisor at mandatory orientation to plan what courses you need to take to achieve your academic goals. Advisors have office hours during registration week to help you pick classes and register.

5. Register and Pay for Classes

   Check the ACC website or publications to determine when registration periods are open. Register at your earliest convenience for the best choices of class days and times.

   Thinking of a four-year College or University? The credits you earn at ACC transfer!
   Starting your education at ACC and then transferring to complete your bachelor's degree can save you thousands of dollars, and ACC offers numerous courses that transfer directly to four-year colleges and universities.

STEPS FOR TRANSFER SUCCESS

1. Plan Ahead

   This is the single most important part of having a smooth transfer experience. If you know before starting ACC that you will want to transfer in the future, you're in an advantageous position. You can plan your course load with care, ensuring all of the classes you take will transfer into the program and school you have in mind.

2. Meet with an Advisor

   If you are planning to transfer to a four-year college or university, we encourage you to meet with an ACC academic advisor. Advisors have information available regarding transfer agreements, and can help you plan your classes accordingly. Getting regular advising from your academic advisor will help you complete course requirements for an ACC certificate or degree and prepare for transfer to the college or university of your choice.

3. Evaluate Colleges

   Contact the colleges you are interested in and ask them for transfer information – many schools even have a transfer guide available online. Meet with college representatives when they visit ACC's campus and ask them about transferring and other admissions requirements.

4. Apply Early

   Know your chosen college's application requirements. Apply for Financial Aid, listing each institution in which you are interested on your FAFSA. Inquire about scholarships available to transfer students. Make housing decisions.

   Attend any orientation sessions that are offered by the transfer college/university.

ACC participates in the Michigan Transfer Agreement (effective Fall 2014) between public and private community colleges and universities in Michigan. This agreement provides ACC students more assurance of having completed their general education requirements when they transfer to a participating four-year college or university. Working closely with your academic advisor is recommended to assure meeting MTA requirements. To fulfill the Michigan Transfer Agreement, students must successfully complete at least 30 credits, with at least a 2.0 in each course. Students can visit michigantransfernetwork.org, a centralized web-based system that allows any student who has completed a course at any Michigan College or University to find the equivalency for that course at any other Michigan College or University.

BACHELOR'S DEGREES AVAILABLE ON ACC'S MAIN CAMPUS

Did you know students can earn a bachelor's degree right on ACC's campus? The Madeline Briggs University Center is located just west of Van Lare Hall. Northwood University offers on-site programs, making it easier for students to transfer their credits to earn a Bachelor's Degree. Northwood University also offers MBA, MSOL, and DBA programs.

Northwood offers a Bachelor of Business Administration program with focuses on Accounting, Computer Information Management, Health Care Management, Management, Marketing, Entrepreneurship, Automotive Marketing and Management, Aftermarket Management, Operations and Supply Chain Management (minor only), Finance, and Franchising Management. A Bachelor of Science in Applied Management degree is also available through Northwood's Alpena location for students in technical fields such as Concrete Technology, Utility Technology, Nursing, Criminal Justice, Automotive Service and Repair, Welding Technology, etc.

For more information about Northwood University Bachelor's Degree programs contact:

Emmirsyn Stacy
Admissions Representative
989.824.7422
stacye@northwood.edu

Alpena Community College offers a bachelor's degree in Electrical Systems Technology. Find program information in this catalog or contact the program advisor:

Wesley Repke
EPTC 156
989.358.7363
repkew@alpenacc.edu

ADMISSIONS

ACCESS — AMERICANS WITH DISABILITIES ACT

Alpena Community College complies with Section 504 of the Rehabilitation Act of 1973 (PL 93-112), as amended (PL 93-516), and with the Americans with Disabilities Act of 1990 (ADA). These acts provide for equal opportunity in educational activities, programs, and facilities for students with disabilities.

Any student denied disability services may appeal the decision by following the Student Complaint Procedure as written in the Alpena Community College Student Handbook.

DISABILITY SERVICES PROCEDURES

The Academic Office in VLH 109 is the designated ACC office to coordinate disability services for all students with identified and documented disabilities. Disability services eligibility decisions and service plans are made on an individual basis.

Disability documentation is required before disability accommodation services can be provided. Students applying for disability accommodation services are urged to make the request early in the registration process. Adequate time is necessary to arrange for specific services.

1. Student contacts the Dean of Students and completes the disability services intake process.
2. Student provides documentation of disability from an appropriate licensed professional to the Dean of Students. (Guidelines for acceptable documentation can be found in the Access for Students with Disabilities policy, available on the ACC website and in the Academic Office). All disability documentation will be maintained by the Dean of Students.
3. A decision regarding reasonable disability accommodation services is made by the Dean of Students and the student based on the documentation. Arrangements will be made to contact instructors regarding disability accommodation services, if appropriate. Students are encouraged to contact their instructors personally to discuss course expectations early in the semester.

More detailed information on Alpena Community College's disability accommodation services policies and procedures is available in the Access for Students with Disabilities publication available in the Academic Office or on the Alpena Community College website at discover.alpenacc.edu.

ADMISSIONS POLICY

Alpena Community College grants admission to all persons who have earned a High School Diploma, Certificate of Completion or G.E.D., or who are 18 years of age or older and who demonstrate the ability to benefit from a particular program of study. Ability to benefit may be demonstrated by those who:

Have satisfactory skills* as measured by institutional placement testing for reading, language, and numerical skills OR

Can produce Test of English as a Foreign Language (TOEFL) test score results of 500 or better when coming from a non-English speaking country.

The age requirement is waived for a high school student who:
Is a dually enrolled high school student** as provided for by the State School Aid Act, as amended OR

Is certified as having attained junior status toward graduation as determined by the high school or the home-schooling association issuing the diploma. College course enrollment will be determined in accordance with Alpena Community College placement assessment results for reading, language, and numerical skills.

This admissions policy applies to admission to the College only and is intended to assure students of both opportunity and quality in programs. Admission to a specific curriculum or course is based on student interest, achievement, and test scores necessary for preparation to enter a specific program or course.

Application Process

Applications for Admission are available in the Admissions Office (Van Lare Hall 111) or Registrar's Office (Van Lare Hall 108) on the main campus and at the Oscoda Campus Office. An online application can be completed at discover.alpenacc.edu. Mail and telephone requests for applications are accepted at 989.358.7339 (Alpena Campus) and 989.358.7295 (Oscoda Campus). The application process requires 1) A completed Application for Admission, and 2) Transcripts of all high school and college work completed.

The Scholastic Aptitude Test (SAT) is recommended, but not required. A foreign applicant must present a visa.

Dual Enrollment and Concurrent Enrollment— High School Students

Legislation established a Dual Enrollment Program and Public Acts 159, 160, and 161 of 1996 set forth eligibility requirements for the program. Under the Dual Enrollment Program, eligible high school students may enroll in approved ACC classes and the local school district pays all tuition.

Alpena Community College encourages interested high school students and parents to contact their high school principal or guidance counselor for eligibility guidelines and dual enrollment information.

Alpena Community College also accepts enrollment by high school seniors who have a recommendation from the school principal or counselor, but do not qualify for dual enrollment. Concurrently enrolled high school students are responsible for payment of all tuition and fees.

Former Students

Alpena Community College extends to all students a continuous matriculation; therefore, a former student (inactive for two or more years) needs only to submit a new admission application with re-admit checked for status. The only exception to this policy applies to students who have been formally dismissed. They must reapply through the office of the Vice President of Instruction. Please also read about the process of academic renewal.

Guest Students

A guest applicant is a student who is currently enrolled in a program at another college or university, and who wishes to complete a course at Alpena Community College as part of that program. Guest applicants may complete the regular application procedure, or complete a Guest Application Form, and receive permission to attend Alpena Community College. Guest Application Forms are usually available at the Registrar's Office of the student's home college or university. A student may not attend as a guest for two consecutive semesters.

Transfer Students

Transfer students are welcome to apply for admission to Alpena Community College. Transcripts of college level course work may be submitted for evaluation to determine possible transfer of credit under the following policies:

1. Credits may be transferred from regionally accredited institutions only.
2. Only courses with a "C" (2.0) grade or higher are accepted in transfer.
3. Dependent on course content, generally courses 100 level and above are accepted in transfer.
4. Quarter credits or other units of credit transferred in will be converted to semester credits and must equal the required semester credits for the purpose of satisfying graduation requirements.
5. Course work older than seven years will not apply toward any occupational specialty area for an associate in applied science degree. Exceptions may be allowed with departmental recommendation based on departmental proficiency standards.

Foreign Students

Alpena Community College requires applicants hoping to receive college credit for course work completed at foreign institutions to submit their credentials to Educational Credential Evaluators. Applications for Evaluation of Foreign Educational Credentials are available in the Registrar's Office. Students should request a course-by-course evaluation. The credentialing agency should be asked to forward one copy of the evaluation directly to ACC. Upon receipt of the report, the Registrar's Office will award appropriate transfer credit.

Housing

College Park Apartments opened in 1997. These student townhouses are located on the north side of Johnson Street on the ACC Alpena Campus. The 16 four-person units are owned and managed by the College. Rental applications are available at discover.alpenacc.edu under Admissions/Housing or contact the Director of Student Life and Campus Housing (VLH 109) at 989.358.7394.

For off-campus housing information, visit our website at discover.alpenacc.edu under Admissions/Housing for maps, landlord contact information, unit addresses, and other details.

Notice of Nondiscrimination

TITLE IX – NONDISCRIMINATION ON THE BASIS OF SEX — The College is required not to discriminate, and does not discriminate, on the basis of sex in its education programs, activities, employment, or admission policies pursuant to Title IX of the Education Amendment of 1972.

EQUAL EMPLOYMENT OPPORTUNITY — The College is an equal opportunity employer and is committed to recruit, employ, and promote personnel without regard to race, color, sex, age, religion, marital status, national origin, citizenship status, genetic information, marital status, familial, height, weight, or disability in compliance with federal and state statutes and regulations that pertain to non-discrimination in employment. The Human Resources Office administers the College's Equal Opportunity policies and practices. Contact that office with any concerns related to any form of prohibited discrimination. The College's EEO statement is published on the College website at discover.alpenacc.edu.

THE COLLEGE INSTITUTIONAL STATEMENT OF NON- DISCRIMINATION — The College policies and practices for admission, employment, and activities comply with requirements of Title VII of the Civil Rights Act of 1964, Title IX of the Education Amendment of 1972, Section 504 of the Rehabilitation Act of 1973 as amended, the Age Discrimination in Employment Act of 1967 (ADEA), the Americans with Disability Act (ADA) of 1990 and the ADA Amendments Act of 2010; Title II of the Genetic Information Nondiscrimination Act of 2008. The College does not discriminate on the basis of race, color, religion, national origin, gender, sex, age, or disability. The College practices and policies also comply with the Michigan Persons with Disabilities Civil Rights Act (PDCRA) and the Michigan Elliott-Larson Civil Rights Act (ELCRA) which prohibits discrimination in hiring based on age, height, weight, marital status, and familial status in addition to race, color, religion, sex (which includes pregnancy), and national origin. For more information contact the Title IX, Section 504, the Age Discrimination Act and Title II coordinator: Melissa Guy, Title IX Coordinator/Director of Human Resources, VLH 102, at guym@alpenacc.edu or 989.358.7211.

Off-Campus Courses

Off-campus services to local communities make educational experiences available to students who do not have access to campus facilities. Persons or groups interested in off-campus courses should contact the Dean of Workforce Development or the Director of the Oscoda Campus. Off-campus credit classes are currently offered each semester at community sites in Arenac, Iosco, Montmorency, and Presque Isle counties. Minimum enrollment of 10 students is required for classes to run.

Mandatory Orientation

Mandatory orientation is held to familiarize new students with the College campus, faculty, programs of study, student services, and social opportunities. Academic advising, the placement and registration process, academic regulations, and social conduct are discussed during orientation. Students are informed of mandatory orientation dates after their application for admission has been accepted. Mandatory orientation reservations may be made on the ACC website under My ACC or by calling the Admissions Office at 989.358.7234.

Placement Assessment

Placement assessment is available to new Alpena Community College students who do not have a recent (within 10 years) high school transcript, G.E.D., ACT, SAT scores or another placement indicator.

PLACEMENT ENGLISH

HIGH SCHOOL GRADUATION GPA:

	Reading Placement	English Placement
3.50 – 4.00	None required	ENG 121 or ENG 111 or ENG 120
3.00 – 3.49	None required	ENG 111 or ENG 120
2.99 or less	Refer to ACT English sub-score	Refer to ACT English sub-score

SAT EVIDENCE BASED READING/WRITING:

Reading	Reading Placement	English Placement
620+	None required	ENG 121 or ENG 111 or ENG 120
500-619	None required	ENG 111
451-499	Refer to Accuplacer	ENG 102ALP & ENG 111ALP

ACT ENGLISH SUB-SCORE:

	Reading Placement	English Placement
24 – 36	None required	ENG 121 or ENG 111 or ENG 120
18 – 23	None required	ENG 111 or ENG 120
17 or less	Refer to Accuplacer	Refer to WritePlacer

ACCUPLACER READING/WRITEPLACER: NEXT GENERATION – CURRENT AS OF 2019

			Reading Placement	English Placement
250 – 300	and	7 or 8	None required	ENG 121 or ENG 111 or ENG 120
250 – 300	and	5 or 6	None required	ENG 111 or ENG 120
235 – 249 or 235 – 300	and and	5 4		ENG 102ALP and ENG 111ALP ENG 102ALP and ENG 111ALP
200-234 or 200-300	and and	4 1 – 3	Please see advisor	ENG 102ALP and ENG 111ALP
200-234	and	1 or 2	Please see advisor	

ACCUPLACER READING AND WRITEPLACER: CLASSIC – RETIRED AS OF JANUARY 2019

			Reading Placement	English Placement
100 – 120	and	7 or 8	None required	ENG 121 or ENG 111 or ENG 120
81 – 99	and	5 or 6	None required	ENG 111 or ENG 120
68 – 80	and	4 or 5		ENG 120ALP and ENG 111ALP
61 – 67	and	3 or 4	CSS 100	
0 – 60	and	1 or 2	CSS 100	

PLACEMENT MATH

ACT MATH SUB-SCORE:

	Math Placement
27 or above	Consult Math Instructor
24 – 26	MTH 121, MTH 122, MTH 123 or MTH 223 See Math/Science Department for specific course placement
18-23	MTH 113, MTH 118
17 or less	Refer to Accuplacer

SAT MATH:

	Math Placement
670+	MTH 131
570-699	MTH 123
530-569	MTH 121, MTH 122, MTH 123, or MTH 223
500-529	MTH 113
Below 500	MTH 103ALP & MTH 113ALP (co-requisites), MTH 110, MTH 115, MTH 118, or BUS 125

ACCUPLACER: NEXT GENERATION – CURRENT AS OF 2019

	Math Placement
Advanced Algebra Functions: 236 or above	MTH 131
Quantitative Reasoning, Algebra & Statistics: 250 or above	MTH 121, MTH 122, MTH 123, MTH 223 See Math/Science Department for specific course placement
Quantitative Reasoning, Algebra & Statistics: 230 – 249	MTH 113, MTH 118 (or by instructor approval)
Quantitative Reasoning, Algebra & Statistics: 0 – 229	MTH 103ALP & MTH 113ALP (co-requisites), MTH 110, MTH 115, or BUS 125

Residency Policy

It is the intent of Alpena Community College to make every reasonable effort to correctly classify students according to their residence. In this spirit, regulations approved by the Board of Trustees will determine a student's residence status in one of the three categories: in-district (graduate of Alpena High School; a resident of at least six months in the Alpena Public Schools District prior to initial enrollment), in-state, or out-of-state. Tuition will be paid according to residency status. See the Student Handbook for complete regulations and guidelines. It is the student's responsibility to discuss any question regarding residency with the Director of Admissions.

Safety Policies, Annual Security Report, and Annual Fire Safety Report

Alpena Community College is committed to the safety and security of our campus communities. The College has adopted policies and procedures which are designed to address issues of safety and security and to comply with federal and state laws and regulations, including but not limited to the Jeanne Clery Disclosure of Campus Security Policy and Campus Crime Statistics Act (the Clery Act), Title IX of the Education Amendments of 1972, the Higher Education Opportunity Act, and the Violence Against Women Reauthorization Act of 2013 (VAWA).

The College annually publishes an Annual Security Report & Annual Fire Safety Report, which contains the College's safety policies, procedures, programs, services available to the College community, risk reduction techniques, and tips for maintaining a safe and secure campus. This report also includes a disclosure of crime, arrest, and referral statistics that are reported to local police and the College's campus security authorities, as required by the Clery Act and VAWA. To review the Annual Security Report & Annual Fire Safety Report, or to learn more about the College's safety policies and procedures, please refer to the College website at discover.alpenacc.edu/safety/campus_safety_information.php.

A copy of the Annual Security Report & Annual Fire Safety Report may also be obtained at the office of the Director of Human Resources, Van Lare Hall Room 102, or by calling 989.358.7211.

Student Handbook

The Student Handbook provides information about what the College expects from students and what students can expect from the College. The Student Handbook contains the College's academic calendar, as well as information about planning for success, student services, campus life, and student activities. The Student Handbook also contains many of the College's policies and procedures relating to academics, campus safety, and other matters, as well as the College's student code of conduct and student judiciary bylaws. Students should read and become familiar with this important information located at discover.alpenacc.edu.

Student Right-To-Know Act

The Student Right-to-Know Act of 1990, as amended by the Higher Education Technical Amendments of 1991, requires the College to track a cohort of first-time, full-time students for completion or graduation purposes. The completion figures in this report are for 308 new students who began their attendance at ACC in the Fall semester of 2015, 317 new students who began their attendance at ACC in the Fall semester of 2014, and 316 new students who began their attendance at ACC in the Fall semester of 2013. Individual program completion rates are available in the office of the Deans of Students, Van Lare Hall, Room 109. The completion rate shown is based on a student completing their program in 150% of the normal time frame for their program, thus a 4-semester program must be completed in six (6) semesters.

Cohort Completion Rates and Graduate Survey Responses

Full-time Student Cohort	Fall 2021	Fall 2022	Fall 2023
Student Headcount	164	194	201
Completers	74 (45.12%)	104 (53.61%)	102 (50.75%)
Male Students	109	123	132
Completers	60 (36.59%)	76 (39.18%)	75 (37.13%)
Female Students	55	71	69
Completers	14 (8.54%)	28 (14.43%)	27 (13.43%)
White Students	146	168	175
Completers	69 (42.07%)	95 (48.97%)	94 (46.77%)
Black Students	3	5	5
Completers	0 (0.00%)	1 (20.00%)	1 (20.00%)
Native American Students	4	5	5

Completers	2 (50.00%)	3 (60.00%)	2 (40.00%)
Hispanic Students	3	8	5
Completers	1 (33.33%)	2 (25.00%)	1 (20.00%)
Hawaiian Pacific Islander Students	0	0	0
Completers	0 (0.00%)	0 (0.00%)	0 (0.00%)
Asian Students	0	1	0
Completers	0 (0.00%)	0 (0.00%)	0 (0.00%)
Two or More Races Students	7	6	8
Completers	2 (28.57%)	2 (33.33%)	2 (25.00%)
Unknown Ethnicity Students	1	1	2
Completers	0 (0.00%)	1 (100.00%)	2 (100.00%)
Full-time Athlete Cohort	**Fall 2021**	**Fall 2022**	**Fall 2023**
Athlete Headcount	7	28	17
Completers	3 (42.86%)	21 (75.00%)	10 (57.82%)
Male Athletes	0	15	12
Completers	0 (0.00%)	13 (86.67%)	6 (50.00%)
Female Athletes	7	13	5
Completers	3 (42.86%)	8 (61.54%)	4 (80.00%)
White Athletes	7	24	17
Completers	3 (42.86%)	18 (75.00%)	10 (58.82%)
Black Athletes	0	0	0
Completers	0 (0.00%)	0 (0.00%)	0 (0.00%)
Native American Athletes	0	2	0
Completers	0 (0.00%)	2 (100.00%)	0 (0.00%)
Hispanic Athletes	0	0	0
Completers	0 (0.00%)	0 (0.00%)	0 (0.00%)
Hawaiian Pacific Islander Athletes	0	0	0
Completers	0 (0.00%)	0 (0.00%)	0 (0.00%)
Asian Athletes	0	0	0
Completers	0 (0.00%)	0 (0.00%)	0 (0.00%)
Two or More Races Athletes	0	2	0
Completers	0 (0.00%)	1 (50.00%)	0 (0.00%)
Unknown Ethnicity Athletes	0	0	0
Completers	0 (0.00%)	0 (0.00%)	0 (0.00%)

Individual program completion rates are available to interested students through the Academic Office.

COSTS

The Board of Trustees of Alpena Community College reserves the right to change any and all charges as conditions and circumstances warrant change. Payment is by check, money order, Visa, MasterCard, Discover, American Express, or financial aid at the time of registration.

All charges are assessed and payable in United States currency at registration or as otherwise stated. Students are urged to use checks, credit cards, or money orders payable to Alpena Community College for the payment of charges. If checks and money orders are in excess of the required payments, the excess amount will be added to the student's account and may be used at the Bookstore for purchases during the enrollment period. Refunds and amounts left on student accounts after the enrollment period will be refunded to the student. Excess credit card amounts will be refunded to the credit card(s) used for 60 days from date used. Online payments now accepted through Self-Service®. Cash is accepted at the Alpena Campus; however, cash payments are not accepted at the Oscoda Campus.

Financial aid often makes it possible for people to take advantage of educational opportunities, and students are encouraged to apply to determine what type of assistance may be available. ACC participates in all federal and state educational grants, loans, work study, academic scholarships, and Veterans Benefits programs.

TUITION

Tuition at Alpena Community College is based upon residence (see page 8 for residency policy) and is computed on contact hours. The total contact hours are those hours actually spent in lecture, laboratory, or recitation instruction. For example, a student who registers for BIO 114 4(3-2) is taking a 4-credit hour course which has 5 contact hours, 3 lecture and 2 lab hours.

Tuition Rates

The following rates are for the 2026-27 academic year as a condition of enrollment and are subject to change.

In-District (Alpena Public Schools District)	$165.00 per contact hour
Out-of-District	$262.00 per contact hour
Bachelor Level	$325.00 per contact hour

Fees

The following fees are for the 2026-27 academic year and are subject to change.

Student Services Fee

A Student Services Fee of $7 per contact hour will be assessed for all enrollments on campus. The Student Services Fee is used to fund student activities and student groups through the Campus Activities Board of the Student Leadership Commission, to defray some costs of the Wellness Center and allow all credit students to use the Wellness Center, and to support the intercollegiate athletics program.

a. The fee is assessed to each "Add" of a course or courses as a condition of enrollment.

Facilities Maintenance Fee

A Facilities Maintenance Fee of $6 per contact hour will be assessed for all enrollments on and off campus. The Facilities Maintenance Fee is used for major repairs, replacements, and improvements to the College's buildings, equipment, and grounds to enhance the student's learning environment.

a. The fee is assessed to each "Add" of a course or courses as a condition of enrollment.

Technology Fee

A Technology Fee of $7 per contact hour will be assessed on all enrollments for classes held at the Alpena Campus and the Oscoda Campus. The Technology Fee is used to expand, improve, and maintain the utilization of technology in the fulfillment of the overall mission of the College.

a. The fee is assessed to each "Add" of a course or courses as a condition of enrollment.

Online Courses Fee

An Online Courses Fee of $30 per contact hour will be assessed on all online classes provided by Alpena Community College. The Online Courses Fee is used to cover the special costs of developing new online courses, limiting online class size, and providing extra faculty preparation compensation for online courses.

a. The fee is assessed to each "Add" of a course or courses as a condition of enrollment.

Records/Registration Fee

A non-refundable fee of $30 will be assessed when a student enrolls in Fall, Spring, or Summer Semester credit courses as a condition of enrollment. Please note: drop/add fees, the graduation fee, and the fee for regular official transcripts have been eliminated.

Transcript Fee

Transcripts are provided at no cost. For rush service, please see the following fee.

Transcript Rush Service Charge

Ordinarily, transcripts are processed in one to three days upon receipt of the written request. Rush service is available for a $10.00 charge. The Records Assistant or Registrar will determine if this charge is necessary. Rush mailed transcripts will be prepared in time for the next outgoing mail. Rush transcripts to be picked up in person will be prepared immediately. If express mailing is requested, this fee will be added to the $10 charge. Rush service requests made by FAX will need to be charged to a credit card.

Estimated Cost of Attendance

The following chart gives the estimated cost of attending Alpena Community College for an academic year based on rates in effect when this catalog was originally uploaded. Rates are subject to change. The figures are based on an average full-time course load of 30 contact hours for two semesters and estimated average costs for additional expenses. In-district expenses consider a student living at home, while in-state and out-of-state, and Bachelor expenses consider a student living in campus housing. These are estimates given only to help in planning. View your estimate on Self-Service under the College Financing Plan.

Expenses	In-District	In-State & Out-of-State	Bachelor
Tuition	$4,950	$7,860	$9,750
Fees	660	660	660
Books & Supplies	1,240	1,240	1,240
Room & Board	4,974	8,874	8,874
Personal	914	914	914
Transportation	950	1,150	1,150
Total	$13,688	$20,698	$22,588

Special Course Fees

Some courses and programs of study, especially in art, technical, and occupational areas, also require students to purchase supplies, equipment, clothing, or tools that are necessary for coursework and which they will continue to use when employed. These items vary in cost. Academic advisors in specific programs can provide information about the current costs for such investments. Other courses requiring a large amount of additional supplies, non-college facilities, equipment, or services (physical education, music, etc.) may require an additional fee that will be collected by the College, the agency, or the company providing the facilities, equipment, or services. The fee is assessed to each "Add" of a course or courses as a condition of enrollment.

Course	Fee
Art Courses	$75 each
APP 107E	$125
NUR 140 & NUR 142	$683 each
NUR 140LC	$25
NUR 143, NUR 157, NUR 247, NUR 248, NUR 259	$50
NUR 135, NUR 157	$455
NUR 238	$1,300
NUR 258	$850
UTT 110 & UTT 210	$100
UTT 206	$1,185
PEH 263	$27
PEH 264	$50

Art course fees are non-refundable
Electrical course fees are non-refundable
Nursing course fees are non-refundable
Utility Tech course fees are non-refundable

Refunds

Full refunds (100%) — A refund of all tuition paid will be issued providing a Drop/Add form is processed and in the possession of the Registrar's Office (Van Lare Hall 108) prior to 3:30 p.m. of the last day of the enrollment period of the semester, or if a miscellaneous course, prior to the end of the enrollment period of the course.

The "enrollment period" is defined as: not less than 1/10th of the calendar days between and including the first day of the semester and the final exam period. This college uses a Predominant Calendar System for determining the actual enrollment period for regularly scheduled semester courses (Fall, Spring, Summer). Other individually scheduled courses have independently determined enrollment periods.

The “enrollment period” starts with the first instructional day of a semester or miscellaneous course and ends when the appropriate number of calendar days have elapsed.

Financial aid students are subject to federal regulations requiring a refund calculation for all students who totally withdraw or stop attendance prior to the 60 percent mark of the semester. The student may be required to repay all or a portion of total dollars received. No scholarship or grant funds will be refunded to the student. Books can be returned to the ACC Bookstore for the proper credit. Fees currently being charged to students include a registration fee, student services fee, facilities maintenance fee, and a technology fee. A request for refunds with documentation of extenuating circumstances must be submitted to the Vice President of Instruction.

RETURN OF TITLE IV FUNDS

(Federal Aid): Students who completely withdraw from all courses prior to completing more than 60 percent of a semester will have their eligibility for aid recalculated based on the percent of the semester completed. This policy shall apply to all students who withdraw, are administratively withdrawn, drop out, receive failing grades in all courses or are dismissed from Alpena Community College (ACC) and receive financial aid from Title IV funds.

The term "Title IV Funds" refers to the following federal financial aid programs: Federal Direct Unsubsidized Loan, Federal Direct Subsidized Loan, Federal Direct PLUS Loans, Federal Pell Grant, Federal Supplemental Educational Opportunity Grant, and Iraq & Afghanistan Service Grant.

Title IV Funds is earned in a prorated manner on a per diem basis up to and including the 60 percent point in the semester. Title IV Funds are viewed as 100 percent earned after the 60 percent point in the semester.

The percentage of Title IV Funds earned shall be calculated as follows:

$$\frac{\text{Number of days completed by the student}}{\text{Total number of days in the semester*}} = \text{Percent of Title IV Funds earned}$$

*The total number of days in the semester includes weekends, but does not include any scheduled breaks of more than five days.

A student's withdrawal date is determined by ACC as (1) the date the student began the withdrawal process or officially notified the Registrar's Office of intent to withdraw; or (2) the midpoint of the semester for a student who leaves without notifying ACC; or (3) the student's last date of attendance at a documented academically related activity.

Starting with the 2021 Summer Semester, ACC early implemented the following allowable withdrawal exemptions from the Return of Title IV Fund calculation. A student is not considered withdrawn if they successfully complete (earning a passing grade):

1) All requirements for graduation from their program before completing the days or hours in the semester that the student was scheduled to complete,
2) One module of a semester that includes 49% or more of the number of days in the semester,
3) A combination of modules that when combined contain 49% or more of the number of days in the semester, or
4) At least 6 credit hours of coursework for the semester.

If you did not receive all of the funds that you earned, you may be due a post-withdrawal disbursement this will be disbursed to the student within 14 days of the determination of such disbursement. If your post-withdrawal disbursement includes loan funds, ACC must get your permission before we disburse them. You may choose to decline some or all of the loan funds so that you don’t incur additional debt. ACC will automatically use all or a portion of your post-withdrawal disbursement of grant funds for tuition and fees charges. ACC needs your permission to use the post-withdrawal grant disbursement for all other school charges. If you do not give your permission, you will be offered the funds. However, it is be in your best interest to allow ACC to keep the funds to reduce your debt at the school.

ACC'S PORTION TO BE RETURNED

The percentage of Title IV Funds unearned (i.e., to be returned to the appropriate program) shall be 100 percent minus the percent earned. Any unearned aid to be returned by ACC is the lesser of (1) the entire amount of unearned aid or (2) the total institutional charges multiplied by the percentage of unearned aid.

ACC will calculate and return all Unearned Title IV Funds to the appropriate federal programs within 45 days of determining the official or unofficial withdrawal of the student. Unearned Title IV Funds shall be returned according to the following priority up to the amount received for the semester:

1. Federal Direct Unsubsidized Loan
2. Federal Direct Subsidized Loan
3. Federal Direct PLUS Loan (Parent)
4. Federal Pell Grant
5. Iraq & Afghanistan Service Grant
6. Federal Supplemental Educational Opportunity Grant

The student will be billed for any amount due to ACC resulting from the Return of Title IV Funds. Payment arrangements not made within 30 days will be turned over to a collection agency which may increase the original amount owed.

NON-PAYMENT

You are responsible for payment of all charges by the applicable due dates. ACC may drop your classes if you owe a balance after the due date. You must drop any classes that you do not plan to attend. Otherwise, you will be responsible for payment of charges incurred and will receive a grade at the end of the semester. All prior semester balances must be paid before registering.

Grades and other records may be withheld from those students who have not met all of their financial obligations.

SENIOR CITIZEN TUITION WAIVER

A waiver of all tuition charges will be granted to college in-district residents 65 years of age or older. These students will be expected to pay all other fees associated with their enrollment. The Tuition Waiver is available only to individuals residing in the College district. The waiver is available the Friday before the semester begins.

FINANCIAL AID

Financial aid is available to Alpena Community College students through a number of sources, including Title IV federal programs for qualifying students, State of Michigan Competitive Scholarships, Michigan Rehabilitation Services, Bureau of Indian Affairs (BIA), and special organizational scholarships and loans. Additional information on eligibility and application procedures — including completion of the Free Application for Federal Student Aid (FAFSA) — is available at the Financial Aid Office (VLH 107) or at discover.alpenacc.edu/ financial aid/index.php.

To be considered for financial aid, an applicant must be a High School graduate or have a G.E.D. or equivalency, complete the ACC admission application process, and be in an eligible degree or eligible certificate program.

SATISFACTORY ACADEMIC PROGRESS

All students receiving federal Title IV financial aid monies (Pell Grant, Supplemental Educational Opportunity Grant (SEOG), Federal Direct Loans, and College Work Study program) and most State of Michigan programs must meet the following academic standards in order to qualify for continued aid eligibility.

Satisfactory Academic Progress (SAP) will be measured at the end of each semester, including summer and also measures semesters where financial aid had not been received. Students not meeting the SAP requirements will be sent a notice by U.S. Mail, in the week following the final exam period for the semester. A student must meet all three (3) of the following requirements to remain eligible for financial aid:

1. Grade Point Average (GPA). The following is the cumulative GPA requirements:

Hours Completed	GPA
0 – 15	1.7
16 – 30	1.8
31 – 45	1.9
46 and up	2.0

2. Pace of Completion. All students must maintain a minimum pace of completion of 67%. Pace of completion is calculated by dividing the cumulative credit hours successfully completed by the cumulative number of attempted credit hours.
3. Maximum Timeframe.

   A student in a certificate program may not exceed 45 attempted credit hours.
   A student in an associate degree may not exceed 90 attempted credit hours.
   A student in a bachelor program may not exceed 180 attempted credit hours.

A student not meeting any one of the 3 requirements above is not meeting SAP. A student who fails to meet SAP at the end of a semester will lose their financial aid eligibility for their next semester of attendance. Exceptions are granted, on a semester basis, to students who are placed on either financial aid warning or financial aid probation.

A student meeting all 3 requirements of SAP at the start of a semester, and at the end of the same semester is not meeting either SAP requirements 1 or 2 will be placed on financial aid warning for their next semester of attendance. While on financial aid warning a student will continue to be eligible to receive financial aid. A student will not be placed on financial aid warning when they exceed the maximum timeframe.

Note: A first semester student at Alpena Community College is considered to be meeting requirements 1 and 2.

A student who is not meeting SAP, and not placed on financial aid warning may submit a financial aid appeal to the Financial Aid Office and, if the appeal is approved, the student will be placed on financial aid probation. While on financial aid probation a student will continue to be eligible to receive financial aid for a duration of only one semester. At the completion of the semester of financial aid probation the student must meet all three requirements of SAP or lose their financial aid eligibility until the requirements are met.
NOTE: Academic Renewals are not the same as Academic Progress. Satisfactory Academic Progress will not change due to an Academic Renewal.

DEFINITIONS

Attempted credit hours: The number of credit hours a student is enrolled in after the 'last day to drop with a full tuition refund' date for the semester.

Audited course: Audited course credits do not count as attempted or successfully completed credit hours and are not calculated into the GPA.

Incomplete grade (I): Incomplete grades are counted as attempted credits, but not successfully completed credit hours, and are not included in GPA calculations.

NG grade: A temporary grade assigned when a final grade has not been received by the grading deadline. Grade of NG are counted as attempted hours, but not as successfully completed credit hours. NG grades are not included in the GPA.

Satisfactory/Unsatisfactory: A grading option which allows coursework to be taken for credit, but not included in the GPA. A grade of S (satisfactory work) is included in the attempted and successfully completed credit hours. A grade of U (unsatisfactory work) is included in the attempted credit hours only.

Remedial course: Courses numbered below 100. Credits will be included in attempted and successfully completed if appropriate as determined by the grade received. Remedial course grades are included in the GPA.

Repeated course: The same course, or direct equivalent, taken in a subsequent semester. Each semester the attempted credit hours are counted, but only the best grade will be included in the GPA calculation (a 4-credit

hour course taken twice will total 8 attempted credit hours, a maximum of 4 credit hours successfully completed and the GPA will include only the best grade of A through F). Note: Students may repeat a successfully completed course only one time utilizing financial aid.

Successfully completed credit hours: Credit hours that have been earned and have a grade value of A through D- or S.

W grade: Grade given when a student drops a course after the second week of the semester or withdraws completely from the college after the official add/drop period, resulting in a W grade being assigned for all dropped courses. W grades are counted as attempted, but are not successfully completed, credit hours. W grades are not included in the GPA.

STUDENTS WITH TRANSFER CREDIT

Transfer credits accepted by Alpena Community College for your degree program are counted as both attempted and successfully completed credit hours for measuring pace of completion and maximum timeframe. Alpena Community College does not transfer in the GPA from another institution and it is not figured into the GPA for this policy.

FINANCIAL AID APPEALS AND REINSTATEMENTS

Students not meeting SAP are able to reinstate their eligibility for financial aid by taking coursework in subsequent semester(s) and meeting all three SAP requirements again. The student re-establishes their financial aid eligibility when at the start of the semester all three SAP requirements are met. If completion of temporary grades (I or NG) or other transcript changes (e.g. grade changes) warrant reinstatement, the student should notify the Financial Aid Office at the time such changes occur.

Students not meeting satisfactory progress requirements due to mitigating or extenuating circumstances (i.e., death of a relative, illness or injury of student, pursuing additional degree, etc.) may request reinstatement of financial aid by submitting a Financial Aid Satisfactory Academic Progress Appeal Form along with the specified documentation described on the form. The form can be obtained from the Financial Aid Office or on the Financial Aid Office website at https://container.alpenacc.edu/docs/finaid/financial_aid_appeal_form.pdf.

Appeals should be submitted to the Financial Aid Office no later than the first day of class at the start of the semester the student wishes to be considered for financial aid probation. If a student's appeal is approved, they will be placed on Financial Aid Probation and be eligible for financial aid for that semester. The Financial Aid Appeal Committee's decision is final and no further appeals can be made for that semester.

DISBURSEMENT

Refunds are distributed every semester. Refund dates depend on, but are not limited to, the type of aid, your borrower status (i.e., first-time borrower, etc.), when you applied for the aid, when the college received the aid, etc.; loans can be disbursed at different times than other aid.

Generally, one semester loans are disbursed in two payments within one semester. Two-semester loans are disbursed in two payments over two semesters with one payment in Fall semester and one payment in Spring semester. A first-time borrower will have to wait 30 days before their first loan disbursement. Refer to the "Understanding your 2026-2027 Financial Aid" enclosure in your offer notice for refund dates. These dates will be posted on Alpena Community College's main campus and Oscoda campus.

Financial aid overage disbursements will be made as soon as possible after the conclusion of the drop/add period. All disbursements will be made at least once every enrollment period.

FEDERAL FINANCIAL AID PROGRAMS

FEDERAL PELL GRANT

A grant program which provides the base of all financial aid packages. Eligible full-time students can receive up to $7,395 per year. Prorated awards are also available to eligible students who are attending less than full time.

FEDERAL SUPPLEMENTAL EDUCATION OPPORTUNITY GRANT (SEOG)

A grant program for students with exceptional financial need. The award cannot be less than $100 nor more than $4,000 per year.

FEDERAL WORK-STUDY (FWS) PROGRAM

A program which provides jobs for students who have financial need, providing the student an opportunity to earn a part of their educational expenses. Jobs are provided both on and off campus. The pay rate can vary, and full-time employment may be available during non-enrollment periods (summer vacation, holiday breaks, etc.).

FEDERAL DIRECT SUBSIDIZED LOAN PROGRAM

A federal loan program where the student directly applies for the loan through the college by signing and submitting the federal direct loan form. The interest rate for 2026-27 is fixed at 6.52% and a new rate will be determined on July 1, for the new academic year. The subsidized loan is based on financial need and the interest on the loan is paid by the federal government while the student is enrolled at least half-time. Annual loan limits are $3,500 for freshman students and $4,500 for sophomore students. Borrowing for students in a one-year certificate program may only receive freshman amounts in subsidized and unsubsidized loans. Aggregate subsidized loan limit is $23,000.

FEDERAL DIRECT UNSUBSIDIZED LOAN PROGRAM

A federal loan program where the student directly applies for the loan through the college. The interest rate for 2026-27 is fixed at 6.52% and a new rate will be determined on July 1, for the new academic year. The unsubsidized loan is not based on financial need and the interest on the loan is the borrower's responsibility. The student borrower must be enrolled at least half-time. Aggregate combined unsubsidized and subsidized loan limits for an undergraduate dependent student is $31,000 and an undergraduate independent student is $57,500.

FEDERAL DIRECT PARENT LOANS FOR UNDERGRADUATE STUDENTS (PLUS)

PLUS loans are restricted to parents who borrow for their dependent children who are undergraduate students. Borrowing is based on a cost-less-aid formula with no annual or aggregate loan limits. Financial need is not a requirement. The interest rate for 2026-27 is fixed at 9.07% and a new rate will be determined on July 1, for the new academic year.

STATE OF MICHIGAN FINANCIAL AID PROGRAMS

MICHIGAN COMPETITIVE SCHOLARSHIP

This scholarship is available to Michigan residents attending public or private Michigan colleges and universities or approved non-profit Michigan vocational schools. Students must qualify by scoring 1200 or higher on the Scholastic Aptitude Test (SAT) assessment prior to college entry and release the scores to the State of Michigan. Because financial need is a factor in the award, a Free Application for Federal Student Aid (FAFSA) must be completed. The renewable award varies from $100 to $1,500 per year, not to exceed tuition costs.

MICHIGAN TUITION INCENTIVE PROGRAM (TIP)

A State of Michigan program to encourage students to complete high school and continue their education at a local community college or selected four-year institution. TIP (phase I) pays for up to 80 semester credits of tuition and fees at the local community college. The student must have graduated from high school or earned a G.E.D. certificate prior to age 20, be a U.S. citizen and a resident of Michigan. Further information is available in the Financial Aid Office in Van Lare Hall 107.

MICHIGAN CHILDREN OF VETERANS TUITION GRANT

CVTG was established under Public Act 248 to provide an undergraduate tuition program for children of certain deceased or disabled members of the armed forces of the United States. The program is designed to provide undergraduate tuition assistance to certain children older than 16 and less than 26 years of age who have been Michigan residents for the 12 months prior to application. To be eligible, a student must be the natural or adopted child of a Michigan veteran. Stepchildren of the veteran are not eligible. The veteran must have been a legal

resident of Michigan immediately before entering military service and must not have later resided outside of Michigan for more than two years; or the veteran must have established legal residency in Michigan after entering military service. Students may receive scholarship assistance for up to four academic years for a total of up to $11,200. Offers are for an academic year with the amount determined by the student's enrollment status. Full-time students can receive up to a maximum of $2,800 per academic year.

MICHIGAN FOSTERING FUTURES SCHOLARSHIP

The Fostering Futures Scholarship, a State of Michigan program, provides scholarships to young adults who have experienced foster care. The State of Michigan works with individuals, community organizations, and businesses to encourage charitable contributions that go towards Fostering Futures Scholarship funds. Offers are paid directly to the students' institution to assist with unmet need in one or more of the following categories: Tuition/Fees, Books/Supplies, and Room/Board.

MICHIGAN GEAR UP

Michigan Gaining Early Awareness and Readiness for Undergraduate Programs (GEAR UP) is a program designed to provide early intervention services and programs to students in middle school and high school. MI GEAR UP targets low-income students by providing them with support services to increase their opportunities to succeed in postsecondary education.

Coordinators of MI GEAR UP nominate eligible students before completing high school. Current and future offers are subject to available and approved funding.

MICHIGAN INDIAN TUITION WAIVER

Michigan residents who are North American Indian and are certified one-quarter blood quantum by their tribal association may be eligible for tuition assistance funding. A Michigan Indian Tuition Waiver Application must be completed. Students should contact their tribal enrollment office, or can go to michigan.gov/en/mistudentaid/programs/Indian-tuition-waiver to get an application.

MICHIGAN FUTURES FOR FRONTLINERS

Futures for Frontliners (F4F) is a State of Michigan scholarship program for frontline workers; Michiganders who worked in essential industries during the state COVID-19 shutdown in spring 2020. F4F provides a pathway for tuition-free access to public community colleges to earn an associate degree or an industry recognized certificate for frontline workers without a college degree. F4F is operated through the Michigan Department of Labor and Economic Opportunity (LEO). For specific program criteria visit michigan.gov/frontliners.

MICHIGAN RECONNECT

Michigan Reconnect is a scholarship program that pays for students 25 (temporarily expanded to 21 in 2023-24 and 2024-25 academic years) and older to attend their in-district community college and offers a large tuition discount if students attend an out-of-district community college. Students can use the scholarship to complete an associate degree or a skill certificate program. Reconnect is operated through the Michigan Department of Labor and Economic Opportunity (LEO). For specific program criteria visit michigan.gov/reconnect.

MICHIGAN ACHIEVEMENT SCHOLARSHIP (BACHELORS PROGRAM ONLY)

Michigan Achievement Scholarship is a scholarship program for students who graduate from high school in Michigan with a diploma, certificate of completion, or high school equivalency in 2023 or beyond. The students must also have an estimated family contribution (SAI) of 30,000 or less to be eligible. Qualified students may be awarded in two different awards and may equal **up to** $5,500; first dollar and last dollar. The first dollar award is up to $2,500 in the academic year and the last dollar amount is up to $3,000 in the academic year for Michigan Community Colleges when applicable; awards will be adjusted according to the regulations.

Please visit our website for any additional information at discover.alpenacc.edu/financial_aid/index.php.

MICHIGAN COMMUNITY COLLEGE GUARANTEE

The Michigan Community College Guarantee is a restructuring of the Michigan Achievement Scholarship for financial aid approved Community Colleges Certificate and Associate Programs. The scholarship expires three years at a Community College after starting the Michigan Community College Guarantee. It is a scholarship program for students who reside in Michigan and graduate from a Michigan High School with a diploma, certificate of completion, or high school equivalency in 2023 or beyond. Students must complete a FAFSA with Alpena Community College listed as the first school of choice and complete necessary verification documents. Students must enroll as a full-time student within 15 months of high school graduation and maintain Satisfactory Academic Progress. Qualified students may be awarded two different awards; the last dollar Michigan Community College Guarantee Scholarship and the Michigan Achievement Scholarship. The last dollar Michigan Community College Guarantee amount is applicable to in-district tuition and fees; if tuition and fees are covered from other scholarships or grants, you may not receive any funds. The Michigan Achievement Scholarship Award is only for students who receive a Pell Grant and may provide up to $1,000 in an academic year when applicable; awards will be adjusted according to the regulations.

TRANSFER GRANTS

BESSER TRANSFER STUDENT GRANTS

Seven Michigan four-year colleges and universities have received a special grant from the Besser Foundation of Alpena, Michigan. These grants are to provide scholarships for students who have completed two years at Alpena Community College in good standing and are transferring and intend to complete their education at one of the following colleges or universities: Adrian College, Alma College, Michigan Technological University, Olivet College, Sienna Heights College, and Walsh Institute of Business. Further information can be obtained by contacting the four-year institution.

SCHOLARSHIPS

A variety of scholarships have been established at Alpena Community College through the generosity of individuals, businesses, service clubs, organizations, and foundations. These scholarships reward student achievement, encourage leadership, recognize accomplishments, and provide needed financial assistance to many ACC students. Some scholarships honor or memorialize family members, friends, or organizations. Whatever the reason, the financial assistance helps students receive the necessary education to compete in today's world.

The ACC Scholarship Brochure includes information on over 160 different scholarship opportunities totaling over $160,000 in awards and is available after the second week in January. You can pick up a copy in the Financial Aid Office (Van Lare Hall 107), Registrar's Office (Van Lare Hall 108), the Foundation Office (Besser Technical Center 125A), the Oscoda Campus office, and in area high school counseling offices. Before applying for a scholarship, students must have submitted an application for admission and completed the most current Free Application for Federal Student Aid (FAFSA) and have listed ACC as one of the colleges.

Applicants must have a high school diploma or G.E.D. or demonstrate the ability to benefit from a particular program of study. Some scholarships require letters of recommendation and/or essays and may be renewable for a second year provided all requirements are met. A student who wishes to be considered for specific scholarships must meet the specified qualifications and complete the ACC scholarship application form by the advertised date in March, in order to be considered for the next fall semester scholarship awards.

Financial need is not always a requirement when applying for a scholarship. However, if you are applying for a scholarship where financial need must be demonstrated, results of the Free Application for Federal Student Aid (FAFSA) must be received by the Financial Aid Office prior to the scholarship application deadline. The Financial Aid office will do everything possible to help students find scholarships for which they are eligible.

Students will receive notification in May if they have been awarded a scholarship and the funds will be disbursed into the student's account in equal amounts for the fall and spring semesters. If the scholarship recipient does not attend the fall semester, the scholarship award will be forfeited.

In addition to those scholarships listed in the ACC Scholarship Brochure, other scholarships may be available. Many fraternal, civic, state, and national organizations and employers offer scholarships and issue information

on application requirements and deadlines through their own publications, print and broadcast media, and high school counseling offices.

Special Awards

Anna & Jesse Besser Recognition Awards

These two special awards are presented to the male and female student who have made outstanding contributions to the life of the College through scholarship, leadership, and expression of responsibility in solving social problems. Each receives a citation and a monetary award.

John M. Grant Front Runner Award

Presented annually to a graduating male and female student who have each demonstrated unusual dedication in pursuit of higher education. This award salutes non-traditional students who deal not only with the usual challenges of college studies, but also juggle home, family, and work responsibilities.

Veterans

Educational Benefits

Alpena Community College is approved by the Michigan Department of Education State Approving Agency for the training of veterans and other persons eligible under the educational benefits programs of the U.S. Department of Veterans Affairs (USDVA). Students must enroll at ACC in an approved degree program, or be enrolled as eligible guest students from another institution.

The Veterans Affairs Coordinator at Alpena Community College assists veterans with the process of applying for VA Education Benefits, certifies the enrollments of eligible students to the USDVA, and monitors the Standards of Progress for VA Education Benefits.

Veterans and service persons, their spouses and dependents, or their survivors may be eligible for educational benefits through:

- The Post 9/11 GI Bill®, Chapter 33
- The New GI Bill® — Selected Reserve Educational Assistance Program, Chapter 1606
- Post-Vietnam Era Veterans Educational Assistance Program (VEAP), Chapter 32
- New GI Bill® — Active Duty Educational Assistance Program, Chapter 30
- Vocational Rehabilitation, Chapter 31
- Dependent's Educational Assistance, Chapter 35

Information about eligibility requirements and benefits is available in the office of the Financial Aid Director in Van Lare Hall 107 or by accessing the USDVA Education website at benefits.va.gov/gibill/.

The college is required to notify the USDVA of any transfer credit granted and the resulting reduction of training time necessary for the student to complete the degree objective. Students who have attended another college must have their transcripts sent to ACC as soon as possible for evaluation. ACC will evaluate transcripts and determine what courses will transfer and how many credits will apply to the student's degree program at ACC. Transfer credits will be reported in the student's Program Evaluation, which will also identify the remaining courses and credits required for the student's degree program at ACC. GI Bill® is a registered trademark of the U.S. Department of Veteran Affairs (VA). More information about education benefits offered by VA is available at the official U.S. government website at benefits.va.gov/gibill.

Veterans Enrollment Certification

Eligible students can receive their VA education benefits only when the college certifies their enrollment to the Department of Veterans Affairs. Eligible students who wish to receive their benefits must submit a signed "Request for Certification for Veterans Benefits" to the Financial Aid Director. Students will receive VA education benefits only for the semesters for which they request certification. All students receiving VA education benefits must notify the Financial Aid Director immediately upon withdrawing from a class or discontinuing attendance in a class. Withdrawals or discontinued attendance may result in an overpayment of benefits.

VETERANS CERTIFICATION GUIDELINES

1. It is the veteran's responsibility to file a completed Drop/Add form with the Registrar immediately upon dropping any classes or completely withdrawing from the institution.

   The veteran's last date of attendance shall be reported to the USDVA based on the date of drop or withdrawal as recorded by the Registrar. In those instances where the veteran did not report his/her change of status to the Registrar, the last date of attendance shall be determined by one of the following:

   a. The last activity date reflected in instructor's records.
   b. The last date papers were submitted.
   c. The last date an examination was taken.

2. Withdrawals, drops, and incompletes in classes may result in an over-payment of benefits from the USDVA. Non-attendance of classes may result in an over-payment of benefits from the USDVA.

3. A VETERAN CAN RECEIVE BENEFITS ONLY FOR COURSES THAT ARE NECESSARY FOR GRADUATION. Any deviations from the curriculum guidelines must have counselor recommendation. A veteran should not repeat a course in which he/she has previously earned a satisfactory grade and expect USDVA Benefit payments on such credit hours.

4. A veteran must be making satisfactory progress in his/her curriculum, and must meet minimum academic standards as defined in the Standards of Progress for VA Education Benefits policy.

5. Veterans transferring from another college must have their transcripts sent to ACC as soon as possible for evaluation. Veterans who fail to do this subject themselves to having their benefits terminated and an over-payment charged by the USDVA.

6. Advance pay:

   a. Must be requested at least 60 days before the first day of classes.

   b. Cannot be requested for consecutive semesters. There must be a full calendar month between attendance dates to request advance pay.

   c. Will be issued for the exact number of days in the first month of the semester, plus the full following month.

   d. Will cause a student to not receive any more checks until the student has completed the third month of the semester.

STANDARDS OF PROGRESS FOR VA EDUCATION BENEFITS

The U.S. Department of Veterans Affairs requires that ACC establish and enforce Standards of Progress for all students receiving educational benefits from the VA. These standards are reviewed by the State Approving Agency and must be approved by the VA.

REPORTING REQUIREMENTS

The college is also required to report to the VA all changes in enrollment status for students receiving benefits. These changes include dropping a class, withdrawing from classes, or failing a class. Such changes may result in a reduction of benefits paid to the student and possible repayment of benefits to the VA. All students receiving education benefits are required to immediately report any such changes in enrollment to the Veterans Affairs counselor at ACC.

All students receiving VA education benefits who receive a failing grade in a course are required to submit a written statement of their attendance in that course to the Veterans Affairs counselor at ACC. This statement must indicate whether or not the student attended that class for the entire semester, or their last date of attendance if they did not attend for the entire semester. If such a statement is not received from the student within five days of the receipt of his/her grade report, the college will notify the VA, and the VA may terminate the student's benefits for that class retroactive to the first day of classes in that semester.

All students receiving education benefits from the VA must satisfy the following academic standards:

1. All students must maintain a minimum 2.0 cumulative grade point average. A student whose cumulative GPA falls below 2.0 at the end of any semester will be placed on VA probation for the following semester.
2. A student who is on VA probation must raise their cumulative GPA to a minimum 2.0 to be taken off probation. A student on VA probation who earns a minimum 2.0 GPA for any one semester, but whose cumulative GPA is still below 2.0, will continue on VA probation.
3. When a student is on VA probation for two consecutive semesters, the college is required to notify the VA, and the student is no longer eligible to be certified by the college to receive VA education benefits. The VA will discontinue education benefits effective on the last day of the second semester of probation.
4. Students whose benefits have been discontinued may appeal that action to the VA and may present any mitigating circumstances that may have contributed to the student's failure to satisfy the Standards of Progress.
5. A student will again be eligible to be certified by the college to receive VA education benefits when they raise their cumulative GPA to a minimum 2.0 and the college is able to determine that there is a reasonable likelihood that the student will be able to maintain satisfactory progress in the future. The student will be required to meet with the Registrar as part of this determination process.

   The student will also be required to submit a request to the VA to have their education benefits resumed. The student's request along with the enrollment certification from the college will be reviewed by the VA who will make the final decision and notify the student accordingly.
6. Students whose benefits are reinstated must continue to maintain a minimum 2.0 cumulative GPA. At the end of any semester in which their cumulative GPA falls below 2.0, they again will no longer be eligible to be certified by the college to receive VA education benefits, and the college will again be required to notify the VA.

CHILDREN OF VETERANS TUITION GRANT ACT 248, PA 2006

This program will provide up to $2,800 in tuition assistance per academic year to Michigan resident children of certain deceased or disabled members of the armed forces of the United States attending college in Michigan. Fulltime and certain part-time students are eligible. Information about the Children of Veterans Tuition Grant Act is available from the Coordinator of Veterans Affairs or:

MiLEAP
P.O. Box 30462
Lansing, MI 48909-7962
888.447.2687
https://www.michigan.gov./mistudentaid/programs/children-of-veterans-tuituion-grant

Academic Information

Academic Advising

Every Alpena Community College student is assigned an academic advisor to assist him/her in selecting courses and developing a program of study that will satisfy his/her educational objective. Academic advisors are faculty members who instruct in the student's field of study or in a related area. Academic advising is required prior to registration for first-time students and is strongly recommended for all students. Questions concerning academic advising should be directed to the Vice President of Instruction or the Registrar.

Registration

Registration for classes takes place before the start of each semester; dates and times are published in the semester schedule and advertised. New student mandatory orientation is required to assist first-time students with the registration process and academic advising. Consult the semester schedule on the ACC website or contact the Registrar's Office (VLH 108) in Alpena or the Oscoda Campus office.

Late Registration

Any student may register for classes the first week of the semester with the authorized signature of approval of the course instructor. Department chairs may authorize and sign first week semester course enrollments on behalf of their adjunct instructors. During the second week of the semester, no registrations for in-session courses will be allowed, with the exception of course level changes (ex. MTH 121 to MTH 113) and lateral course changes (ex. ENG 111 to another section of ENG 111) with approval of the course instructor(s).

Drop/Add Procedure

There are times during a student's enrollment when it may be appropriate to add or drop a course during a given semester. A student adding or dropping a course must pick up a Drop/Add Form (Authorization for Schedule Change) from the Registrar's Office. The procedure outlined on the Drop/Add form must be followed explicitly to ensure the student that the proper credit and grade for all courses added or dropped is received.

A course may be added during the first 5 days of the semester (for a 16-week course) with an authorized signature. A course may be dropped any time through the 10th week of the semester (2/3 of the semester for accelerated courses); courses dropped after the 10th week require the Vice President of Instruction's approval. During weeks 2-10, students are strongly encouraged to talk to their instructor(s) prior to dropping a course. After the first 10 days of the semester (or 1/10 of the semester for accelerated courses) a grade of W (Withdrew) is assigned for courses dropped during the withdrawal period, or if a student completely withdraws from college prior to the end of the semester no later than the last instructional day prior to final exams (See "Withdrawal" for details). Prior to the 10th day of the semester (or 1/10 of the semester for accelerated courses), a dropped course is not reflected on the student record.

Academic Renewal

Alpena Community College is committed to academic excellence and to the ideal of the dignity and worth of the individual. Recognizing that education is a comprehensive, life-long activity, the College will provide a measure of forgiveness for past academic deficiencies. An opportunity will be provided for students requesting and qualifying for academic renewal.

This policy is not intended for students seeking to attain academic honors. This policy is intended to provide an opportunity to fulfill the minimum graduation grade point average requirement of 2.00.

Guidelines:

1. To be eligible for Academic Renewal, students must:
    a. Be currently enrolled at Alpena Community College.
    b. Allow two years or more to elapse since the poor academic performance period.
    c. Complete at least six credit hours with a 2.00 GPA or higher since the poor academic performance period.

d. Submit an Academic Renewal Request to the Registrar with semesters indicated as involved in the request.

Conditions:

1. A student may declare and receive Academic Renewal only once.
2. Academic Renewal is selected by semester.
3. Grades and course history will remain on the transcript; but credits, grade points, and grade point averages will be deleted from semesters involved and the cumulative GPA calculation.
4. All ACC coursework included in the selected semester(s) will be subject to academic renewal.
5. An Academic Renewal notation will be placed on the student transcript where applicable.
6. The granted renewal cannot be reversed.
7. Academic honors will not be awarded unless the required grade point average was attained prior to Academic Renewal.

Additional:

1. The student must meet with the Registrar to determine eligibility.
2. Academic Renewal does not clear financial aid academic ineligibility.

Advanced Credit

In addition to credit earned at another accredited institution of higher education, a maximum of 30 semester hours may be applied toward the Associate Degree from sources other than credit earned in college courses; for example, military school, work experience, correspondence schools, and/or credit by examination.

CLEP is the College-Level Examination Program. It enables those who have reached the college level of education in non-traditional ways to assess the level of their academic achievement and to use the test results in seeking college credit or placement. The test can be taken at Alpena Community College or at other test centers. Persons interested in CLEP should call 989.358.7209 for information about CLEP, the fee structure, and to make an appointment to take the CLEP exam.

Advanced Placement

Alpena Community College accepts credit from the Advanced Placement (AP) program. ACC will evaluate AP grade reports received from the College Board and will award appropriate course credit for selected AP examinations. Minimum score requirements vary from course to course.

Auditing of Courses

Students desiring to audit courses should declare their intent at the time of registration. Students auditing courses pay the same tuition and fees as those taking courses for college credit. With instructor approval, students may declare audit status for courses during the first week of the semester.

Students must meet appropriate course prerequisites to audit a course. Audit students may take quizzes and examinations with the approval of the instructor. The audit status is noted on the student's transcript.

A student may not change either from an audit to a credit status or from a credit to an audit status after the first week of the semester. Audited courses will not be used to determine student enrollment status for financial aid or Veterans Benefits purposes.

Audited courses do not satisfy course prerequisite requirements or graduation requirements.

Classification of Students

A full-time student carries 12 or more credit hours per semester; a half-time student carries at least six, but less than 12 credit hours. Students admitted on a regular basis may carry up to 19 credit hours per semester; to carry over 18 credit hours requires permission of the Vice President of Instruction. Under no circumstances may a

student carry over 21 credit hours. A freshman is a student who has earned one to 23 semester credits; a sophomore has earned 24 or more.

CONTINUOUS ENROLLMENT

The following guidelines govern those situations in which graduation requirements are changed for students who are pursuing a specific program:

Students continuously enrolled in a degree or certificate program at Alpena Community College have two options for earning their degree or certificate on record:

1. Complete the requirements in place at the time of the student's initial enrollment in the program, OR
2. Complete the requirements in place at the time of graduation.

Continuous enrollment is defined as enrollment in at least one semester during each academic year since the program of study was declared. Students who do not satisfy this definition of continuous enrollment must meet the program requirements in effect in the year they intend to graduate.

CORE COMPETENCIES

Alpena Community College believes that students obtaining an associate's degree should be exposed to a common core of educational experiences. The Core Competencies are integrated, reinforced, and assessed throughout the curriculum.

CORE COMPETENCIES AND OUTCOMES MISSION AREAS IN DETAIL

A. Core Competencies

The Alpena Community College has identified a general core curriculum. Within the core curriculum is a set of five core competencies, which involves the cumulative effect of the college curriculum. The curriculum is the vehicle used to achieve mastery of the core competencies. Thus, achievement of the core competencies is a shared responsibility of all faculty. Not every core competency is expected to be incorporated into each course. Within the associate degree program of study in its entirety, all core competencies will ultimately be addressed. Each course, therefore, contributes to a larger learning outcome.

Students who receive an associate degree from Alpena Community College are expected to have mastered the following:

1. Effective Learning (How to learn effectively):
   a. They will possess effective learning skills.
   b. They will know how to access learning resources and information sources.
   c. They will understand learning as a life-long process.

      Standard:

      i. recognize and accommodate his/her learning style preference,
      ii. utilize the services provided by a library,
      iii. utilize learning support when needed, including: tutoring, supplemental instruction, videos, etc., and
      iv. identify outdated information and acquire the most recent data.
2. Problem Solving Skills (How to solve problems):
   a. They will be able to identify a problem, collect and analyze information, develop and apply strategies, and evaluate outcomes.

Standard:

i. identify and define problems,

ii. select approaches to solve problems,

iii. generate possible solutions, hypotheses, or propositions,

iv. collect information regarding proposed solutions,

v. propose procedures to evaluate the appropriateness of the solution, and

vi. recognize steps or factors overlooked, faults in logic, and information not used in the problem-solving process.

3. Mathematical Concepts (How to use mathematical concepts):

   a. They will be able to understand and use concepts of mathematics appropriate to their chosen program of study.

   b. They will be able to use mathematical knowledge as a component of problem-solving in everyday life.

   Standard:

   i. accurately perform arithmetic operations,

   ii. utilize fractions, decimals and percentages,

   iii. convert basic units of measurements,

   iv. interpret bar, line and circle graph data, and

   v. perform basic algebraic operations.

4. Effective Communication Skills (How to communicate effectively):

   a. They will be able to read and write with sufficient skill to achieve their educational and personal goals.

   b. They can speak and listen with sufficient skill to achieve their educational and personal goals.

   Standard:

   i. obtain information from oral and written presentations and from non-verbal cues,

   ii. send information through oral and written materials and through non-verbal presentations, and

   iii. send and interpret information from numeric and graphic presentations.

5. Effective World Interaction Knowledge (How to interact with the world):

   a. They will have an understanding of the rights and responsibilities of the individual in society.

   Standard:

   i. identify the reciprocal relationships between society, social institutions, and individuals, and

   ii. identify restraints and freedoms within social institutions.

   b. They will have an understanding of historical, social, and geographical forces which shape the world.

   Standard:

   i. identify social institutions and describe their structure and function, and

ii. identify the principles of development and change of social institutions, nations, and society.

c. They will have an understanding of aesthetic principles.

Standard:

i. identify activities and products, which constitute the artistic/humanistic aspects of a culture,

ii. identify the impact of artistic/humanistic expressions, and

iii. judge which artistic/humanistic expressions would be most congruent with the characteristics of a given culture.

d. They will have an understanding of the nature of scientific inquiry and its technological application.

Standard:

i. identify activities and products, which constitute the scientific/technological aspects of the world, and

ii. describe and utilize scientific concepts, laws or principles that underlie scientific/technological activities and products.

e. They will have an understanding of the effect of technology on their lives.

Standard:

i. explain the impact of technology on the natural environment, the individual, and society.

f. They will be able to function effectively as an individual and as a member of a group.

Standard:

i. explain the importance and impact of integrity and respect for others in the workplace and society,

ii. distinguish between opportunities to lead and time to follow the help of others,

iii. understand how the skills of others contribute to the success of team projects,

iv. demonstrate acceptable work standards, and

v. complete tasks cooperatively and efficiently.

g. They will have an understanding of factors important to mental and physical health and well-being.

Standard:

i. identify the life-long practices related to good health and fitness, and

ii. understand the relationship between physical and mental health.

h. They will be able to clarify values and ethical issues.

Standard:

i. identify major values and ethical issues faced in adult life in one's own culture and other cultures,

ii. distinguish values in contrast to facts,

iii. understand biological, environmental, and economic influences on values,

iv. identify reasons and/or circumstances people use to justify value choices, and

v. recognize the complexity of situations that bring values into conflict.

Dean's List

In recognition of academic achievement, a list of full-time students who have earned a semester grade point average of 3.50 or higher is published each semester. Students must be enrolled in at least 12 credit hours at the College, excluding credits taken on a satisfactory/unsatisfactory or audit option basis, to be eligible for the Dean's List.

Grading

Grades and Grade Points

The student receives one grade in each course taken. This grade combines the results of class work, tests, and final examinations. Grades are indicated by letters, each of which is assigned a certain numerical value in honor points per hours of credit as shown in the following table:

Grading System

A Excellent	4.0
A-	3.7
B+	3.3
B Good	3.0
B-	2.7
C+	2.3
C Fair	2.0
C-	1.7
D+	1.3
D	1.0
D-	0.7
E Failure	0.0

Final grades are available to students through Self-Service. Students may also request final grade reports in the Registrar's Office (VLH 108).

Grade Point Average

The grade point average is used as a numerical summary of academic achievement. It is computed by multiplying the semester hours of credit for each course by the grade value to determine honor points, then dividing the sum of the honor points earned by the total number of credits. Example:

	Hours of Credit	Grade	Honor Points
History 121	3	C+ (2.3)	6.9
English 121	3	B (3)	9.0
Psychology 226	3	A- (3.7)	11.1
Speech 121	3	E (0)	0.0
Biology 114	4	C (2)	8.0
	16		35

Grade Point Average (GPA): 35/16 = 2.18

Other Marks

Other marks used on student records include I (Incomplete), W (Withdrew), and S/U (Satisfactory/ Unsatisfactory).

I — Incomplete

The grade of I (Incomplete), initiated by the student, is given only upon instructor's approval when a student is unable to complete a limited amount of the course work because of circumstances beyond his/her control. The I grade must be removed by completing the required work before the deadline set by the instructor (but in no case later than the end of the next regular semester) or a grade of E (Failure) will be recorded.

To qualify, the student:

- must have completed at least 75% of the course work (excluding the final exam),
- must have been in good attendance, and
- can be reasonably believed to complete the course work independently with a passing grade (student does not register in the course in a future semester.

If agreed to by both faculty member and student, an Incomplete Grade Assignment Form must be signed by both parties and placed on file in the Registrar's Office. This form delineates exactly what is required, how it is graded, and when it is to be complete. Upon completion of the course work, the instructor must submit a grade change to the Registrar's Office.

W — Withdrew

The grade of W (Withdrew) is given in a course if a student processes a drop form for the course during the withdrawal period, or if a student completely withdraws from college prior to the end of the semester no later than the last instructional day prior to final exams. See "Drop-Add Procedure" (page 23) and "Withdrawal" (page 34).

S/U — Satisfactory/Unsatisfactory

The satisfactory/unsatisfactory option gives students an opportunity to enroll in enrichment courses without the grade being used in the computation of the grade point average. The student either receives an S (satisfactory work) or a U (unsatisfactory work). This option may not be elected for courses required for graduation.

Grading Criteria

It is the academic policy of Alpena Community College that each section of every ACC course must have a grading system that:

A. Is understandable by students — All components of the grading system must be explained in detail in each course syllabus. The instructor must orally explain the grading system to each class section as part of the course introduction. The components and procedures used to determine a grade must be described clearly enough that students can understand the system.

B. Is relevant to the course — All components of the grading system must relate to the course objectives as stated in the department's course outline and the instructor's syllabus.

C. Uses a variety of evaluation methods — The grading system must employ more than one method of evaluating student performance.

D. Provides feedback to students — The grading system must provide opportunities throughout the course for students to monitor their progress. The instructor must return to students at least one graded assignment by mid-semester.

E. Treats students consistently and fairly — Students with identical results on each component of the grading system must receive the same course grade.

Graduation Requirements

A notice of intent to graduate must be filed by each student who wishes to receive an Associate Degree or Certificate. The notice must be filed in the Registrar's Office at the beginning of the semester in which the student will complete the requirements for graduation. Students may apply for graduation through Self-Service, available on the ACC website at discover.alpenacc.edu. The requirements may be completed during any semester, but the graduation ceremony is held only at the close of the spring semester.

Graduation with a Degree

The requirements for the Associate in Arts, Associate in Science, Associate in General Studies, and Associate in Applied Science degrees consist of general education courses and electives. Each student must satisfactorily complete:

1. Six semester credits in English Composition (ENG 111 or 121, and 112 or 122 or 123).
2. The American Government requirement, which can be satisfied by either:
   a. Three semester credits of Political Science (PLS 221 or 222), OR
   b. Six semester credits of U.S. History (HST 221 and 222).
3. The appropriate number of general education credits from the sciences and mathematics, social science, and humanities groups required for each associate degree.
4. The appropriate number of semester credits required for each associate degree with a cumulative grade point average of 2.0 or higher. Courses numbered under 100 apply only toward the Associate in General Studies degree.
5. At least 15 semester credits for graduation at Alpena Community College.
6. All Alpena Community College course work with a cumulative grade point average of 2.0 or higher.
7. The "Intent to Graduate" form.
8. A waiver of specific requirements does not reduce the total hours required for graduation.

See the "Programs of Study" section of this catalog for specific curricular outlines and distribution requirements.

Graduation with a Certificate

All candidates for graduation from Certificate of Achievement Programs must satisfactorily:

1. Complete all courses listed in the curriculum for the specific occupational certificate program.
2. Maintain a cumulative grade point average of 2.0 or higher.
3. Complete at least 8 credits for graduation at Alpena Community College.
4. Complete the "Intent to Graduate" form.
5. A waiver of specific requirements does not reduce the total hours required for graduation from the student's program.

See the "Programs of Study" section of this catalog for the various certificate programs and their required courses.

Honors

Alpena Community College recognizes high scholastic achievement at graduation. To be eligible for honors, a student must earn 30 hours of academic work (no S/U coursework) at ACC. Honors are determined for academic work completed at ACC only. Designations are as follows:

3.9 or greater grade point average	*summa cum laude*
3.7-3.89 grade point average	*magna cum laude*
3.5-3.69 grade point average	*cum laude*

Additional Associate Degrees

Students may earn only one Associate in Arts or Associate in Science degree. However, additional degrees can be earned in other combinations (i.e. A.A. original degree, A.S. second degree) by completing a minimum of 15 additional credits at Alpena Community College for each degree. The 15 additional credits, which may not have been applied to another degree, must apply to the distribution requirements for an Associate in Arts or Associate in Science degree or be in the area of occupational specialty for an Associate in Applied Science degree.

Additional degrees may be completed and earned concurrently with the exception of the Associate in General Studies which may not be earned as an additional or concurrent degree. Work with your academic advisor if considering additional degrees.

Academic Transcript Requests

Alpena Community College transcripts are issued by the Registrar's Office upon the written and signed request of the student. An unofficial transcript may be obtained through Self-Service which is available on ACC's website at discover.alpenacc.edu. Instructions for Self-Service access are included at this site.

Transcript requests must include the student's name, student ID number or social security number, home address, semester last attended, and the complete address of the recipient. Transcripts are provided at no cost. Rush transcript requests are subject to a $10 fee plus any shipping charges, if applicable. Grades for the current semester are available on transcripts approximately one week after the end of the semester.

Ordinarily, transcripts are processed in one to three days upon receipt of the request. Rush service is available by request and payment of the $10 rush charge. Rush service requests are prepared in time for the next outgoing mail delivery. Rush transcripts requested in person are prepared immediately. If express mailing is requested, this fee is added to the charge. Rush service requests made by FAX need to be charged to a credit card.

Transcript request forms are available on the main campus in the Registrar's Office (VLH 108). Request forms are also available at the Oscoda Campus office and can be printed from the ACC website at discover.alpenacc.edu. Transcript requests can also be made through Self-Service. Forms and request letters, should be sent to:

Alpena Community College Registrar's Office
665 Johnson St.
Alpena, MI 49707

Transcript requests will not be processed for students with financial obligations to the College.

Privacy Act Statement (FERPA)

The Family Educational Rights and Privacy Act (FERPA) helps protect the privacy of student records. The Act provides for the right to inspect and review educational records, the right to seek to amend those records, and to limit disclosure of information from the records. The College has designated certain student information to be public or directory information, and at its discretion, may release this information without prior written consent of the student. Directory information is defined as name, home address, telephone number, place of birth, curriculum, dates of attendance, degrees, certificates and awards received, last educational institution attended, and participation in recognized activities and sports.

Students may request that all items identified as directory information be withheld and considered restricted information. To withhold public or directory information, written notification must be received by the Registrar prior to the end of the second week of classes during the semester the withholding is to begin. Forms are available from the Registrar (VLH 108).

Social Security Number Privacy Policy

Alpena Community College protects the student's right of privacy of information and recognizes the importance of maintaining the confidentiality of student records while performing effective functions of the College.

Social security numbers are requested from all students. The social security number is required for financial aid and specific reporting functions as required by the state and federal government. ACC Student ID numbers or social security numbers are required for the mailing of transcripts and reporting to the National Student Clearinghouse, which is used for enrollment verifications, degree reporting, and loan tracking.

Procedures

Except as permitted by law, the College will not:

1. Publicly display all or more than 4 sequential digits of a person's social security number.
2. Visibly print all or more than 4 sequential digits of a social security number on any identification badge or card, membership card, permit, or license.

The College expects each student, employee, and any other person who may use the facilities or resources of the College to protect the privacy of its students and employees, and to bring to the attention of an appropriate responsible person any privacy violation they may observe. In addition:

1. Each person who uses or has access to any ACC record which contains any person's social security number, or who has access to the social security number of any student or employee, will keep this information confidential.
2. Disclosure of such information will be only to those with a specific need to know for a legitimate College purpose, or in response to a legitimate and lawful request.
3. The College will permit access to such information only to those with a need to know. Access and permission for access will be reviewed not less than once a year.
4. All documents or other records which contain such information shall be kept in a secure environment accessible only to those who have been specifically authorized to have access, and will be disposed of only by shredding or other appropriate means which renders a social security number illegible and as difficult as possible to reconstruct.
5. Violations of this policy and procedure will be cause for discipline up to and including dismissal or termination, and may give rise to further legal proceedings.

Faculty and staff will be notified annually of privacy procedures and FERPA requirements for any form of communications, printed or verbally.

QUALITY ASSURANCE GUARANTEE

Alpena Community College assures that its graduates who complete course work with a "C" (2.0) or better in that course and earn an Associate Degree or Certificate of Achievement are competent in the subject of those courses and capable of performing the skills specified in their particular program of study.

Because unused skills deteriorate rapidly, the assurances offered herein are in effect for a period of one year following graduation from Alpena Community College.

Graduates who transfer are assured that any course on the appropriate transfer equivalency list identified as transferable and completed with a grade of "C" (2.0) or better will transfer to the baccalaureate degree institution listed.

Transferring institutions are assured that Alpena Community College graduates are competent in courses completed with a grade of "C" (2.0) or better. A student will be permitted to retake, at no tuition charge, any course or courses in areas deemed deficient by the institution to which the student transferred.

Employers are assured that an Alpena Community College graduate has the skills to perform competently in the areas covered in course work completed with a grade of "C" (2.0) or better. Remediation may be requested by an employer who believes a graduate does not possess appropriate skills and can specify deficiencies in the course content area. Alpena Community College will permit the student to retake a specified course or courses with no tuition charge.

Repetitive Course Enrollment

Alpena Community College credit courses may be repeated only once where any grade (i.e., A-W) has been earned. Specifically, if a course has been taken twice and any grade was earned, written permission from the Registrar is required prior to a third enrollment. The highest grade in the course will be used in calculating the student's grade point average.

Please note: Courses taken for audit and courses repeated more than once after previously passing the course do not count as part of a student's financial aid enrollment status, and can affect a student's financial aid award.

Satisfactory Completion of Prerequisite Courses

A course prerequisite is considered to be successfully completed if the grade level performance achieved is a minimum of 2.0 in the prerequisite course or by permission of the instructor.

Transfer Information

The student must assume responsibility for planning courses to transfer to another institution. Alpena Community College advisors can assist. Representatives from senior institutions make campus visits throughout the year in order to meet with individual students.

Michigan Transfer Agreement (MTA)

Alpena Community College participates in the Michigan Transfer Agreement between public and private community colleges and universities in Michigan. This agreement provides ACC students more assurance of having completed their general education requirements when they transfer to a participating four-year college or university. Working closely with your academic advisor is recommended to assure meeting MTA requirements.

To fulfill the Michigan Transfer Agreement, students must successfully complete at least 30 credits, with at least a 2.0 in each course. These credits, which will be certified by a Michigan Community College, should be met according to the following distribution:

- One course in English Composition
  - ENG111 or ENG121
- A second course in English Composition or one course in Communications
  - ENG112 or ENG122 or SPE121 or SPE123
- One course in Mathematics
  - MTH – MTH 118, MTH 121 and higher
- Two courses in Social Sciences (from two disciplines)
  - ANP – All Anthropology courses
  - ECN – All Economics courses
  - GEO – All Geography courses (except GEO127, lab science; GEO 151 & GEO 152, general elective)
  - HST – All History courses
  - PLS – All Political Science courses
  - PSY – All Psychology courses
  - SOC – All Sociology courses
- Two courses in Humanities and Fine Arts (from two disciplines and excluding studio and performance classes)
  - ART – ART 101, 102, 201
  - ASL – All American Sign Language courses
  - ENG – All 200 level courses
  - HST – HST 121 or 122 (may be used as Humanities or Social Science)
  - HUM – All Humanities courses
  - MUS – MUS110, 120, 125, 126, 228 and 229
  - PHL – All Philosophy courses
  - SPE – All Speech courses (if not used to complete communications requirement)
  - All Foreign Language courses (FRN, GER, SPN)

- Two courses in Natural Sciences including one with laboratory experience (from two disciplines)
  - BIO – All Biology courses
  - CEM – All Chemistry courses
  - ENV – All Environmental Science courses
  - GEO – GEO127
  - PHS – All Physical Science courses
  - PHY – PHY111, 112, 121, 122, 123, 124, 221, 222

Note: If courses selected do not total 30 hours, the student must take an additional course from one of the above groups.

To be eligible for the Michigan Transfer Agreement at Alpena Community College, a minimum of 1 college level course must be taken at Alpena Community College. Transcripts of ACC graduates who meet the MTA requirements will automatically be certified for MTA when degrees are posted to academic records. Students who transfer prior to the completion of a degree program but have completed the MTA requirements may also be certified upon request. Requests should be made to the Registrar (VLH 108).

Unit of Credit

The unit of credit is the semester hour. The number of semester hours credit is given with the course description and is based on duration for a specified number of lecture and lab hours.

Withdrawal

A student completely withdrawing from the College must begin the process in the Registrar's Office. The withdrawal must be presented to the Registrar's Office for recording and authorization of any possible refund.

Students must account for all school property charged to them and must pay all obligations to the College in order that an honorable dismissal be given. A student who is separated from the College is no longer officially enrolled and does not have the privileges of a registered student. A student who has been separated from the College may apply for readmission through the Registrar's Office.

Degrees

Alpena Community College offers courses which are equivalent in content and quality to freshman and sophomore courses at four-year colleges and universities. Students can complete programs of study preparing them to transfer to a four-year institution or to seek immediate employment. Those seeking personal enrichment or new or updated job skills, as well as visiting students from other colleges are welcome at ACC.

ACC grants the following degrees: Associate in Arts (AA), Associate in Science (AS), Associate in Applied Science (AAS), and Associate in General Studies (AGS). Non-degree programs lead to a Certificate of Achievement (C).

Associate in Arts (AA)

The AA degree is designed for transfer to a four-year institution and forms the basis for many career options and majors. The student must select courses which provide the best preparation for transfer in a particular major field at a specific senior institution.

The AA curriculums found in this section include electives generally recommended for the specified areas of study at most senior institutions. Since it is not possible to list all recommendations and requirements for all majors at all senior colleges, it is imperative that the student who expects to transfer works closely with an academic advisor to plan a successful program for the chosen senior institution. See the curriculum outlines which follow in this section. This degree can only be earned once.

Associate in Arts Distribution Requirements

All candidates for an Associate in Arts degree must successfully complete a total of 60 semester credits, including the following general education requirements:

Group I General Education Courses — English Composition (see page 36).

Six semester credits required, including ENG 111 or 121 and 112, 122 or 123.

Group II General Education Courses — Sciences and Mathematics (see page 36).

Eight semester credits required, including at least one laboratory science course selected from Group II.A. or II.B. Courses will be taken in more than one academic discipline (course abbreviation/prefix).

Group III General Education Courses — Social Science (see page 36).

Eight semester credits required, which can include the Political Science or U.S. History courses used to satisfy the American Government requirement. Courses will be taken in more than one academic discipline (course abbreviation/prefix).

Group IV General Education Courses — Humanities/Fine Arts (see page 36).

Eight semester credits required which must include either:

a. A combination of courses taken in more than one academic discipline (course abbreviation/prefix) or

b. HUM 241 and 242 — Humanities

The remaining 30 semester credits should be selected from courses that are programmed to meet the student's educational objective.

Associate In Science (AS)

The AS degree is designed for transfer to a four-year institution and forms the basis for many career options and majors. The student must select courses which provide the best preparation for transfer in a particular major field at a specific senior institution.

The AS curriculums found in this section include electives generally recommended for the specified areas of study at most senior institutions. Since it is not possible to list all recommendations and requirements for all majors at all senior colleges, it is imperative that the student who expects to transfer works closely with an academic advisor to plan a successful program for the chosen senior institution. See the curriculum outlines which follow in this section. This degree can only be earned once.

Associate in Science Distribution Requirements

All candidates for an Associate in Science degree must successfully complete a total of 60 semester credits, including the following general education requirements:

Group I General Education Courses — English Composition (see page 36).

Six semester credits required, including ENG 111 or 121 and 112, 122, or 123.

Group II General Education Courses — Sciences and Mathematics (see page 36).

Twenty semester credits required, including at least one laboratory science course selected from Groups II.A. or II.B. Courses will be taken in more than one academic discipline (course abbreviation/prefix).

Groups III and IV General Education Courses — Social Sciences/Humanities/Fine Arts (see page 36).

Ten semester credits required in combination from both of these groups with a minimum of three credits from each group. Political Science or U.S. History courses used to satisfy the American Government requirement can be included.

The remaining 24 semester credits should be selected from courses that are programmed to meet the student's educational objective.

Associate in Applied Science (AAS)

Curriculums leading to AAS degrees are intense programs of study designed to prepare students for employment after graduation. Some may transfer to four-year institutions, but students planning to pursue a bachelor's degree should work closely with an academic advisor to plan for successful transfer of course work. Degree requirements for the AAS include general education courses, specified courses in the chosen area of study, and

both specified and suggested electives. Students should consult an academic advisor for clarification. See the curriculum outlines which follow in this section.

Associate in Applied Science Distribution Requirements

All candidates for an Associate in Applied Science degree must satisfactorily complete all courses listed in the curriculum developed for a specific occupational program. Variations from the courses listed must be recommended in writing to the appropriate department chair via the student's academic advisor. The variations will be effective when authorized by the Vice President of Instruction.

Course work more than seven years old will not apply toward the occupational specialty. This includes course work completed at Alpena Community College or transferred. Exceptions will be by departmental recommendation and based on departmental proficiency standards. A grade point average of 2.0 or higher must be maintained in the area of occupational specialty.

Associate in General Studies (AGS)

The AGS degree is awarded to students primarily interested in general education. Courses may be selected to suit individual goals; however, students should consult an academic advisor for guidance in the selection process.

Associate in General Studies Distribution Requirements

All candidates for an Associate in General Studies degree must successfully complete a total of 60 semester credits, including the following general education requirements:

Group I General Education Courses — English Composition (see page 36).

Six semester credits required, including ENG 111 or 121 and ENG 112, 122, or 123.

Group II General Education Courses — Sciences and Mathematics (see page 36).

Four semester credits required.

Group III General Education Courses — Social Science (see page 36).

Three semester credits required, which can include the Political Science or U.S. History courses used to satisfy the American Government requirement.

Group IV General Education Courses — Humanities (see page 36).

Three semester credits required.

The remaining 44 semester credits should be selected from courses that are programmed to meet the student's educational objective. Courses numbered under 100 may count toward this degree, but not toward any other degree.

Certificate (Occupational Programs)

Certificate of Achievement programs are one- or two-year courses of study that provide specialized occupational training. Successful students develop essential skills and gain technical background that prepares them to enter the workforce. See the curriculum outlines that follow in this section for programs of study leading to Certificates of Achievement, including specialized apprentice — electrical and apprentice — millwright certificates. College credits earned in an approved apprenticeship program may be applied toward an associate degree at ACC.

Course work more than seven years old will not apply to the certificate program.

General Education Courses

Graduation requirements for an associate degree include a minimum number of general education credits from the following groups. The requirements vary by degree and are listed under the distribution requirements.

Group I. English Composition

A. ENG 111, 121
B. ENG 112, 122, 123

Group II. Sciences and Mathematics

A. Biological Sciences
BIO — All Biology courses

B. Chemistry
CEM — All Chemistry courses

C. Environmental Sciences
ENV – ENV 101

D. Geography
GEO – GEO 127 only

E. Physical Sciences
PHS — All Physical Science courses

F. Physics
PHY — Physics courses 111, 121, 122, 123, 124, 221, 222

G. Mathematics/Computer Science

MTH — Mathematics courses 113, 115, 116, 117, 121, 122, 123, 131, 132, 223, 231, 232

MTH — Computer Science courses 119, 221

Group III. Social Sciences

ANP — All Anthropology courses
ECN — All Economics courses
GEO — All Geography courses except GEO 127
HST — All History courses
PLS — All Political Science courses
PSY — All Psychology courses
SOC — All Sociology courses

Group IV. Humanities/Fine Arts

ART — All Art courses
ASL – All American Sign Language courses
ENG — All 200 level courses
HST — History of Western Civilization 121 or 122 (May be used as Humanities or Social Science)
HUM — All Humanities courses
MUS — All Music courses
PFA — All Performing Arts courses
PHL — All Philosophy courses
SPE —All Speech courses; all Foreign Language courses

Substitution/Waiver

Substitutions or waivers for degree or certificate specific course requirements must be approved by the appropriate department and the Vice President of Instruction. A waiver of specific requirements does not reduce the total hours required for graduation from the student's program.

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UTILITY TECHNOLOGY 110
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ACCOUNTING

ASSOCIATE IN APPLIED SCIENCE (AAS) DEGREE

DESCRIPTION: This program prepares students for employment as accountants and other related positions for sole proprietorships, partnerships, and corporations. Successful completion of this program will equip graduates with the knowledge and skills to perform general accounting and financial reporting responsibilities, to perform financial and managerial accounting analysis, and to provide users of accounting information with relevant and timely accounting information necessary to make informed business decisions.

GENERAL EDUCATION REQUIREMENTS **CREDITS: 19**

ENG 111 *or*	ENGLISH COMPOSITION I (3/3) *or*
ENG 121	ADVANCED ENGLISH COMPOSITION I (3/3)
ENG 112 *or*	ENGLISH COMPOSITION II (3/3) *or*
ENG 122	ADVANCED ENGLISH COMPOSITION II (3/3)
MTH 121 *or*	COLLEGE ALGEBRA (4/4) *or*
MTH 123	COLLEGE ALGEBRA & ANALYTICAL TRIGONOMETRY (4/4)
ECN 231	ECONOMICS (MICRO) (3/3)
PLS 221 *or*	AMERICAN GOVERNMENT REQUIREMENT (3/3)
PLS 222 *or*	
HST 221 & HST 222	
SPE 121 *or*	SPEECH COMMUNICATION (3/3) *or*
SPE 123	PUBLIC COMMUNICATION (3/3)

CORE PROGRAM REQUIREMENTS **CREDITS: 44.5**

BUS 121	INTRODUCTION TO BUSINESS (3/3) [A]
BUS 123	PRINCIPLES OF ACCOUNTING I (4/4) [A]
BUS 124	PRINCIPLES OF ACCOUNTING II (4/4) [A]
BUS 221	BUSINESS LAW (3/3) [A]
BUS 222	BUSINESS LAW (3/3) [A]
BUS 223	INTERMEDIATE ACCOUNTING I (4/4) [A]
BUS 224	INTERMEDIATE ACCOUNTING II (4/4) [A]
BUS 225	TAXATION OF INDIVIDUALS (3/3) [A]
BUS 226	TAXATION OF BUSINESS ENTITIES (3/3) [A]
BUS 228	COST ACCOUNTING (3/3) [A]
BUS 257	COMPUTERIZED ACCOUNTING SYSTEMS (1.5/2) [A]
CIS 120	INTRODUCTION TO MICROCOMPUTERS [A]
CIS 171, 172, 173	SPREADSHEETS I, II, III (3/3.75)
ECN 232	ECONOMICS (MACRO) (3/3)

MINIMUM 63.5 CREDIT HOURS / 65.75 CONTACT HOURS

NOTES:
[A] Included in occupational specialty.
A grade of 2.0 or higher must be maintained in occupational specialty courses

ACC students can earn a Bachelor of Business Administration – Accounting degree through Northwood University and the Madeline Briggs University Center. This is a degree completion program, meaning that all the courses required are offered in Alpena. Course work consists of a combination of courses from ACC and Northwood. It is extremely important that you consult your ACC and Northwood academic advisors for help planning your bachelor's program.

ACCOUNTING

ASSOCIATE IN APPLIED SCIENCE (AAS) DEGREE
SUGGESTED SEQUENCE OF COURSES

YEAR 1 (FALL SEMESTER) **CREDITS: 17**

ENG 111 *or*	ENGLISH COMPOSITION I (3/3) *or*
ENG 121	ADVANCED ENGLISH COMPOSITION I (3/3)
BUS 123	PRINCIPLES OF ACCOUNTING I (4/4)
ECN 231	ECONOMICS (MICRO) (3/3)
MTH 121 *or*	COLLEGE ALGEBRA (4/4) *or*
MTH 123	COLLEGE ALGEBRA & ANALYTICAL TRIGONOMETRY (4/4)
CIS 120	INTRODUCTION TO MICROCOMPUTERS (3/4)

YEAR 1 (SPRING SEMESTER) **CREDITS: 16-19**

ENG 112 *or*	ENGLISH COMPOSITION II (3/3) *or*
ENG 122	ADVANCED ENGLISH COMPOSITION II (3/3)
BUS 124	PRINCIPLES OF ACCOUNTING II (4/4)
ECN 232	ECONOMICS (MACRO) (3/3)
PLS 221 *or*	AMERICAN GOVERNMENT REQUIREMENT (3/3)
PLS 222 *or*	
HST 221 & HST 222	
CIS 171, 172, 173	SPREADSHEETS I, II, III (3/3.75)

YEAR 2 (FALL SEMESTER) **CREDITS: 16**

BUS 221	BUSINESS LAW (3/3)
BUS 223	INTERMEDIATE ACCOUNTING II (4/4)
BUS 225	TAXATION OF INDIVIDUALS (3/3)
BUS 121	INTRODUCTION TO BUSINESS (3/3)
BUS 228	COST ACCOUNTING (3/3)

YEAR 2 (SPRING SEMESTER) **CREDITS: 14.5**

BUS 222	BUSINESS LAW (3/3)
BUS 224	INTERMEDIATE ACCOUNTING II (4/4)
BUS 226	TAXATION OF BUSINESS ENTITIES (3/3)
SPE 121 *or*	SPEECH COMMUNICATION (3/3) *or*
SPE 123	PUBLIC COMMUNICATION (3/3)
BUS 257	COMPUTERIZED ACCOUNTING SYSTEMS (1.5/2)

ANTHROPOLOGY

ASSOCIATE IN ARTS (AA) DEGREE
ANTHROPOLOGY CONCENTRATION

For students considering a major in ANTHROPOLOGY upon transferring to a four-year institution, the Associate of Arts degree with an ANTHROPOLOGY concentration from ACC offers a strong foundation, providing essential courses that serve as building blocks for advanced study.

A concentration in ANTHROPOLOGY can lead to diverse career opportunities, including cultural resource management, forensics, museums, academia, international development, public health, advocacy, human resources, business, government, and environmental research.

Program Objectives

Upon graduating from ACC with an Associate of Arts degree with a concentration in ANTHROPOLOGY, students will:

1. **Demonstrate** an understanding of human diversity through anthropological theories and methods.
2. **Apply** research skills and ethical principles to analyze past and present human societies.
3. **Communicate** anthropological concepts effectively and recognize their relevance to global and social issues.

It is strongly recommended that students consult with an ACC Academic Advisor in ANTHROPOLOGY to ensure they meet specific program requirements, objectives, and transfer goals.

PROGRAM REQUIREMENTS (PR)

ANP 121	**CULTURAL ANTHROPOLOGY (3/3)**
ANP 240	**INTRODUCTION TO ARCHAEOLOGY (3/4)**
HST 121	**HISTORY OF THE EARLY WESTERN WORLD (3/3)**
HST 122	**HISTORY OF THE MODERN WESTERN WORLD (3/3)**

GENERAL EDUCATION
DEGREE DISTRIBUTION REQUIREMENTS

GROUP 1 (G1) – ENGLISH COMPOSITION

Six (6) semester credits are required, including ENG 111 or 121 and 112, 122 or 123

GROUP 2 (G2) – SCIENCES/MATHEMATICS

Eight (8) semester credits are required, including at least one laboratory science course. Courses will be taken in more than one academic discipline (course abbreviation/prefix). Note: Two (2) courses in Natural Sciences, including one with laboratory experience (from two disciplines), in addition to MTH 118 or MTH 121 or higher, are required to achieve the Michigan Transfer Agreement (MTA).

GROUP 3 (G3) – SOCIAL SCIENCES

Eight (8) semester credits are required, including the Political Science or U.S. History courses used to satisfy the American Government requirement. Courses will be taken in more than one academic discipline (course abbreviation/prefix).

GROUP 4 (G4) – HUMANITIES/FINE ARTS

Eight (8) semester credits are required, and they must include either: a.) A combination of courses taken in more than one academic discipline (course abbreviation/prefix) or b.) HUM 241 and 242 — Humanities I and II. Note: Two (2) courses in Humanities and Fine Arts (from two disciplines and excluding studio and performance classes) are required for the Michigan Transfer Agreement (MTA).

ELECTIVE CREDITS (EC)

The remainder of credits for an AA degree with this concentration should be oriented toward additional courses in ANTHROPOLOGY such as **HST 223, HST 224, HST 227, and HST 228** when available, or selected from **ANP, ART, ECN, EDU, ENG, GEO, HST, HUM, MUS, PFA, PHL, PLS, PSY, SOC, SPE**, and/or foreign language courses in consultation with an ACC Academic Advisor in ANTHROPOLOGY. It is strongly recommended that foreign language preparation begin as soon as possible, if pursued.

RECOMMENDED COURSES - SEQUENCE
GROUP 1-4 REQUIREMENTS + ELECTIVE CREDITS

Meets ACC degree distribution and MTA requirements
60 CREDITS - 64 CONTACT HOURS

YEAR 1 FALL		13 CREDITS
G1	ENG 111	ENGLISH COMPOSITION I (3/3)
G2	MTH 118	Math for Liberal Arts/QR (4/4)
G3 PR	**ANP 121**	**CULTURAL ANTHROPOLOGY (3/3)**
G4 PR	**HST 121**	**EARLY WESTERN WORLD (3/3)**

YEAR 1 SPRING		16 CREDITS
G1	ENG 112	ENGLISH COMPOSITION II (3/3)
G2	GEO 127	PHYSICAL GEOGRAPHY (4/5)
G3	PSY 101	GENERAL PSYCHOLOGY (3/3)
G3 PR	**ANP 240**	**INTRODUCTION TO ARCHAEOLOGY (3/4)**
G4 PR	**HST 122**	**MODERN WESTERN WORLD (3/3)**

YEAR 2 FALL		16 CREDITS
G2	SCI	NATURAL SCIENCE (4/5)
G3	HST 221	U.S. HISTORY I (3/3)
G3	ECN 232	ECONOMICS (MACRO) (3/3)
G4	HUM/FA	HUMANITIES/FINE ARTS (3/3)
EC	ELECTIVE	GENERAL ELECTIVE (3/3)

YEAR 2 SPRING		15 CREDITS
G3	HST 222	U.S. HISTORY II (3/3)
G3	GEO 151	INTRO TO GEOGRAPHIC INFO SYST (1.5/2)
G3	GEO 152	ADV GEOGRAPHIC INFO SYST (1.5/2)
G3	SOC 123	INTRODUCTION TO SOCIOLOGY (3/3)
EC	ELECTIVE	GENERAL ELECTIVE (3/3)
EC	ELECTIVE	GENERAL ELECTIVE (3/3)

APPRENTICE – ELECTRICAL

CERTIFICATE (C)

DESCRIPTION: Alpena Community College offers Certificates of Completion for basic and advanced electrical apprenticeship training. The curriculum meets current industry standards for this skilled trade, and core, basic, and advanced courses allow previously trained workers to take only the courses needed to upgrade their skills without being committed to an entire program. College credits earned may be applied toward requirements for an associate degree at ACC.

CORE REQUIREMENTS **CREDITS: 7-9**

APP 106M	INDUSTRIAL SAFETY (1/1)
APP 100E	ELECTRICAL STUDIES FOR TRADES (3/4)
MTH 110 *or*	TECHNICAL MATH I (3/4) *or*
MTH 115	APPLIED ALGEBRA & TRIGONOMETRY (5/6)

BASIC REQUIREMENTS **CREDITS: 22**

APP 102E	RESIDENTIAL WIRING & BLUEPRINT RDG (3/4)
APP 103E	COMMERCIAL & INDUSTRIAL WIRING (3/4)
APP 104E	AC/DC FUNDAMENTALS (3/4)
APP 107E	SPECIALTY WIRING (3/4)
APP 111E	ELECTRIC MOTOR CONTROL (3/4)
APP 114E	PROGRAMMABLE CONTROLLERS (3/4)
APP 115E	NATIONAL ELECTRIC CODE APPLICATION (4/4)

ADVANCED REQUIREMENTS **CREDITS: 6**

APP 122E	DIGITAL ELECTRONICS FOR ELECTRICIANS (3/4)
APP 123E	LINEAR ELECTRONICS FOR ELECTRICIANS (3/4)

MINIMUM 29 CREDIT HOURS / 37 CONTACT HOURS (BASIC)
MINIMUM 35 CREDIT HOURS / 45 CONTACT HOURS (ADVANCED)

NOTE:
Must complete Core and Basic courses prior to Advanced courses.

Apprentice – Millwright (Basic)

Certificate (C)

Description: Alpena Community College offers Certificates of Completion for basic and advanced millwright apprenticeship training. The curriculum meets current industry standards for this skilled trade. College credits earned in this program may be applied toward the requirements for an associate degree at ACC. This program prepares students to work in an industrial setting with installation and maintenance of hydraulic, pneumatic equipment, power trains, belts, gears, and chains. Students who have completed the basic program may obtain an advanced certificate by completing the specified courses. The Apprentice (APP) courses for this program of study are offered primarily at night on a four-year rotating basis.

Basic Requirements		**Credits: 29-30**
APP 100E	Electrical Studies for Trades (3/4)	
APP 106M	Industrial Safety (1/1)	
APP 121M *or* MFG 120	Apprentice Blueprint Rdg (3/4) [A] *or* Print Interpretation & Processes (3/4) [A]	
APP 122M	Machine Repair (3/4) [A]	
APP 124M	Apprentice Hydraulics (3/4) [A]	
APP 125M *or* MFG 101	Apprentice Machine Shop (3/4) [A] *or* Machining Processes I (4/6)	
APP 128M	Rigging & Weight Estimating (1.5/2) [A]	
APP 129M	Apprentice Pneumatics (1.5/2) [A]	
APP 223M	Predictive & Preventative maintenance (3/4) [A]	
WLD 123 *or* WLD 124	SMAW Welding Processes (4/6) *or* GMAW & FCAW Welding Processes (4/6)	
MTH 110	Technical Math I (3/4)	

Minimum 29 Credit Hours / 39 Contact Hours

Notes:
[A] Courses offered on a four-year rotating basis

Apprentice – Millwright (Basic)

Certificate (C)
Suggested Sequence of Courses

Year 1 (Fall Semester)		**Credits: 15**
APP 100E	Electrical Studies for Trades (3/4)	
APP 122M	Machine Repair (3/4)	
APP 124M	Apprentice Hydraulics (3/4)	
APP 128M	Rigging & Weight Estimating (1.5/2)	
APP 129M	Apprentice Pneumatics (1.5/2)	
MTH 110	Technical Math I (3/4)	

Year 1 (Spring Semester)		**Credits: 14**
APP 106M	Industrial Safety (1/1)	
APP 121M *or* MFG 120	Apprentice Blueprint Rdg (3/4) *or* Print Interpretation & Processes (3/4)	
APP 125M *or* MFG 101	Apprentice Machine Shop (3/4) *or* Machining Processes I (4/6)	
APP 223M	Predictive & Preventative maintenance (3/4)	
WLD 123 *or* WLD 124	SMAW Welding Processes (4/6) *or* GMAW & FCAW Welding Processes (4/6)	

APPRENTICE – MILLWRIGHT (ADVANCED)

CERTIFICATE (C)

DESCRIPTION: Alpena Community College offers Certificates of Completion for basic and advanced millwright apprenticeship training. The curriculum meets current industry standards for this skilled trade. College credits earned in this program may be applied toward the requirements for an associate degree at ACC. This program prepares students to work in an industrial setting with installation and maintenance of hydraulic, pneumatic equipment, power trains, belts, gears, and chains. Students who have completed the basic program may obtain an advanced certificate by completing the specified courses. The Apprentice (APP) courses for this program of study are offered primarily at night on a four-year rotating basis.

BASIC REQUIREMENTS **CREDITS: 29-30**

APP 100E	ELECTRICAL STUDIES FOR TRADES (3/4)
APP 106M	INDUSTRIAL SAFETY (1/1)
APP 121M *or* MFG 120	APPRENTICE BLUEPRINT RDG (3/4) [A] *or* PRINT INTERPRETATION & PROCESSES (3/4) [A]
APP 122M	MACHINE REPAIR (3/4) [A]
APP 124M	APPRENTICE HYDRAULICS (3/4) [A]
APP 125M *or* MFG 101	APPRENTICE MACHINE SHOP (3/4) [A] *or* MACHINING PROCESSES I (4/6)
APP 128M	RIGGING & WEIGHT ESTIMATING (1.5/2) [A]
APP 129M	APPRENTICE PNEUMATICS (1.5/2) [A]
APP 223M	PREDICTIVE & PREVENTATIVE MAINTENANCE (3/4) [A]
MTH 110	TECHNICAL MATH I (3/4)
WLD 123 *or* WLD 124	SMAW WELDING PROCESSES (4/6) *or* GMAW & FCAW WELDING PROCESSES (4/6)

ADVANCED REQUIREMENTS **CREDITS: 15-17**

APP 102E	RESIDENTIAL WIRING & BLUEPRINT RDG (3/4)
APP 103E	COMMERCIAL & INDUSTRIAL WIRING (3/4)

CHOSE THREE COURSES FROM THE FOLLOWING:

APP 111E	ELECTRIC MOTOR CONTROL (3/4)
APP 114E	PROGRAMMABLE CONTROLLERS (3/4)
APP 210M	METAL FORMING & SHEETMETAL (3/4)
APP 220M	MECHATRONIC SYSTEM INTEGRATION & REPAIR (3/4)
APP 290M	MILLWRIGHT INTERNSHIP (3/4)
MFG 102	MACHINING PROCESSES II (4/6)
MFG 201	CNC I (4/6)
	AN ADDITIONAL WLD OR MET COURSE (4/6)

MINIMUM 29 CREDIT HOURS / 39 CONTACT HOURS (BASIC)
MINIMUM 44 CREDIT HOURS / 58 CONTACT HOURS (ADVANCED)

NOTES:
[A] Courses offered on a four-year rotating basis

Must compete Basic courses prior to Advanced courses

APPRENTICE – MILLWRIGHT (ADVANCED)

CERTIFICATE (C)
SUGGESTED SEQUENCE OF COURSES

YEAR 1 (FALL SEMESTER) **CREDITS: 15**

APP 100E	ELECTRICAL STUDIES FOR TRADES (3/4)
APP 122M	MACHINE REPAIR (3/4)
APP 124M	APPRENTICE HYDRAULICS (3/4)
APP 128M	RIGGING & WEIGHT ESTIMATING (1.5/2)
APP 129M	APPRENTICE PNEUMATICS (1.5/2)
MTH 110	TECHNICAL MATH I (3/4)

YEAR 1 (SPRING SEMESTER) **CREDITS: 14**

APP 106M	INDUSTRIAL SAFETY (1/1)
APP 121M *or* MFG 120	APPRENTICE BLUEPRINT RDG (3/4) *or* PRINT INTERPRETATION & PROCESSES (3/4)
APP 125M *or* MFG 101	APPRENTICE MACHINE SHOP (3/4) *or* MACHINING PROCESSES I (4/6)
APP 223M	PREDICTIVE & PREVENTATIVE MAINTENANCE (3/4)
WLD 123 *or* WLD 124	SMAW WELDING PROCESSES (4/6) *or* GMAW & FCAW WELDING PROCESSES (4/6)

YEAR 2 (FALL SEMESTER) **CREDITS: 15-17**

APP 102E	RESIDENTIAL WIRING & BLUEPRINT RDG (3/4)
APP 103E	COMMERCIAL & INDUSTRIAL WIRING (3/4)

CHOSE THREE COURSES FROM THE FOLLOWING:

APP 111E	ELECTRIC MOTOR CONTROL (3/4)
APP 114E	PROGRAMMABLE CONTROLLERS (3/4)
APP 210M	METAL FORMING & SHEETMETAL (3/4)
APP 220M	MECHATRONIC SYSTEM INTEGRATION & REPAIR (3/4)
APP 290M	MILLWRIGHT INTERNSHIP (3/4)
MFG 102	MACHINING PROCESSES II (4/6)
MFG 201	CNC I (4/6)
	AN ADDITIONAL WLD OR MET COURSE (4/6)

Automotive Service & Repair

Certificate

Description: This is the first level, one-year Vocational Certificate. It prepares the student for entry-level work in automotive brakes, suspension, electrical systems, engine performance, climate control, and hybrid / electric vehicles.

Certificate Requirements		Credits: 44
AUT 118	Automotive Fundamentals	(4/6)
AUT 119	Automotive Brake Systems	(5/8)
AUT 122	Automotive Air, Fuel & Emissions Systems	(4/6)
AUT 123	Auto Suspension, Steering & Alignment	(5/8)
AUT 124	Auto Electrical & Electronics Systems I	(5/8)
AUT 125	Auto Electrical & Electronics Systems II	(5/8)
AUT 201	Computerized Engine controls	(4/6)
AUT 202	Engine Performance Diagnosis & Tune-Up	(5/8)
AUT 205	Auto Climate Control	(3/4)
AUT 207	Hybrid & Electric Vehicles	(4/6)

Minimum 44 Credit Hours / 68 Contact Hours

Notes:
Tool Requirements: Students are required to provide their own safety equipment, work clothes, and basic hand tool set. A list is provided. Estimated cost is $1,000 to $2,500. Special student discounts and deferred payment programs are available. A quality set of hand tools is required for future employability.

Automotive Service & Repair

Certificate

Suggested Sequence of Courses

Year 1 (Fall Semester)		Credits: 19
AUT 118	Automotive fundamentals	(4/6)
AUT 119	Automotive Brake Systems	(5/8)
AUT 123	Auto Suspension, Steering & Alignment	(5/8)
AUT 124	Auto Electrical & Electronics Systems I	(5/8)

Year 1 (Spring Semester)		Credits: 17
AUT 125	Auto Electrical & Electronics Systems II	(5/8)
AUT 201	Computerized Engine Controls	(4/6)
AUT 202	Engine Performance Diagnosis & Tune-Up	(5/8)
AUT 205	Automotive Climate Control	(3/4)

Year 1 (Summer Semester)		Credits: 8
AUT 122	Automotive, Fuel & Emissions Systems	(4/6)
AUT 207	Hybrid & Electric Vehicles	(4/6)

Automotive Service & Repair

Master Certificate

Description: This master certificate program continues beyond the basic certificate with the addition of engine repair & automotive transmission / driveline courses. Completion of this certificate will cover all ASE categories that would be required for a Master ASE certification

Certificate Requirements		Credits: 54
AUT 118	Automotive Fundamentals	(4/6)
AUT 119	Automotive Brake Systems	(5/8)
AUT 122	Automotive Air, Fuel & Emissions Systems	(4/6)
AUT 123	Auto Suspension, Steering & Alignment	(5/8)
AUT 124	Auto Electrical & Electronics Systems I	(5/8)
AUT 125	Auto Electrical & Electronics Systems II	(5/8)
AUT 201	Computerized Engine controls	(4/6)
AUT 202	Engine Performance Diagnosis & Tune-Up	(5/8)
AUT 205	Auto Climate Control	(3/4)
AUT 207	Hybrid & Electric Vehicles	(4/6)
AUT 209	Automotive Transmissions & Drive Trains	(5/8)
AUT 221	Engine Repair & Overhaul	(5/8)

Minimum 54 Credit Hours / 84 Contact Hours

Notes:
Tool Requirements: Students are required to provide their own safety equipment, work clothes, and basic hand tool set. A list is provided. Estimated cost is $1,000 to $2,500. Special student discounts and deferred payment programs are available. A quality set of hand tools is required for future employability.

Automotive Service & Repair

Master Certificate

Suggested Sequence of Courses

Year 1 (Fall Semester)		Credits: 19
AUT 118	Automotive fundamentals	(4/6)
AUT 119	Automotive Brake Systems	(5/8)
AUT 123	Auto Suspension, Steering & Alignment	(5/8)
AUT 124	Auto Electrical & Electronics Systems I	(5/8)

Year 1 (Spring Semester)		Credits: 18
AUT 122	Automotive, Fuel & Emissions Systems	(4/6)
AUT 125	Auto Electrical & Electronics Systems II	(5/8)
AUT 201	Computerized Engine Controls	(4/6)
AUT 202	Engine Performance Diagnosis & Tune-Up	(5/8)

Year 1 (Summer Semester)		Credits: 7
AUT 205	Automotive Climate Control	(3/4)
AUT 207	Hybrid & Electric Vehicles	(4/6)

Year 2 (Fall Semester)		Credits: 5
AUT 221	Engine Repair & Overhaul	(5/8)

Year 2 (Spring Semester)		Credits: 5
AUT 209	Automotive Transmission & Drive Trains	(5/8)

Automotive Service Technology

Associate in Applied Science (AAS) Degree

Description: Upon completion of the Master Certificate, an Associate in Applied Science Degree can be earned by completing English, math, and political science courses.

General Education Requirements **Credits: 12**

ENG 120 *or* Applied Communication (3/3) *or*
ENG 111 English Composition I (3/3)

ENG 123 *or* Technical Communication (3/3) *or*
ENG 112 English Composition II (3/3)

MTH 110 *or* Technical Math (3/4) *or*
MTH 113 *or* Intermediate Algebra (4/4) *or*
MTH 115 Applied Algebra & Trigonometry (5/6)

PLS 221 *or* American Government requirement (3/3)
PLS 222 *or*
HST 221 & HST 222

Core Program Requirements **Credits: 54**

AUT 118 Automotive Fundamentals (4/6)
AUT 119 Automotive Brake Systems (5/8)
AUT 122 Automotive Air, Fuel & Emissions Systems (4/6)
AUT 123 Auto Suspension, Steering & Alignment (5/8)
AUT 124 Auto Electrical & Electronics Systems I (5/8)
AUT 125 Auto Electrical & Electronics Systems II (5/8)
AUT 201 Computerized Engine controls (4/6)
AUT 202 Engine Performance Diagnosis & Tune-Up (5/8)
AUT 205 Auto Climate Control (3/4)
AUT 207 Hybrid & Electric Vehicles (4/6)
AUT 209 Automotive Transmissions & Drive Trains (5/8)
AUT 221 Engine Repair & Overhaul (5/8)

Minimum 66 Credit Hours / 97 Contact Hours

Notes:
Tool Requirements: Students are required to provide their own safety equipment, work clothes, and basic hand tool set. A list is provided. Estimated cost is $1,000 to $2,500. Special student discounts and deferred payment programs are available. A quality set of hand tools is required for future employability.

Automotive Service Technology

Associate in Applied Science (AAS) Degree
Suggested Sequence of Courses

Year 1 (Fall Semester) **Credits: 19**

AUT 118 Automotive fundamentals (4/6)
AUT 119 Automotive Brake Systems (5/8)
AUT 123 Auto Suspension, Steering & Alignment (5/8)
AUT 124 Auto Electrical & Electronics Systems I (5/8)

Year 1 (Spring Semester) **Credits: 18**

AUT 122 Automotive, Fuel & Emissions Systems (4/6)
AUT 125 Auto Electrical & Electronics Systems II (5/8)
AUT 201 Computerized Engine Controls (4/6)
AUT 202 Engine Performance Diagnosis & Tune-Up (5/8)

Year 1 (Summer Semester) **Credits: 7**

AUT 205 Automotive Climate Control (3/4)
AUT 207 Hybrid & Electric Vehicles (4/6)

Year 2 (Fall Semester) **Credits: 11-13**

AUT 221 Engine Repair & Overhaul (5/8)

ENG 120 *or* Technical Communication (3/3) or
ENG 111 English Composition I (3/3)

MTH 110 *or* Technical Math (3/4) or
MTH 113 *or* Intermediate Algebra (4/4) or
MTH 115 Applied Algebra & Trigonometry (5/6)

Year 2 (Spring Semester) **Credits: 11**

AUT 209 Auto Transmissions & Drive Trains (5/8)

ENG 123 *or* Technical Communication (3/3) *or*
ENG 112 English Composition II (3/3)

PLS 221 *or* American Government requirement (3/3)
PLS 222 *or*
HST 221 & HST 222

BIOLOGY

ASSOCIATE IN SCIENCE (AS) DEGREE
BIOLOGY CONCENTRATION

For students considering a major in BIOLOGY upon transferring to a four-year institution, the Associate of Science degree with a BIOLOGY concentration from ACC offers a strong foundation, providing essential courses that serve as building blocks for advanced study.

A concentration in BIOLOGY can lead to diverse career opportunities, including healthcare, research, biotechnology, environmental science, and education, with roles such as biomedical scientists, laboratory technicians, ecologists, geneticists, healthcare professionals, natural resource professionals, and science educators.

Program Objectives

Upon graduating from ACC with an Associate of Science degree with a concentration in BIOLOGY, students will:

1. **Demonstrate** a foundational understanding of biological principles across molecular, cellular, organismal, and ecological levels.
2. **Apply** critical thinking, laboratory, and research skills to analyze data and solve scientific problems.
3. **Apply** scientific knowledge and communication skills to prepare for further academic study or careers in healthcare, biotechnology, environmental science, and related fields.

It is strongly recommended that students consult with an ACC Academic Advisor in BIOLOGY to ensure they meet specific program requirements, objectives, and transfer goals.

PROGRAM REQUIREMENTS (PR)

BIO 161	**GENERAL COLLEGE BIOLOGY I (4/5)**
BIO 162	**GENERAL COLLEGE BIOLOGY II (4/5)**
CEM 121	**GENERAL & INORGANIC CHEMISTRY (4/7)**
CEM 122	**INORGANIC CHEM & QUALITATIVE ANALYSIS (4/7)**
CEM 221	**ORGANIC CHEMISTRY (5/7)**
CEM 222	**ORGANIC CHEMISTRY (5/7)**
MTH 223	**STATISTICAL METHODS (4/4)**
PHY 121	**GENERAL COLLEGE PHYSICS (4/6)**
PHY 122	**GENERAL COLLEGE PHYSICS (4/6)**

GENERAL EDUCATION
DEGREE DISTRIBUTION REQUIREMENTS

GROUP 1 (G1) – ENGLISH COMPOSITION

Six (6) semester credits are required, including ENG 111 or 121 and 112, 122 or 123

GROUP 2 (G2) – SCIENCES/MATHEMATICS

Twenty (20) semester credits are required, including at least one laboratory science course. Courses will be taken in more than one academic discipline (course abbreviation/prefix). Note: Two (2) courses in Natural Sciences, including one with laboratory experience (from two disciplines), in addition to MTH 118 or MTH 121 or higher, are required to achieve the Michigan Transfer Agreement (MTA).

GROUP 3 (G3) – SOCIAL SCIENCES & HUMANITIES/FINE ARTS

Ten (10) semester credits are required in combination from both of these groups, with a minimum of three (3) credits from each group. Political Science or U.S. History courses used to satisfy the American Government requirement can be included. Courses will be taken in more than one academic discipline (course abbreviation/prefix). Note: Two (2) courses in Social Sciences (from two disciplines) and two (2) courses in Humanities and Fine Arts (from two disciplines and excluding studio and performance classes) are required for the Michigan Transfer Agreement (MTA).

ELECTIVE CREDITS (EC)

The remainder of credits for an AS degree with this concentration should be oriented toward additional courses in BIOLOGY with prefixes **CEM, MTH, and PHY** when available in consultation with an ACC Academic Advisor in BIOLOGY.

RECOMMENDED COURSES - SEQUENCE
GROUP 1-4 REQUIREMENTS + ELECTIVE CREDITS

Meets ACC graduation distribution and MTA requirements
60 CREDITS - 76 CONTACT HOURS

YEAR 1 FALL	15 CREDITS	
G1	ENG 111	ENGLISH COMPOSITION I (3/3)
G2 PR	**BIO 161**	**GENERAL COLLEGE BIOLOGY I (4/5)**
G2 PR	**CEM 121**	**GENERAL & INORGANIC CHEMISTRY (4/7)**
G3	MTH 123	COLLEGE ALGEBRA & ANALYTIC TRIG (4/4)

YEAR 1 SPRING	15 CREDITS	
G1	ENG 112	ENGLISH COMPOSITION II (3/3)
G2 PR	**BIO 162**	**GENERAL COLLEGE BIOLOGY II (4/5)**
G2 PR	**CEM 122**	**INORGANIC CHEM & QUAL ANALYSIS (4/7)**
G2 PR	**MTH 223**	**STATISTICAL METHODS (4/4**

YEAR 2 FALL	15 CREDITS	
G2 PR	**CEM 221**	**ORGANIC CHEMISTRY (5/7)**
G2 PR	**PHY 121**	**GENERAL COLLEGE PHYSICS (4/6)**
G3	PLS 221	AMERICAN GOVERNMENT & POLITICS (3/3)
G3	HUM/FA	HUMANITIES/FINE ARTS (3/3)

YEAR 2 SPRING	15 CREDITS	
G2 PR	**CEM 222**	**ORGANIC CHEMISTRY (5/7)**
G2 PR	**PHY 122**	**GENERAL COLLEGE PHYSICS (4/6)**
G3	SOC SCI	SOCIAL SCIENCE ELECTIVE (3/3)
G3	HUM/FA	HUMANITIES/FINE ARTS (3/3)

Business Administration

Associate in Arts (AA) Degree
Business Administration Concentration

For students considering a major in BUSINESS ADMINISTRATION upon transferring to a four-year institution, the Associate of Arts degree with a BUSINESS ADMINISTRATION concentration from ACC offers a strong foundation, providing essential courses that serve as building blocks for advanced study.

A concentration in BUSINESS ADMINISTRATION can lead to diverse career opportunities, including management, marketing, finance, entrepreneurship, human resources, consulting, operations, and international business across various industries.

Program Objectives

Upon graduating from ACC with an Associate of Arts degree with a concentration in BUSINESS ADMINISTRATION, students will:

1. **Demonstrate** an understanding of fundamental business concepts, including management, marketing, finance, and economics.
2. **Apply** critical thinking and analytical skills to solve business problems and make informed decisions.
3. **Communicate** effectively in business environments and understand ethical and global considerations in business practices.

It is strongly recommended that students consult with an ACC Academic Advisor in BUSINESS ADMINISTRATION to ensure they meet specific program requirements, objectives, and transfer goals.

Program Requirements (PR)

BUS 121	**Introduction to Business (3/3)**
BUS 123	**Principles of Accounting I (4/4)**
BUS 124	**Principles of Accounting II (4/4) *or***
BUS 127	**Principles of Management (3/3)**
BUS 221	**Business Law I (3/3)**
BUS 241	**Marketing (3/3)**
ECN 231	**Economics (Micro) (3/3)**
ECN 232	**Economics (Macro) (3/3)**

General Education
Degree Distribution Requirements

Group 1 (G1) – English composition
Six (6) semester credits are required, including ENG 111 or 121 and 112, 122 or 123

Group 2 (G2) – Sciences/Mathematics

Eight (8) semester credits are required, including at least one laboratory science course. Courses will be taken in more than one academic discipline (course abbreviation/prefix). Note: Two (2) courses in Natural Sciences, including one with laboratory experience (from two disciplines), in addition to MTH 118 or MTH 121 or higher, are required to achieve the Michigan Transfer Agreement (MTA).

Group 3 (G3) – Social Sciences
Eight (8) semester credits are required, including the Political Science or U.S. History courses used to satisfy the American Government requirement. Courses will be taken in more than one academic discipline (course abbreviation/prefix).

Group 4 (G4) – Humanities/Fine Arts

Eight (8) semester credits are required, and they must include either: a.) A combination of courses taken in more than one academic discipline (course abbreviation/prefix) or b.) HUM 241 and 242 — Humanities I and II. Note: Two (2) courses in Humanities and Fine Arts (from two disciplines and excluding studio and performance classes) are required for the Michigan Transfer Agreement (MTA).

Elective Credits (EC)

The remainder of credits for an AA degree with this concentration should be oriented toward additional courses in BUSINESS ADMINISTRATION, such as **BUS 115/116/117, BUS 122, 128, 222, 229, 233, 235, 241, 248, 255, 262, and CIS 120, 250** when available and in consultation with an ACC Academic Advisor in BUSINESS ADMINISTRATION. It is strongly recommended that foreign language preparation begin as soon as possible, if pursued.

Recommended Courses - Sequence
Group 1-4 Requirements + Elective Credits

Meets ACC degree distribution and MTA requirements
60 Credits - 62 Contact Hours

Year 1 Fall	17 Credits	
G1	ENG 111	English Composition I (3/3)
G2	MTH 121	College Algebra (4/4) *or* MTH 123 College Algebra & Analytic Trig (4/4) *or* MTH 131 Analytic Geometry & Calculus I (5/5) *or higher*
PR	**BUS 121**	**Introduction to Business (3/3)**
PR	**BUS 123**	**Principles of Accounting I (4/4)**
EC	CIS 120	Intro to Microcomputers (3/4)
Year 1 Spring	**13 Credits**	
G1	ENG 112	English Composition II (3/3)
G3 PR	**ECN 232**	**Economics (Macro) (3/3)**
PR	**BUS 124**	**Principles of Accounting II (4/4)**
PR	**BUS 127**	**Principles of Management (3/3) *or***
	BUS 235	**Human Resources Management (3/3)**
Year 2 Fall	**15 Credits**	
G2	SCI	Lab Science/Natural Science (3/4)
G3	PLS 221	American Government & Politics (3/3)
G3 PR	**ECN 231**	**Economics (Micro) (3/3)**
G4	HUM/FA	Humanities/Fine Arts (3/3)
PR	**BUS 221**	**Business Law (3/3)**
Year 2 Spring	**15 Credits**	
G2	SCI	Lab Science/Natural Science (3/3)
G3	PSY 101	General Psychology (3/3)
G4	SPE 121	Speech Communication *or*
	SPE 123	Public Communication (3/3)
G4	HUM/FA	Humanities/Fine Arts (3/3)
PR	**BUS 241**	**Principles of Marketing (3/3)**

BUSINESS INFORMATION SYSTEMS – ADMINISTRATIVE PROFESSIONAL

ASSOCIATE IN APPLIED SCIENCE (AAS) DEGREE

DESCRIPTION: This program is designed for the student who plans to begin work as an administrative professional in a traditional setting. Using the latest developments in information technology as they relate to the management of the modern office, the program provides an extensive background in computer applications and an exposure to the total are of electronic communications technology.

GENERAL EDUCATION REQUIREMENTS **CREDITS: 9**

ENG 111 *or*	ENGLISH COMPOSITION I (3/3) *or*
ENG 121	ADVANCED ENGLISH COMPOSITION I (3/3)
ENG 112 *or*	ENGLISH COMPOSITION II (3/3) *or*
ENG 122	ADVANCED ENGLISH COMPOSITION II (3/3)
PLS 221 *or*	AMERICAN GOVERNMENT REQUIREMENT (3/3)
PLS 222 *or*	
HST 221 & HST 222	

CORE PROGRAM REQUIREMENTS **CREDITS: 45**

BIS 101	KEYBOARD SKILLBUILDING (1/2) [A]
BIS 140	PROOFREADING & EDITING FOR BUSINESS PROFESSIONALS (3/4) [A]
BUS 121	INTRODUCTION TO BUSINESS (3/3) [A]
BUS 123	PRINCIPLES OF ACCOUNTING I (4/4) [AB]
BUS 124	PRINCIPLES OF ACCOUNTING II (4/4) [A]
BUS 125	BUSINESS MATH (3/3) [A]
BUS 235	HUMAN RESOURCES MANAGEMENT (3/3) [A]
BUS 248	BUSINESS COMMUNICATIONS (3/3) [A]
CIS 120	INTRO TO MICROCOMPUTERS (3/4) [A]
CIS 150	WORD PROCESSING (3/4) [A]
CIS 170	SPREADSHEET SOFTWARE (3/4) [A]
CIS 240	MULTIMEDIA PRESENTATIONS (3/4) [A]
CIS 241	INTRODUCTION TO WEB DESIGN & MGT (3/4) [A]
CIS 250	DESKTOP PUBLISHING (3/4) [A]
CIS 258	INTRO TO ENTERPRISE DATABASE (3/4) [A]

SUGGESTED ELECTIVES **CREDITS: 6**

ANY BUS, CIS, OR CNS ELECTIVE (3/3)
ANY BUS, CIS, OR CNS ELECTIVE (3/3)

MINIMUM 60 CREDIT HOURS / 69.0 CONTACT HOURS

NOTES:
[A] Included in occupational specialty.
GPA of 2.0 or higher must be maintained in occupational specialty courses
[B] For the student taking BUS 123, BUS 125 must be taken as a co-requisite.

BUSINESS INFORMATION SYSTEMS – ADMINISTRATIVE PROFESSIONAL

ASSOCIATE IN APPLIED SCIENCE (AAS) DEGREE
SUGGESTED SEQUENCE OF COURSES

YEAR 1 (FALL SEMESTER) **CREDITS: 16**

	BUS, CIS, *or* CNS ELECTIVE (3/3)
BIS 101	KEYBOARD SKILLBUILDING (1/2)
BUS 121	INTRODUCTION TO BUSINESS (3/3)
CIS 120	INTRO TO MICROCOMPUTERS (3/4)
CIS 150	WORD PROCESSING (3/4)
ENG 111 *or*	ENGLISH COMPOSITION I (3/3) *or*
ENG 121	ADVANCED ENGLISH COMPOSITION I (3/3)

YEAR 1 (SPRING SEMESTER) **CREDITS: 12**

BIS 140	PROOFREADING & EDITING FOR BUSINESS PROFESSIONAL (3/4)
CIS 170	SPREADSHEET SOFTWARE (3/4)
CIS 240	MULTIMEDIA PRESENTATIONS (3/4)
ENG 112 *or*	ENGLISH COMPOSITION II (3/3) *or*
ENG 122	ADVANCED ENGLISH COMPOSITION II (3/3)

YEAR 2 (FALL SEMESTER) **CREDITS: 16**

	BUS, CIS, *or* CNS ELECTIVE (3/3)
BUS 123	PRINCIPLES OF ACCOUNTING I (4/4)
BUS 125	BUSINESS MATH (3/3)
CIS 250	DESKTOP PUBLISHING (3/4)
PLS 221 *or*	AMERICAN GOVERNMENT REQUIREMENT (3-6/3-6)
PLS 222 *or*	
HST 221 & HST 222	

YEAR 2 (SPRING SEMESTER) **CREDITS: 16**

BUS 124	PRINCIPLES OF ACCOUNTING II (4/4)
BUS 235	HUMAN RESOURCES MANAGEMENT (3/3)
BUS 248	BUSINESS COMMUNICATIONS (3/3)
CIS 241	INTRODUCTION TO WEB DESIGN & MGT (3/4)
CIS 258	INTRO TO ENTERPRISE DATABASE (3/4)

Business Information Systems – Business Services

Certificate (C)

Description: This one-year program is designed to provide entry level job skills needed for the modern office environment. The student is introduced to a variety of computer applications and office skills. All Classes are transferrable to the two-year Business Information Systems degree options.

General Education Requirements **Credits: 3**

ENG 111 *or*	English Composition I (3/3) *or*
ENG 121	Advanced English Composition I (3/3)

Core Program Requirements **Credits: 27.5**

BIS 101	Keyboard skillbuilding (1/2) [A]
BIS 140	Proofreading & Editing for Business Professionals (3/4) [A]
BUS 123	Principles of Accounting I (4/4) [AB]
BUS 125	Business Math (3/3) [A]
BUS 248	Business Communications (3/3) [A]
BUS 257	Computerized Accounting Systems (1.5/2) [A]
CIS 120	Intro to Microcomputers (3/4) [A]
CIS 150	Word Processing (3/4) [A]
CIS 170	Spreadsheet Software (3/4) [A]
CIS 250	Desktop Publishing (3/4) [A]

Minimum 30.5 Credit Hours / 36.25 Contact Hours

Notes:
[A] Included in occupational specialty.
GPA of 2.0 or higher must be maintained in occupational specialty courses
[B] For the student taking BUS 123, BUS 125 must be taken as a co-requisite.

Business Information Systems – Business Services

Certificate (C)

Suggested Sequence of Courses

Year 1 (Fall Semester) **Credits: 17**

BIS 101	Keyboard skillbuilding (1/2)
BUS 123	Principles of Accounting I (4/4)
BUS 125	Business Math (3/3)
CIS 120	Intro to Microcomputers (3/4)
CIS 150	Word Processing (3/4)
CIS 250	Desktop Publishing (3/4)

Year 1 (Spring Semester **Credits: 13.5**

BIS 140	Proofreading & Editing for Business Professionals (3/4)
BUS 248	Business Communications (3/3)
BUS 257	Computerized Accounting Systems (1.5/2)
CIS 170	Spreadsheet Software (3/4)
ENG 111 *or*	English Composition I (3/3) *or*
ENG 121	Advanced English Composition I (3/3)

Business Management

Associate in Applied Science (AAS) Degree

Description: The Business Management program is a well-rounded curriculum that blends general educational courses with business operations and management. This program prepares students for employment in the business industry or managing their own businesses. Students will gain widespread knowledge of sales, marketing, business law, human resource management, accounting, economics, business application software, and business operations.

General Education Requirements **Credits: 15**

ENG 111 *or*	English Composition I (3/3) *or*
ENG 121	Advanced English Composition I (3/3)
ENG 112 *or*	English Composition II (3/3) *or*
ENG 122	Advanced English Composition II (3/3)
PLS 221	American Government & Politics (3/3) [A]
PSY 101	General Psychology (3/3)
SPE 121	Speech Communication (3/3)

Core Program Requirements **Credits: 41**

BUS 121	Introduction to Business (3/3)
BUS 123	Principles of Accounting I (4/4)
BUS 124	Principles of Accounting II (4/4)
BUS 125	Business Math (3/3)
BUS 127	Principles of Management (3/3)
BUS 221	Business Law I (3/3)
BUS 222	Business Law II (3/3)
BUS 235	Human Resources Management (3/3)
BUS 241	Principles of Marketing (3/3)
BUS 255	Business Application Software (3/4)
CIS 120	Introduction to Microcomputers (3/4)
ECN 231	Economics (Micro) (3/3)
ECN 232	Economics (Macro) (3/3)

Suggested Electives **Credits: 6**

Fall Suggestions:

BUS 115,116,117	Foundations in Personal Finance (3/3)
BUS 122	Personal Selling (3/3)
BUS 228	Cost Accounting

Spring suggestions:

BUS 115,116,117	Foundations in Personal Finance (3/3)
BUS 128	Small Business Management (3/3)
BUS 229	Advertising (3/3)
BUS 233	Management & Supervisory Leadership (3/3)
BUS 248	Business Communication (3/3)

Minimum 62 Credit Hours / 64 Contact Hours

Notes:
[A] PLS 222 or HST 221 & HST 222 may substitute
A grade of 2.0 or higher must be maintained in occupational specialty courses

Business Management

Associate in Applied Science (AAS) Degree
Suggested Sequence of Courses

Year 1 (Fall Semester) **Credits: 16**

BUS 121	Introduction to Business (3/3)
BUS 123	Principles of Accounting I (4/4)
BUS 125	Business Math (3/3)
CIS 120	Introduction to Microcomputers (3/4)
ENG 111 *or*	English Composition I (3/3) *or*
ENG 121	Advanced English Composition I (3/3)

Year 1 (Spring Semester) **Credits: 16**

BUS 124	Principles of Accounting II (4/4)
BUS 127	Principles of Management (3/3)
BUS 235	Human Resources Management (3/3)
BUS 255	Business Application Software (3/4)
ENG 112 *or*	English Composition II (3/3) *or*
ENG 122	Advanced English Composition II (3/3)

Year 2 (Fall Semester) **Credits: 15**

BUS 221	Business Law I (3/3)
ECN 232	Economics (Macro) (3/3)
	Elective (3/3)
PLS 221	American Government & Politics (3/3)
SPE 121	Speech Communication (3/3)

Year 2 (Spring Semester) **Credits: 15**

BUS 222	Business Law II (3/3)
BUS 241	Principles of Marketing (3/3)
ECN 231	Economics (Micro) (3/3)
	Elective (3/3)
PSY 101	General Psychology (3/3)

CHEMISTRY

ASSOCIATE IN SCIENCE (AS) DEGREE
CHEMISTRY CONCENTRATION

For students considering a major in CHEMISTRY upon transferring to a four-year institution, the Associate of Science degree with a CHEMISTRY concentration from ACC offers a strong foundation, providing essential courses that serve as building blocks for advanced study.

A concentration in CHEMISTRY can lead to diverse career opportunities, including healthcare, pharmaceuticals, environmental science, research, and industry, such as roles in analytical chemistry, laboratory technology, pharmaceutical science, environmental consulting, chemical engineering, and quality control.

Program Objectives

Upon graduating from ACC with an Associate of Science degree with a concentration in CHEMISTRY, students will:

1. **Demonstrate** a foundational understanding of chemical principles, including organic, inorganic, physical, and analytical chemistry.
2. **Apply** laboratory and analytical skills to perform experiments, analyze data, and apply chemical theories in practical situations.
3. **Apply** scientific knowledge and effective communication skills to prepare for further academic study or careers in chemistry, healthcare, environmental science, and related fields.

It is strongly recommended that students consult with an ACC Academic Advisor in CHEMISTRY to ensure they meet specific program requirements, objectives, and transfer goals.

PROGRAM REQUIREMENTS (PR)

CEM 121	**GENERAL & INORGANIC CHEMISTRY (4/7)**
CEM 122	**INORGANIC CHEMISTRY & QUALITATIVE ANALYSIS (4/7)**
CEM 221	**ORGANIC CHEMISTRY (5/7)**
CEM 222	**ORGANIC CHEMISTRY (5/7)**
MTH 131	**ANALYTICAL GEOMETRY & CALCULUS I (5/5)**
MTH 132	**ANALYTICAL GEOMETRY & CALCULUS II (5/5)**
MTH 231	**ANALYTICAL GEOMETRY & CALCULUS III (5/5)**
MTH 232	**DIFFERENTIAL EQUATIONS (4/4)**
PHY 221	**PHYSICS I (5/7)**
PHY 222	**PHYSICS II (5/7)**

GENERAL EDUCATION
DEGREE DISTRIBUTION REQUIREMENTS

GROUP 1 (G1) – ENGLISH COMPOSITION

Six (6) semester credits are required, including ENG 111 or 121 and 112, 122 or 123

GROUP 2 (G2) – SCIENCES/MATHEMATICS

Twenty (20) semester credits are required, including at least one laboratory science course. Courses will be taken in more than one academic discipline (course abbreviation/prefix). Note: Two (2) courses in Natural Sciences, including one with laboratory experience (from two disciplines), in addition to MTH 118 or MTH 121 or higher, are required to achieve the Michigan Transfer Agreement (MTA).

GROUP 3 (G3) – SOCIAL SCIENCES & HUMANITIES/FINE ARTS

Ten (10) semester credits are required in combination from both of these groups, with a minimum of three (3) credits from each group. Political Science or U.S. History courses used to satisfy the American Government requirement can be included. Courses will be taken in more than one academic discipline (course abbreviation/prefix). Note: Two (2) courses in Social Sciences (from two disciplines) and two (2) courses in Humanities and Fine Arts (from two disciplines and excluding studio and performance classes) are required for the Michigan Transfer Agreement (MTA).

ELECTIVE CREDITS (EC)

The remainder of credits for an AS degree with this concentration should be oriented toward additional courses in CHEMISTRY with prefixes **CEM, MTH, and PHY** when available in consultation with an ACC Academic Advisor in CHEMISTRY.

RECOMMENDED COURSES - SEQUENCE
GROUP 1-4 REQUIREMENTS + ELECTIVE CREDITS

Meets ACC graduation distribution and MTA requirements
65 CREDITS - 79 CONTACT HOURS

YEAR 1 FALL	15 CREDITS	
G1	ENG 111	ENGLISH COMPOSITION I (3/3)
G2 PR	**CEM 121**	**GENERAL & INORGANIC CHEMISTRY (4/7)**
G2 PR	**MTH 131**	**ANALYTIC GEOMETRY & CALCULUS I (5/5)**
G3	HUM/FA	HUMANITIES/FINE ARTS (3/3)

YEAR 1 SPRING	15 CREDITS	
G1	ENG 112	ENGLISH COMPOSITION II (3/3)
G2 PR	**CEM 122**	**INORGANIC CHEM & QUAL ANALYSIS (4/7)**
G2 PR	**MTH 132**	**ANAL GEOMETRY & CALCULUS II (5/5)**
G3	SOC SCI	SOCIAL SCIENCE (3/3)

YEAR 2 FALL	18 CREDITS	
G2 PR	**CEM 221**	**ORGANIC CHEMISTRY (5/7)**
G2 PR	**MTH 231**	**ANAL GEOMETRY & CALCULUS III (5/5)**
G2 PR	**PHY 221**	**PHYSICS (5/7)**
G3	PLS 221	AMERICAN GOVERNMENT & POLITICS (3/3)

YEAR 2 SPRING	17 CREDITS	
G2 PR	**CEM 222**	**ORGANIC CHEMISTRY (5/7)**
G2 PR	**MTH 232**	**DIFFERENTIAL EQUATIONS (4/4)**
G2 PR	**PHY 222**	**PHYSICS (5/7)**
G3	HUM/FA	HUMANITIES/FINE ARTS (3/3)

COMPUTER INFORMATION SYSTEMS

ASSOCIATE IN ARTS (AA) DEGREE
COMPUTER INFORMATION SYSTEMS CONCENTRATION

For students considering a major in COMPUTER INFORMATION SYSTEMS upon transferring to a four-year institution, the Associate of Arts degree with a COMPUTER INFORMATION SYSTEMS concentration from ACC offers a strong foundation, providing essential courses that serve as building blocks for advanced study.

A concentration in COMPUTER INFORMATION SYSTEMS can lead to diverse career opportunities, including computer programmers, network administrators, database administrators, business intelligence analysts, web developers, software systems developers, or computer systems engineers. The program helps prepare students for industry-recognized certifications.

Program Objectives

Upon graduating from ACC with an Associate of Arts degree with a concentration in COMPUTER INFORMATION SYSTEMS, students will:

1. **Support** information systems using fundamental knowledge of computer systems, networking, and cybersecurity.
2. **Analyze** business and technology challenges, determine solutions, and present technical information clearly to diverse audiences.
3. **Apply** ethical, legal, and security best practices while adapting to evolving technologies in the field.

It is strongly recommended that students consult with an ACC Academic Advisor in COMPUTER INFORMATION SYSTEMS to ensure they meet specific program requirements, objectives, and transfer goals.

PROGRAM REQUIREMENTS (PR)

BUS 262	**PROJECT MANAGEMENT (3/4)**
CIS 140	**INTRODUCTION TO MICROSOFT CLIENT OS (3/4)**
CNS 150	**NETWORKING FUNDAMENTALS (3/4)**
CNS 170	**PC REPAIR & MAINTENANCE (4/5)**
CNS 180	**INTRODUCTION TO MICROSOFT SERVER (3/4)**
CNS 220	**ADVANCED MICROSOFT SERVER (3/4)**
CNS 230	**INFORMATION SECURITY (3/4)**
CNS 240	**OPEN-SOURCE NETWORKING (3/4)**

GENERAL EDUCATION
DEGREE DISTRIBUTION REQUIREMENTS

GROUP 1 (G1) – ENGLISH COMPOSITION

Six (6) semester credits are required, including ENG 111 or 121 and 112, 122 or 123

GROUP 2 (G2) – SCIENCES/MATHEMATICS

Eight (8) semester credits are required, including at least one laboratory science course. Courses will be taken in more than one academic discipline (course abbreviation/prefix). Note: Two (2) courses in Natural Sciences, including one with laboratory experience (from two disciplines), in addition to MTH 118 or MTH 121 or higher, are required to achieve the Michigan Transfer Agreement (MTA).

GROUP 3 (G3) – SOCIAL SCIENCES

Eight (8) semester credits are required, including the Political Science or U.S. History courses used to satisfy the American Government requirement. Courses will be taken in more than one academic discipline (course abbreviation/prefix).

GROUP 4 (G4) – HUMANITIES/FINE ARTS

Eight (8) semester credits are required, and they must include either: a.) A combination of courses taken in more than one academic discipline (course abbreviation/prefix) or b.) HUM 241 and 242 — Humanities I and II. Note: Two (2) courses in Humanities and Fine Arts (from two disciplines and excluding studio and performance classes) are required for the Michigan Transfer Agreement (MTA).

ELECTIVE CREDITS (EC)

The remainder of credits for an AA degree with this concentration should be oriented toward additional courses in COMPUTER INFORMATION SYSTEMS with prefixes **CIS and CNS** when available and selected in consultation with an ACC Academic Advisor in COMPUTER INFORMATION SYSTEMS.

RECOMMENDED COURSES - SEQUENCE
GROUP 1-4 REQUIREMENTS + ELECTIVE CREDITS

Meets ACC degree distribution and MTA requirements
61 CREDITS - 71 CONTACT HOURS

YEAR 1 FALL	16 CREDITS	
G1	ENG 111	ENGLISH COMPOSITION I (3/3)
G4	HUM/FA	HUMANITIES/FINE ARTS (3/3)
PR	**CIS 140**	**INTRO TO MICROSOFT CLIENT OS (3/4)**
PR	**CNS 150**	**NETWORKING FUNDAMENTALS (3/4)**
PR	**CNS 170**	**PC REPAIR & MAINTENANCE (4/5)**

YEAR 1 SPRING	14 CREDITS	
G1	ENG 112	ENGLISH COMPOSITION II (3/3)
G2	MTH 118	Math for Liberal Arts/QR or MTH 121 or higher (4/4)
G2	SCI	LAB SCIENCE/NATURAL SCIENCE (4/5)
PR	**CNS 180**	**INTRO TO MICROSOFT SERVER (3/4)**

YEAR 2 FALL	15 CREDITS	
GR3	ECN 231	ECONOMICS (MICRO) (3/3)
PR	**BUS 262**	**PROJECT MANAGEMENT (3/4)**
PR	**CNS 220**	**ADVANCED MICROSOFT SERVER (3/4)**
PR	**CNS 230**	**INFORMATION SECURITY (3/4)**
PR	**CNS 240**	**OPEN-SOURCE NETWORKING (3/4)**

YEAR 2 SPRING	16 CREDITS	
G2	SCI	LAB SCIENCE (4/5)
G3	PLS 221	AMERICAN GOVERNMENT & POLITICS (3/3)
G3	ECN 232	ECONOMICS (MACRO) (3/3)
G4	PHL 228	INTRODUCTION TO ETHICS (3/3)
G4	HUM/FA	HUMANITIES/FINE ARTS (3/3)

Computer Science – General

Associate in Science (AS) Degree
Computer Science – General Concentration

For students considering a major in COMPUTER SCIENCE - GENERAL upon transferring to a four-year institution, the Associate of Science degree with a COMPUTER SCIENCE - GENERAL concentration from ACC offers a strong foundation, providing essential courses that serve as building blocks for advanced study.

A concentration in COMPUTER SCIENCE - GENERAL can lead to diverse career opportunities, including software development, data analysis, and IT management, with roles such as software developers, systems analysts, database administrators, web developers, and IT consultants.

Program Objectives

Upon graduating from ACC with an Associate of Science degree with a concentration in COMPUTER SCIENCE - GENERAL, students will:

1. **Demonstrate** a solid understanding of computer science principles, including programming, algorithms, data structures, and software development.
2. **Create and maintain** applications and systems using practical skills in software design, coding, and debugging.
3. **Apply** problem-solving and analytical thinking to address technical challenges and communicate solutions effectively, preparing for further academic study or careers in technology and IT.

It is strongly recommended that students consult with an ACC Academic Advisor in COMPUTER SCIENCE - GENERAL to ensure they meet specific program requirements, objectives, and transfer goals.

Program Requirements (PR)

CIS 206	**Object-Oriented Programming (3/4)**
CIS 207	**Adv Object-Oriented Programming (3/4)**
CIS 241	**Introduction to Web Design Mgt (3/4)**
CIS 258	**Introduction to Enterprise Database (3/4)**
MTH 131	**Analytic Geometry & Calculus I (5/5)**
MTH 132	**Analytic Geometry & Calculus II (5/5)**
MTH 223	**Statistical Methods (4/4)**

General Education
Degree Distribution Requirements

Group 1 (G1) – English composition

Six (6) semester credits are required, including ENG 111 or 121 and 112, 122 or 123

Group 2 (G2) – Sciences/Mathematics

Twenty (20) semester credits are required, including at least one laboratory science course. Courses will be taken in more than one academic discipline (course abbreviation/prefix). Note: Two (2) courses in Natural Sciences, including one with laboratory experience (from two disciplines), in addition to MTH 118 or MTH 121 or higher, are required to achieve the Michigan Transfer Agreement (MTA).

Group 3 (G3) – Social Sciences & Humanities/Fine Arts

Ten (10) semester credits are required in combination from both groups, with a minimum of three (3) credits from each group. Political Science or U.S. History courses used to satisfy the American Government requirement can be included. Courses will be taken in more than one academic discipline (course abbreviation/prefix). Note: Two (2) courses in Social Sciences (from two disciplines) and two (2) courses in Humanities and Fine Arts (from two disciplines and excluding studio and performance classes) are required for the Michigan Transfer Agreement (MTA).

Elective Credits (EC)

The remainder of credits for an AS degree with this concentration should be oriented toward additional courses in COMPUTER SCIENCE - GENERAL with prefixes **BUS, CIS, CNS, and MTH** when available in consultation with an ACC Academic Advisor in COMPUTER SCIENCE - GENERAL.

Suggested Electives

BUS 262	Project Management (3/3)
CNS 150	Network Fundamentals (3/4)
CNS 230	Information Security (3/4)
MTH 221	C++ Programming (4/5)

Recommended Courses - Sequence
Group 1-4 Requirements + Elective Credits

Meets ACC graduation distribution and MTA requirements
62 Credits - 70 Contact Hours

Year 1 Fall	15 Credits	
G1	ENG 111	English Composition I (3/3)
G2	SCI	Natural Science (4/5)
G2 PR	**MTH 131**	**Analytic Geometry & Calculus I (5/5)**
PR	**CIS 206**	**Object-Oriented Programming (3/4)**

Year 1 Spring	15 Credits	
G1	ENG 112	English Composition II (3/3)
G2	SCI	Lab Science (4/5)
G2 PR	**MTH 132**	**Analytical Geometry & Calc II (5/5)**
PR	**CIS 207**	**Adv Obj-Orientation Prog (3/4)**

Year 2 Fall	16 Credits	
G2 PR	**MTH 223**	**Statistical Methods (4/4)**
G3	SOC SCI	Social Science (3/3)
G3	HUM/FA	Humanities/Fine Arts (3/3)
EC	BUS 262	Project Management (3/3)
EC	CNS 230	Information Security (3/4)

Year 2 Spring	16 Credits	
PR	**CIS 241**	**Intro to Web Design Mgt (3/4)**
PR	**CIS 258**	**Intro to Enterprise Database (3/4)**
G3	PLS 221	American Government & Politics (3/3)
G3	HUM/FA	Humanities/Fine Arts (3/3)
EC	MTH 221	C++ Programming (4/5)

Concrete Technology

Associate in Applied Science (AAS) Degree

Description: Alpena Community College's Concrete Technology Associate in Applied Science (AAS) program is the only one of its kind in the nation. Students in this two-year program learn about all aspects of the concrete industry through a specialized curriculum featuring hands-on experience in material sciences, communication, computation, computer use, and a summer construction internship. Students use state-of-the-art equipment housed in the World Center for Concrete Technology, one of the premier facilities in the world. The successful Concrete Tech student is prepared for a variety of career opportunities throughout the concrete industry and receive a number of job offers upon graduation. The Concrete Technology program was developed in the late 1960s as one of the original associate degree curriculums offered by the Portland Cement Association. Since then, hundreds of men and women have gone through the program and currently fill many diverse positions throughout the global industry. This program allows students to continue their higher education endeavors at various universities.

General Education Requirements		**Credits: 26**
ENG 120	Applied Communication (3/3)	[B]
ENG 123	Technical Communication (3/3)	[C]
MTH 115	Applied Algebra & Trigonometry (5/6)	[D]
MTH 116	Applied Algebra & Trigonometry II (5/6)	[D]
MTH 119	Intro to Computers & Programing (3/3)	[E]
PHY 111	Applied Physics (3/4)	
PLS 221	American Government & Politics (3/3)	[F]
SDE 201	Job Search Strategies (1/1)	

Core Program Requirements		**Credits: 42**
CON 110	Intro to Concrete Technology (1/1)	[A]
CON 121	Aggregates (3.5/4.9)	[A]
CON 122	Concrete Admixtures (1/1)	[A]
CON 123	Cementitious Materials (1.5/2.1)	[A]
CON 124	Concrete Mix Proportioning (4/6)	[A]
CON 221	Placed Concrete I (4/6/)	[A]
CON 222	Placed Concrete II (4/6)	[A]
CON 223	Concrete Masonry Production (4/6)	[A]
CON 224	Prestress/Precast Concrete 3/5)	[A]
CON 226	Concrete Troubleshooting & Repair (2/2)	[A]
CON 227	Construction Inspection (2/2)	[A]
CON 231	Concrete Project Lab (1/1)	[A]
CON 232	Project Lab (2/2)	[A]
CST 112	Building Construction (3/3)	[A]
CST 151	Construction Summer Co-Op (6/6)	[A]

Suggested Electives **Credits: 3**

Minimum 71 Credit Hours / 86 Contact Hours

Notes:

[A] Included in occupational specialty.
A grade of 2.0 or higher must be maintained in occupational specialty courses

[B] May substitute ENG 111 or ENG 121.

[C] May substitute ENG 112 or ENG 122.

[D] May substitute any higher math course or MTH110 or MTH112.

[E] May substitute CIS 120.

[F] May substitute PLS 222 or HST 221 & HST 222.

Concrete Technology

Associate in Applied Science (AAS) Degree
Suggested Sequence of Courses

Year 1 (Fall Semester)		**Credits: 18**
CON 110	Intro to Concrete Technology (1/1)	
CON 121	Aggregates (3.5/4.9)	
CON 123	Cementitious Materials (1.5/2.1)	
ENG 120	Applied Communication (3/3)	
MTH 115	Applied Algebra & Trigonometry (5/6)	
MTH 119	Intro to Computers & Programing (3/3)	
SDE 201	Job Search Strategies (1/1)	

Year 1 (Spring Semester)		**Credits: 16**
CON 122	Concrete Admixtures (1/1)	
CON 124	Concrete Mix Proportioning (4/6)	
CST 112	Building Construction (3/3)	
ENG 123	Technical Communication (3/3)	
MTH 116	Applied Algebra & Trigonometry II (5/6)	

Year 1 (Summer Semester)		**Credits: 6**
CST 151	Construction Summer Co-Op (6/6)	

Year 2 (Fall Semester)		**Credits: 17**
CON 221	Placed Concrete I (4/6/)	
CON 223	Concrete Masonry Production (4/6)	
CON 227	Construction Inspection (2/2)	
CON 231	Concrete Project Lab (1/1)	
PLS 221	American Government & Politics (3/3)	
PHY 111	Applied Physics (3/4)	

Year 2 (Spring Semester)		**Credits: 14**
CON 222	Placed Concrete II (4/6)	
CON 224	Prestress/Precast Concrete 3/5)	
CON 226	Concrete Troubleshooting & Repair (2/2)	
CON 232	Project Lab (2/2)	
	Program Elective (3/3)	

Criminal Justice – Corrections

Associate in Applied Science (AAS) Degree

Description: This program prepares successful graduates for careers in Corrections in local (Michigan), State (Michigan Department of Corrections), and federal correctional facilities. It includes the 10-credit hour academy for Corrections Officer employment in Michigan jails, and the 15 credit hours needed for employment in Michigan prisons, plus degree requirements and other career-related courses. Students planning to transfer to a four-year institution to pursue a bachelor's degree in Corrections or Criminal Justice should work closely with advisors at Alpena Community College and the transfer school. (See also Criminal Justice – Transfer Option).

General Education Requirements		**Credits: 18**
ENG 111 *or*	English Composition I (3/3) *or*	
ENG 121	Advanced English Composition I (3/3)	
ENG 112 *or*	English Composition II (3/3) *or*	
ENG 122	Advanced English Composition II (3/3)	
PLS 221 *or*	American Government & Politics (3/3) *or*	
PLS 222	State & Local Government (3/3)	
PSY 101	General Psychology (3/3)	
SOC 123	Introduction to Sociology (3/3)	
SPE 121	Speech Communication (3/3)	

Core Program Requirements		**Credits 43**
CIS 120	Intro to Microcomputers (3/4)	
CRJ 110	Criminal Justice Physical Education (2/3) [A]	
CRJ 121	Introduction to Criminal Justice (3/3) [A]	
CRJ 131	Introduction to Corrections (3/3) [A]	
CRJ 211	Ethics in Criminal Justice (3/3) [A]	
CRJ 229	Criminal Investigation (4/4) [A]	
CRJ 234	Multicultural Law Enforcement (3/3) [A]	
CRJ 235	Client Relations in Corrections (3/3) [A]	
CRJ 236	Corr. Client Growth & Development (3/3) [A]	
CRJ 237	Corr. Institutions & Facilities (3/3) [A]	
CRJ 238	Legal Issues in Corrections (3/3) [A]	
CRJ 248	Local Corr. Officer Academy (10/11.5) [B]	

Minimum 61 Credit Hours / 64.5 Contact Hours

Notes:
[A] Included in occupational specialty.
A grade of 2.0 or higher must be maintained in occupational specialty courses
[B] A score of 70% or higher must be earned to meet Michigan Sheriffs' Coordinating & Training Council requirements.

Criminal Justice – Corrections

Associate in Applied Science (AAS) Degree
Suggested Sequence of Courses

Year 1 (Fall Semester)		**Credits: 14**
ENG 111 *or*	English Composition I (3/3) *or*	
ENG 121	Advanced English Composition I (3/3)	
CRJ 110	Criminal Justice Physical Education (2/3)	
CRJ 121	Introduction to Criminal Justice (3/3)	
CRJ 131	Introduction to Corrections (3/3)	
CIS 120	Intro to Microcomputers (3/4)	

Year 1 (Spring Semester)		**Credits: 13**
ENG 112 *or*	English Composition II (3/3) *or*	
ENG 122	Advanced English Composition II (3/3)	
CRJ 229	Criminal Investigation (4/4)	
CRJ 234	Multicultural Law Enforcement (3/3)	
CRJ 235	Client Relations in Corrections (3/3)	

Year 1 (Summer Semester)		**Credits: 10**
CRJ 248	Local Corr. Officer Academy (10/11.5)	

Year 2 (Fall Semester)		**Credits: 12**
CRJ 211	Ethics in Criminal Justice (3/3)	
CRJ 236	Corr. Client Growth & Development (3/3)	
CRJ 238	Legal Issues in Corrections (3/3)	
PSY 101	General Psychology (3/3)	

Year 2 (Spring Semester)		**Credits: 12**
CRJ 237	Corr. Institutions & Facilities (3/3)	
SOC 123	Introduction to Sociology (3/3)	
SPE 121	Speech Communication (3/3)	
PLS 221 *or*	American Government & Politics (3/3) *or*	
PLS 222	State & Local Government (3/3)	

CRIMINAL JUSTICE – CORRECTIONS OFFICER ACADEMIC PROGRAM

CERTIFICATE (C)

DESCRIPTION: This academic certificate program is certified by the Michigan Correctional Officers Training Council. This academic certificate program provides students with the required 15 credit hours of coursework necessary for consideration for employment by the Michigan Department of Corrections in the Michigan Prison System.

CORE PROGRAM REQUIREMENTS		**CREDITS: 17**
CRJ 110	CRIMINAL JUSTICE PHYSICAL EDUCATION (2/3) [A]	
CRJ 131	INTRODUCTION TO CORRECTIONS (3/3) [B]	
CRJ 235	CLIENT RELATIONS IN CORRECTIONS (3/3) [B]	
CRJ 236	CORR. CLIENT GROWTH & DEVELOPMENT (3/3) [B]	
CRJ 237	CORR. INSTITUTIONS & FACILITIES (3/3) [B]	
CRJ 238	LEGAL ISSUES IN CORRECTIONS (3/3) [B]	

MINIMUM 17 CREDIT HOURS / 18 CONTACT HOURS

NOTES:

[A] Successful completion of CRJ 110 (Criminal Justice Physical Education) is required to earn this certification from Alpena Community College; however, it is not required to meet the minimum 15 credit hour requirement for employment by the Michigan Department of Corrections

[B] A minimum grade of C (2.0) must be earned in each course.

Criminal Justice – Pre-Service

Associate in Applied Science (AAS) Degree

Description: This program is designed for the career-focused student whose intent is to pursue employment as a police officer (local, county, or state, including DNR or motor carrier). This program will prepare the student academically for the police academy experience. Successful completion of a police academy (local, state, or privately-run) is required by MCOLES (Michigan Commission on Law Enforcement Standards) for employment in these career fields in Michigan. Other states have similar certification requirements.

General Education Requirements **Credits: 15**

ENG 111 *or*	English Composition I (3/3) *or*
ENG 121	Advanced English Composition I (3/3)
ENG 112 *or*	English Composition II (3/3) *or*
ENG 122	Advanced English Composition II (3/3)
PLS 221 *or*	American Government Requirement (3-6/3-6)
PLS 222 *or*	
HST 221 & HST 222	
PSY 101	General Psychology (3/3)
SPE 121 *or*	Speech Communication (3/3) *or*
SPE 123	Public Communication (3/3)

Core Program Requirements **Credits: 45**

CRJ 110	Criminal Justice Physical Education (2/3) [A]
CRJ 119	Introduction to Homeland Security (3/3) [A]
CRJ 121	Introduction to Criminal Justice (3/3)
CRJ 131	Introduction to Corrections (3/3) [A]
CRJ 132	Introduction to Computer Forensics & Cybercrime (3/4) [A]
CRJ 211	Ethics in Criminal Justice (3/3) [A]
CRJ 220	Juvenile Delinquency (3/3)
CRJ 223	Police Administration (3/3) [A]
CRJ 224	Police Operations (3/3) [A]
CRJ 229	Criminal Investigation (4/4) [A]
CRJ 230	Field Service Practicum (3/3) [A]
CRJ 233	Community Policing (3/3) [A]
CRJ 234	Multicultural Law Enforcement (3/3) [A]
CRJ 239	Criminology (3/3) [A]
LAW 125	Introduction to Legal Principles (3/3) [A]

Minimum 60 Credit Hours / 62 Contact Hours

Notes:
[A] Included in occupational specialty.
GPA of 2.0 or higher must be maintained in occupational specialty courses

After successful completion of the first three semesters of this program, students can opt to substitute the fourth semester's classes by completing the Kirtland Regional Police Academy at Kirtland Community College. Credits earned through successful completion of the police academy can be transferred back to fulfill the requirements of the Associate in Applied Science degree from Alpena Community College without taking the fourth semester classes listed above.

Criminal Justice – Pre-Service

Associate in Applied Science (AAS) Degree
Suggested Sequence of Courses

Year 1 (Fall Semester) **Credits: 15**

CRJ 121	Introduction to Criminal Justice (3/3)
CRJ 131	Introduction to Corrections (3/3)
CRJ 233	Community Policing (3/3)
CRJ 239	Criminology (3/3)
ENG 111 *or*	English Composition I (3/3) *or*
ENG 121	Advanced English Composition I (3/3)

Year 1 (Spring Semester) **Credits: 15**

CRJ 132	Introduction to Computer Forensics & Cybercrime (3/4)
CRJ 223	Police Administration (3/3)
CRJ 234	Multicultural Law Enforcement (3/3)
ENG 112 *or*	English Composition II (3/3) *or*
ENG 122	Advanced English Composition II (3/3)
PSY 101	General Psychology (3/3)

Year 2 (Fall Semester) **Credits: 14**

CRJ 110	Criminal Justice Physical Education (2/3)
CRJ 211	Ethics in Criminal Justice (3/3)
CRJ 220	Juvenile Delinquency (3/3)
CRJ 230	Field Service Practicum (3/3)
SPE 121	Speech Communication (3/3)

Year 2 (Spring Semester) **Credits: 16**

CRJ 119	Introduction to Homeland Security (3/3)
CRJ 224	Police Operations (3/3)
CRJ 229	Criminal Investigation (4/4)
LAW 125	Introduction to Legal Principles (3/3)
PLS 221 *or*	American Government Requirement (3-6/3-6)
PLS 222 *or*	
HST 221 & HST 222	

CRIMINAL JUSTICE – TRANSFER

ASSOCIATE IN ARTS (AA) DEGREE
CRIMINAL JUSTICE – TRANSFER CONCENTRATION

For students considering a major in CRIMINAL JUSTICE-TRANSFER, upon transferring to a four-year institution, the Associate of Arts degree with a CRIMINAL JUSTICE-TRANSFER concentration from ACC offers a strong foundation, providing essential courses that serve as building blocks for advanced study.

A concentration in CRIMINAL JUSTICE-TRANSFER can lead to diverse career opportunities, including police officer, federal agent, forensics, probation, customs, private security, criminal justice education, and various federal departments, such as the Department of Justice, the Attorney General, Defense, Drug Enforcement, or Homeland Security.

Program Objectives

Upon graduating from ACC with an Associate of Arts degree with a concentration in CRIMINAL JUSTICE- TRANSFER, students will:

1. **Demonstrate** an understanding of the structure, function, and interrelationships of law enforcement, courts, and corrections within the criminal justice system.
2. **Apply** ethical reasoning, critical thinking, and communication skills to analyze issues of crime, justice, and public policy.
3. **Examine** the impact of diversity, cultural awareness, and professional responsibility in promoting justice and protecting individual rights in a democratic society.

It is strongly recommended that students consult with an ACC Academic Advisor in CRIMINAL JUSTICE- TRANSFER to ensure they meet specific program requirements, objectives, and transfer goals.

PROGRAM REQUIREMENTS (PR)

CRJ 121	**INTRODUCTION TO CRIMINAL JUSTICE (3/3)**
CRJ 131	**INTRODUCTION TO CORRECTIONS (3/3)**
CRJ 132	**INTRODUCTION TO COMPUTER FORENSICS & CYBERCRIME (3/4)**
CRJ 211	**ETHICS IN CRIMINAL JUSTICE (3/3)**
CRJ 220	**JUVENILE DELINQUENCY (3/3)**
CRJ 223	**POLICE ADMINISTRATION (3/3)**
CRJ 233	**COMMUNITY POLICING (3/3)**
LAW 125	**INTRODUCTION TO LEGAL PRINCIPLES (3/3)**

GENERAL EDUCATION
DEGREE DISTRIBUTION REQUIREMENTS

GROUP 1 (G1) – ENGLISH COMPOSITION

Six (6) semester credits are required, including ENG 111 or 121 and 112, 122 or 123

GROUP 2 (G2) – SCIENCES/MATHEMATICS

Eight (8) semester credits are required, including at least one laboratory science course. Courses will be taken in more than one academic discipline (course abbreviation/prefix). Note: Two (2) courses in Natural Sciences, including one with laboratory experience (from two disciplines), in addition to MTH 118 or MTH 121 or higher, are required to achieve the Michigan Transfer Agreement (MTA).

GROUP 3 (G3) – SOCIAL SCIENCES

Eight (8) semester credits are required, including the Political Science or U.S. History courses used to satisfy the American Government requirement. Courses will be taken in more than one academic discipline (course abbreviation/prefix).

GROUP 4 (G4) – HUMANITIES/FINE ARTS

Eight (8) semester credits are required, and they must include either: a.) A combination of courses taken in more than one academic discipline (course abbreviation/prefix) or b.) HUM 241 and 242 — Humanities I and II. Note: Two (2) courses in Humanities and Fine Arts (from two disciplines and excluding studio and performance classes) are required for the Michigan Transfer Agreement (MTA).

ELECTIVE CREDITS (EC)

The remainder of credits for an AA degree with this concentration should be oriented toward additional courses in CRIMINAL JUSTICE- TRANSFER, such as **CRJ 239, CRJ 229, and CRJ 234,** when available in consultation with an ACC Academic Advisor in CRIMINAL JUSTICE- TRANSFER. It is strongly recommended that foreign language preparation begin as soon as possible, if pursued.

RECOMMENDED COURSES - SEQUENCE
GROUP 1-4 REQUIREMENTS + ELECTIVE CREDITS

Meets ACC degree distribution and MTA requirements
61 Credits – 63 Contact Hours

YEAR 1 FALL	16 CREDITS	
G1	ENG 111	ENGLISH COMPOSITION I (3/3)
G2	SCI	LAB SCIENCE (4/5)
PR	**CRJ 121**	**INTRO TO CRIMINAL JUSTICE (3/3)**
PR	**CRJ 131**	**INTRO TO CORRECTIONS (3/3)**
G4	SPE 121	SPEECH COMMUNICATION (3/3)

YEAR 1 SPRING	16 CREDITS	
G1	ENG 112	ENGLISH COMPOSITION II (3/3)
G2	MTH 118	Math for Liberal Arts/QR or MTH 121 or higher (4/4)
G3	PSY 101	GENERAL PSYCHOLOGY (3/3)
PR	**CRJ 132**	**INTRO TO COMPUTER FORENSICS & CYBERCRIME (3/4)**
PR	**CRJ 223**	**POLICE ADMINISTRATION (3/3)**

YEAR 2 FALL	16 CREDITS	
G3	SOC 123	INTRODUCTION TO SOCIOLOGY (3/3)
G4	HUM/FA	HUMANITIES/FINE ARTS (4/4)
PR	**CRJ 211**	**ETHICS IN CRIMINAL JUSTICE (3/3)**
PR	**CRJ 220**	**JUVENILE DELINQUENCY (3/3)**
PR	**CRJ 233**	**COMMUNITY POLICING (3/3)**

YEAR 2 SPRING	13 CREDITS	
G2	SCI	NATURAL SCIENCE (3/4)
G3	PLS 221	AMERICAN GOVERNMENT & POLITICS (3/3)
G3 PR	**LAW 125**	**INTRO TO LEGAL PRINCIPLES (3/3)**
G4	HUM/FA	HUMANITIES/FINE ARTS (4/4)

Customer Energy Service

Certificate (C) or Associate in Applied Science (AAS) Degree

Description: This three-semester certificate program prepares students for work in the utility industry as a single point of contact for the customer from the first phone call requesting service to the completion of the job. The program stresses public relations/communication skills, business skills, and computer-aided drafting skills, as well as an understanding of electricity necessary to design electric services. In addition, students who desire a broader educational experience can complete a fourth semester of study to meet requirements for an Associate in Applied Science degree.

General Education Requirements		**Credits: 17**
ENG 120	Applied Communication (3/3)	
ENG 123	Technical Communication (3/3)	
MTH 115	Applied Algebra & Trigonometry I (5/6)	
SPE 121	Speech Communication (3/3)	
PHY 111	Applied Physics (3/4)	

Core Program Requirements		**Credits: 34-35**
APP 100E	Electrical Studies for the Trades (3/4) [A]	
APP 104E	AC & DC Fundamentals (3/4) [A]	
BUS 121	Introduction to Business (3/3) [A]	
BUS 131	Applied Accounting (3/4) [A]	
BUS 221	Business Law (3/3) [A]	
BUS 241	Principles of Marketing (3/3) [A]	
CAD 132	AutoCAD Fundamentals (1.5/2) [A]	
CAD 135	Intermediate AutoCAD (1.5/2) [A]	
CAD 150	3D Modeling (3/4) [A]	
CIS 120	Introduction to Microcomputers (3/4) [A]	
UTT 204	System Design & Operation (4/4)	
	Electrical Elective (3-4/4) [B]	

Minimum 51 Credit Hours / 60 Contact Hours (Certificate)
Minimum 60 Credit Hours / 69 Contact Hours (AAS)

Notes:
[A] Included in occupational specialty.
A grade of 2.0 or higher must be maintained in occupational specialty courses
[B] Select from: APP 102E, App 103E, APP 107E, APP 111E, APP 115E, APP 122E, or APP 123E

An Associate in Applied Science (AAS) degree can be earned by completing the above Certificate program, the American Government Requirement (PLS 221 or PLS 222 or HST 221 & HST 222), and six credits of general electives. Sixty total credit hours are needed for and AAS degree.

Customer Energy Service

Certificate (C) or Associate in Applied Science (AAS) Degree
Suggested Sequence of Courses

Year 1 (Fall Semester)		**Credits: 17**
ENG 120	Applied Communication (3/3)	
CIS 120	Introduction to Microcomputers (3/4)	
CAD 132	AutoCAD Fundamentals (1.5/2)	
CAD 135	Intermediate AutoCAD (1.5/2)	
APP 100E	Electrical Studies for the Trades (3/4)	
MTH 115	Applied Algebra & Trigonometry I (5/6)	

Year 1 (Spring Semester)		**Credits: 16**
ENG 123	Technical Communication (3/3)	
APP 104E	AC & DC Fundamentals (3/4)	
CAD 150	3D Modeling (3/4)	
UTT 204	System Design & Operation (4/4)	
PHY 111	Applied Physics (3/4)	

Year 2 (Fall Semester)		**Credits: 18**
BUS 121	Introduction to Business (3/3)	
BUS 131	Applied Accounting (3/4)	
BUS 221	Business Law (3/3)	
BUS 241	Principles of Marketing (3/3)	
SPE 121	Speech Communication (3/3)	
	Electrical Elective (3/4)	

Year 2 (Spring Semester)		**Credits: 18**
PLS 221 *or*	American Government Requirement (3-6/3-6)	
PLS 222 *or*		
HST 221 & HST 222		
	General Electives (6/6)	

Cybersecurity

Certificate (C)

Description: This accelerated program prepares students for entry-level positions in cybersecurity. Successful completion will equip students to identify and remediate security issues using industry-standard methods, along with basic skills and knowledge of computer systems and programming, which are beneficial for working as a security professional. The program helps prepare students for industry certifications.

Core Program Requirements		**Credits: 31.0**
CIS 140	Introduction to Microsoft Client OS (3/4)	
CIS 206	Object Oriented Programming (3/4)	
CNS 150	Networking Fundamentals (3/4)	
CNS 155	Introduction to Routing & Switching (3/4)	
CNS 170	PC Repair & Maintenance (4/5)	
CNS 180	Introduction to Microsoft Server (3/4) [B]	
CNS 230	Information Security (3/4)	
CNS 240	Open-Source Networking (3/4)	
CNS 245	Ethical Hacking & Penetration Testing (3/4)	
CRJ 132	Intro to Comp Forensics & Cyber Crime (3/4)	

Minimum 31.0 Credit Hours / 41.0 Contact Hours

Notes:
[A] Included in occupational specialty.
GPA of 2.0 or higher must be maintained in occupational specialty courses
[B] CNS 180 or CNS 252 or CNS 260.

Cybersecurity

Certificate (C)
Suggested Sequence of Courses

Year 1 (Fall Semester)		**Credits: 16**
CIS 206	Object Oriented Programming (3/4)	
CNS 150	Networking Fundamentals (3/4)	
CNS 170	PC Repair & Maintenance (4/5)	
CNS 230	Information Security (3/4)	
CNS 240	Open-Source Networking (3/4)	

Year 1 (Spring Semester		**Credits: 15**
CIS 140	Introduction to Microsoft Client OS (3/4)	
CNS 155	Introduction to Routing & Switching (3/4)	
CNS 180	Introduction to Microsoft Server (3/4)	
CNS 245	Ethical Hacking & Penetration Testing (3/4)	
CRJ 132	Intro to Comp Forensics & Cyber Crime (3/4)	

ECONOMICS

ASSOCIATE IN ARTS (AA) DEGREE
ECONOMICS CONCENTRATION

For students considering a major in ECONOMICS upon transferring to a four-year institution, the Associate of Arts degree with an ECONOMICS concentration from ACC offers a strong foundation, providing essential courses that serve as building blocks for advanced study.

A concentration in ECONOMICS can lead to diverse career opportunities, including education, research, law, public policy, business, and government.

Program Objectives

Upon graduating from ACC with an Associate of Arts degree with a concentration in ECONOMICS, students will:

1. **Develop** a broad understanding of economic principles, with equal emphasis on microeconomic and macroeconomic concepts and their applications.
2. **Analyze** the causes and effects of key economic trends, examining how individual choices, market structures, and government policies shape economic outcomes at both the personal and national levels.
3. **Demonstrate** qualitative analytical skills through critical thinking, research, and effective communication, applying economic reasoning to real-world social and professional challenges.

It is strongly recommended that students consult with an ACC Academic Advisor in ECONOMICS to ensure they meet specific program requirements, objectives, and transfer goals.

PROGRAM REQUIREMENTS (PR)

ECN 231	**ECONOMICS (MICRO) (3/3)**
ECN 232	**ECONOMICS (MACRO) (3/3)**
BUS 123	**ACCOUNTING I (4/4)**
BUS 124	**ACCOUNTING II (4/4)**
MTH 121	**COLLEGE ALGEBRA (4/4)**
MTH 223	**STATISTICAL METHODS (4/4)**

GENERAL EDUCATION
DEGREE DISTRIBUTION REQUIREMENTS

GROUP 1 (G1) – ENGLISH COMPOSITION

Six (6) semester credits are required, including ENG 111 or 121 and 112, 122 or 123

GROUP 2 (G2) – SCIENCES/MATHEMATICS

Eight (8) semester credits are required, including at least one laboratory science course. Courses will be taken in more than one academic discipline (course abbreviation/prefix). Note: Two (2) courses in Natural Sciences, including one with laboratory experience (from two disciplines), in addition to MTH 118 or MTH 121 or higher, are required to achieve the Michigan Transfer Agreement (MTA).

GROUP 3 (G3) – SOCIAL SCIENCES

Eight (8) semester credits are required, including the Political Science or U.S. History courses used to satisfy the American Government requirement. Courses will be taken in more than one academic discipline (course abbreviation/prefix).

GROUP 4 (G4) – HUMANITIES/FINE ARTS

Eight (8) semester credits are required, and they must include either: a.) A combination of courses taken in more than one academic discipline (course abbreviation/prefix) or b.) HUM 241 and 242 — Humanities I and II. Note: Two (2) courses in Humanities and Fine Arts (from two disciplines and excluding studio and performance classes) are required for the Michigan Transfer Agreement (MTA).

ELECTIVE CREDITS (EC)

The remainder of credits for an AA degree with this concentration should be oriented toward additional courses in ECONOMICS, such as **ECN 225** when available, or selected from **ANP, ART, ECN, EDU, ENG, GEO, HST, HUM, MUS, PFA, PHL, PLS, PSY, SOC, SPE**, and/or foreign language courses in consultation with an ACC Academic Advisor in ECONOMICS. It is strongly recommended that foreign language preparation begin as soon as possible, if pursued.

RECOMMENDED COURSES - SEQUENCE
GROUP 1-4 REQUIREMENTS + ELECTIVE CREDITS

Meets ACC degree distribution and MTA requirements
60 CREDITS - 63 CONTACT HOURS

YEAR 1 FALL	16 CREDITS
G1	ENG 111 ENGLISH COMPOSITION I (3/3)
G2	PHY 113 INTRO TO PHYSICAL SCIENCE (4/5)
G3	SOC 123 INTRODUCTION TO SOCIOLOGY (3/3)
G4	HST 121 EARLY WESTERN WORLD (3/3)
G4	SPE 121 SPEECH COMMUNICATION (3/3)

YEAR 1 SPRING	14 CREDITS
G1	ENG 112 ENGLISH COMPOSITION II (3/3)
G2 PR	**MTH 121 COLLEGE ALGEBRA (4/4)**
G2	GEO 127 PHYSICAL GEOGRAPHY (4/5)
G3	PLS 221 AMERICAN GOVERNMENT & POLITICS (3/3)

YEAR 2 FALL	17 CREDITS
G2 PR	**MTH 223 STATISTICAL METHODS (4/4)**
G2	PHY 111 APPLIED PHYSICS (3/4)
G3 PR	**ECN 231 ECONOMICS (MICRO) (3/3)**
G3	PSY 101 GENERAL PSYCHOLOGY (3/3)
PR	**BUS 123 ACCOUNTING I (4/4)**

YEAR 2 SPRING	13 CREDITS
G3 PR	**ECN 232 ECONOMICS (MACRO) (3/3)**
PR	**BUS 124 ACCOUNTING II (4/4)**
G4	HUM/FA HUMANITIES/FINE ARTS (3/3)
EC	ELECTIVE GENERAL ELECTIVE (3/3)

EDUCATION

ASSOCIATE IN ARTS (AA) DEGREE
EDUCATION CONCENTRATION

For students considering a major in EDUCATION upon transferring to a four-year institution, the Associate of Arts degree with an EDUCATION concentration from ACC offers a strong foundation, providing essential courses that serve as building blocks for advanced study.

A concentration in EDUCATION can lead to diverse career opportunities, including as a teacher, school counselor, educational administrator, instructional coordinator, special education teacher, education consultant, and positions in educational policy, curriculum development, and nonprofit organizations.

Program Objectives

Upon graduating from ACC with an Associate of Arts degree with a concentration in EDUCATION, students will:

1. **Demonstrate** a foundational understanding of the history of education, theories, and overall human development to support diverse learning needs.
2. **Develop** effective communication and management skills.
3. **Apply** critical thinking and problem-solving skills to address educational challenges and prepare for further academic study or teaching, counseling, and educational leadership careers.

It is strongly recommended that students consult with an ACC Academic Advisor in EDUCATION to ensure they meet specific program requirements, objectives, and transfer goals.

PROGRAM REQUIREMENTS (PR)

HST 123	**HISTORY & EXPLORATION OF EDUCATION (3/3)**
HUM 241	**HUMANITIES I (4/4)**
PSY 101	**GENERAL PSYCHOLOGY (3/3)**
PSY 226	**DEVELOPMENTAL PSYCHOLOGY (3/3)**
MTH 118	**Math for Liberal Arts/Quantitative Reasoning (4/4) OR HIGHER**

GENERAL EDUCATION
DEGREE DISTRIBUTION REQUIREMENTS

GROUP 1 (G1) – ENGLISH COMPOSITION

Six (6) semester credits are required, including ENG 111 or 121 and 112, 122 or 123

GROUP 2 (G2) – SCIENCES/MATHEMATICS

Eight (8) semester credits are required, including at least one laboratory science course. Courses will be taken in more than one academic discipline (course abbreviation/prefix). Note: Two (2) courses in Natural Sciences, including one with laboratory experience (from two disciplines), in addition to MTH 118 or MTH 121 or higher, are required to achieve the Michigan Transfer Agreement (MTA).

GROUP 3 (G3) – SOCIAL SCIENCES

Eight (8) semester credits are required, including the Political Science or U.S. History courses used to satisfy the American Government requirement. Courses will be taken in more than one academic discipline (course abbreviation/prefix).

GROUP 4 (G4) – HUMANITIES/FINE ARTS

Eight (8) semester credits are required, and they must include either: a.) A combination of courses taken in more than one academic discipline (course abbreviation/prefix) or b.) HUM 241 and 242 — Humanities I and II. Note: Two (2) courses in Humanities and Fine Arts (from two disciplines and excluding studio and performance classes) are required for the Michigan Transfer Agreement (MTA).

ELECTIVE CREDITS (EC)

The remainder of credits for an AA degree with this concentration should be oriented toward additional courses in EDUCATION, such as **ANP, ART, ECN, EDU, ENG, GEO, HST, HUM, MUS, PFA, PHL, PLS, PSY, SOC, SPE**, and/or foreign language courses in consultation with an ACC Academic Advisor in EDUCATION. It is strongly recommended that foreign language preparation begin as soon as possible, if pursued. For students with an interest in teaching Math and Sciences, courses with prefixes **BIO, CEM, PHS, PHY, and MTH** should be emphasized in consultation with an Academic Advisor.

RECOMMENDED COURSES - SEQUENCE
GROUP 1-4 REQUIREMENTS + ELECTIVE CREDITS

Meets ACC degree distribution and MTA requirements
60 CREDITS - 63 CONTACT HOURS

YEAR 1 FALL	14 CREDITS	
G1	ENG 111	ENGLISH COMPOSITION I (3/3)
G2 PR	**MTH 118**	**Math for Liberal Arts/QR (4/4) OR HIGHER**
G2	BIO 114	INTRODUCTION TO BIOLOGY (4/5)
G3	HST 121	EARLY WESTERN WORLD (3/3)

YEAR 1 SPRING	16 CREDITS	
G1	ENG 112	ENGLISH COMPOSITION II (3/3)
G2	GEO 127	PHYSICAL GEOGRAPHY (4/5)
G3 PR	**PSY 101**	**GENERAL PSYCHOLOGY (3/3)**
G3 PR	**HST 123**	**HIST & EXP OF EDUCATION (3/3)**
G3	HST 122	MODERN WESTERN WORLD (3/3)

YEAR 2 FALL	16 CREDITS	
G3	PLS 221	AMERICAN GOVERNMENT & POLITICS (3/3)
G3 PR	**PSY 226**	**DEVELOPMENTAL PSYCHOLOGY (3/3)**
G4 PR	**HUM 241**	**HUMANITIES I (4/4)**
G3	ECN 232	ECONOMICS (MACRO) (3/3)
G4	ART 103	DESIGN I: 2D (3/4)

YEAR 2 SPRING	14 CREDITS	
G4	HUM 242	HUMANITIES II (4/4)
G4	SPE 121	SPEECH COMMUNICATION (3/3)
EC	ELECTIVE	GENERAL ELECTIVE (3/3)
EC	ELECTIVE	GENERAL ELECTIVE (4/4)

ELECTRICAL MAINTENANCE TECHNICIAN

ASSOCIATE IN APPLIED SCIENCE (AAS) DEGREE

DESCRIPTION: This program meets industry standards for this skilled trade. The occupational specialty courses meet requirements for local electrical apprenticeship programs. Students are prepared to work in residential, commercial, and industrial environments. The program includes training in the fundamentals of electricity, electric motor controls, and programmable controllers, as well as digital electronics.

GENERAL EDUCATION REQUIREMENTS		**CREDITS: 12**
ENG 111 *or*	ENGLISH COMPOSITION I (3/3) *or*	
ENG 120	APPLIED COMMUNICATION (3/3)	
ENG 112 *or*	ENGLISH COMPOSITION II (3/3) *or*	
ENG 123	TECHNICAL COMMUNICATION (3/3)	
PLS 221 *or*	AMERICAN GOVERNMENT REQUIREMENT (3-6/3-6)	
PLS 222 *or*		
HST 221 & HST 222		
SPE 123 *or*	PUBLIC COMMUNICATION (3/3) *or*	
SPE 121	SPEECH COMMUNICATION (3/3)	

CORE PROGRAM REQUIREMENTS		**CREDITS: 7**
APP 100E	ELECTRICAL STUDIES FOR TRADES (3/4) [A]	
APP 106M	INDUSTRIAL SAFETY (1/1) [A]	
MTH 110 *or*	TECHNICAL MATH I (3/4) *or*	
MTH 115	APPLIED ALGEBRA & TRIGONOMETRY I (5/6)	

TECHNICAL PROGRAM REQUIREMENTS		**CREDITS: 34**
APP 102E	RESIDENTIAL WIRING & BLUEPRINT RDG (3/4) [A]	
APP 103E	COMMERCIAL & INDUSTRIAL WIRING (3/4) [A]	
APP 104E	AC & DC FUNDAMENTALS (3/4) [A]	
APP 107E	SPECIALTY WIRING (3/4) [A]	
APP 111E	ELECTRIC MOTOR CONTROL (3/4) [A]	
APP 114E	PROGRAMMABLE CONTROLLERS (3/4) [A]	
APP 115E	NATIONAL ELECTRIC CODE APPLICATION (4/4) [A]	
APP 122E	DIGITAL ELECTRONICS FOR ELECTRICIANS (3/4) [A]	
APP 123 E	LINEAR ELECTRONICS FOR ELECTRICIANS (3/4) [A]	
IND 120 *or*	INDUSTRIAL COMPUTERS & NETWORKING (3/4) *or*	
CIS 120	INTRODUCTION TO MICROCOMPUTERS (3/4)	
	TECHNICAL OR BUSINESS ELECTIVE (3/3)	

SUGGESTED ELECTIVES		**CREDITS: 8**
	GENERAL ELECTIVES (8/8)	

MINIMUM 61 CREDIT HOURS / 72 CONTACT HOURS

NOTES:
[A] Included in occupational specialty.
A grade of 2.0 or higher must be maintained in occupational specialty courses

ELECTRICAL SYSTEMS TECHNOLOGY

BACHELOR IN SCIENCE (BS) DEGREE

DESCRIPTION: This bachelor's degree program is designed to train individuals to install, modify, maintain, troubleshoot, and perform functional tests on electrical grid systems equipment for employment in the fields of electric distribution, transmission, and generation. This includes grounding grids, power transformers, circuit breakers, lightning arresters, switches, and various protective relay equipment including electromechanical and microprocessor-based hardware.

GENERAL EDUCATION COURSES **CREDITS: 28**

ENG 111 *or*	ENGLISH COMPOSITION I (3/3) *or*
ENG 120	APPLIED COMMUNICATION (3/3)
ENG 112 *or*	ENGLISH COMPOSITION II (3/3) *or*
ENG 123	TECHNICAL COMMUNICATION (3/3)
MTH 123	ALGEBRA & ANALYTIC TRIGONOMETRY (4/4)
ECN 231	ECONOMICS (MICRO) (3/3)
PSY 101	GENERAL PSYCHOLOGY (3/3)
SPE 123	PUBLIC COMMUNICATION (3/3)
CEM 111 *or*	GENERAL CHEMISTRY (4/7) *or*
CEM 121	GENERAL & INORGANIC CHEMISTRY (4/7)
PHY 221	PHYSICS (5/7)

CORE PROGRAM REQUIREMENTS **CREDITS: 69**

APP 100E	ELECTRICAL STUDIES FOR TRADES (3/4) [A]
APP 104E	AC & DC FUNDAMENTALS (3/4) [A]
APP 111E	ELECTRIC MOTOR CONTROL (3/4) [A]
APP 114E	PROGRAMMABLE CONTROLLERS (3/4) [A]
APP 122E	DIGITAL ELECTRONICS FOR ELECTRICIANS (3/4) [A]
BUS 390	UTILITY FINANCING & ACCOUNTING (3/3) [A]
BUS 391	UTILITY REGULATIONS (3/3) [A]
EPT 230	POLY-PHASE METERING (2/3) [A]
EST 301	POWER SYSTEMS (3/3) [A]
EST 302	CIRCUITS (4/4) [A]
EST 304	THREE PHASE POWER/PHASOR ANALYSIS (3/3) [A]
EST 306	ELECTRIC POWER GENERATION (3/3) [A]
EST 307	INTRO TO COMPUTER MODELING POWER SYSTEMS (3/4) [A]
EST 308	DISTRIBUTION/TRANSMISSION POWER (3/3) [A]
EST 401	RENEWABLES (3/3) [A]
EST 402	SCADA (SUPERVISORY CONTROL & DATA ACQUISITION) (3/4) [A]
EST 403	PROTECTION (3/3) [A]
EST 404	POWER LINE PARAMETERS (3/3) [A]
EST 405	RELAYING (3/4) [A]
EST 406	THE GRID (3/3) [A]
EST 408	ELECTRICAL SYSTEMS CAPSTONE PROJECT (3/4) [A]
UTT 300	UTILITY SYSTEMS & EQUIPMENT (6/7) [A]

ADDITIONAL PROGRAM REQUIREMENTS **CREDITS: 32**

BUS 121	INTRODUCTION TO BUSINESS (3/3)
CNS 151	NETWORK CABLING (3/4)
GEO 151	INTRODUCTION TO GIS (1.5/2)
GEO 152	ADVANCED GIS (1.5/2)
IND 120	INDUSTRIAL COMPUTERS & NETWORKING (3/4)
MTH 131	CALCULUS I (5/5)
MTH 221	C++ PROGRAMMING (4/5)
PHY 222	PHYSICS (5/7)
PLS 221	AMERICAN GOVERNMENT & POLITICS (3/3)
PSY 241	SOCIAL PSYCHOLOGY (3/3)

MINIMUM 129 CREDIT HOURS / 151 CONTACT HOURS

NOTES:
[A] Included in occupational specialty.
A grade of 2.0 or higher must be maintained in occupational specialty courses

It is recommended that students intending to transfer work closely with their academic advisor and transfer destination.

Electrical Systems Technology

Bachelor in Science (BS) Degree

Suggested Sequence of Courses

Year 1 (Fall Semester) **Credits: 16**

APP 100E	Electrical Studies for Trades (3/4)
BUS 121	Introduction to Business (3/3)
ENG 111 *or*	English Composition I (3/3) *or*
ENG 120	Applied Communication (3/3)
MTH 123	Algebra & Analytic Trigonometry (4/4)
PSY 101	General Psychology (3/3)

Year 1 (Spring Semester) **Credits: 17**

APP 104E	AC & DC Fundamentals (3/4)
ECN 231	Economics (Micro) (3/3)
ENG 112 *or*	English Composition II (3/3) *or*
ENG 123	Technical Communication (3/3)
MTH 131	Calculus I (5/5)
SPE 123	Public Communication (3/3)

Year 2 (Fall Semester) **Credits: 15**

APP 111E	Electric Motor Control (3/4)
APP 122E	Digital Electronics for Electricians (3/4)
CEM 111 *or*	General Chemistry (4/7) *or*
CEM 121	General & Inorganic Chemistry (4/7)
PHY 221	Physics (5/7)

Year 2 (Spring Semester) **Credits: 18**

APP 114E	Programmable Controllers (3/4)
MTH 221	C++ Programming (4/5)
PHY 222	Physics (5/7)
PLS 221	American Government & Politics (3/3)
PSY 241	Social Psychology (3/3)

Year 3 (Fall Semester) **Credits: 16**

CNS 151	Network Cabling (3/4)
IND 120	Industrial Computers & Networking (3/4)
EST 302	Circuits (4/4)
EST 304	Three Phase Power/Phasor Analysis (3/3)
EST 306	Electric Power Generation (3/3)

Year 3 (Spring Semester) **Credits: 17**

EPT 230	Poly-Phase Metering (2/3)
EST 301	Power Systems (3/3)
EST 308	Distribution/Transmission Power (3/3)
GEO 151	Introduction to GIS (1.5/2)
GEO 152	Advanced GIS (1.5/2)
UTT 300	Utility Systems & Equipment (6/7)

Year 4 (Fall Semester) **Credits: 15**

BUS 390	Utility Financing & Accounting (3/3)
EST 401	Renewables (3/3)
EST 402	SCADA (Supervisory Control & Data Acquisition) (3/4)
EST 404	Power Line Parameters (3/3)
EST 406	The Grid (3/3)

Year 4 (Spring Semester) **Credits: 15**

BUS 391	Utility Regulations (3/3)
EST 307	Intro to Computer Modeling Power Systems (3/4)
EST 403	Protection (3/3)
EST 405	Relaying (3/4)
EST 408	Electrical Systems Capstone Project (3/4)

ENGLISH

ASSOCIATE IN ARTS (AA) DEGREE
ENGLISH CONCENTRATION

For students considering a major in ENGLISH upon transferring to a four-year institution, the Associate of Arts degree with an ENGLISH concentration from ACC offers a strong foundation, providing essential courses that serve as building blocks for advanced study.

A concentration in ENGLISH can lead to diverse career opportunities, including writing, editing, publishing, journalism, teaching, public relations, marketing, content creation, law, and communications across various industries.

Program Objectives

Upon graduating from ACC with an Associate of Arts degree with a concentration in ENGLISH, students will:

1. **Demonstrate** proficiency in reading, analyzing, and interpreting various literary genres and texts.
2. **Develop** effective writing skills, including research, composition, and clear communication.
3. **Apply** critical thinking and literary theory to understand and engage with diverse cultural, historical, and social contexts.

It is strongly recommended that students consult with an ACC Academic Advisor in ENGLISH to ensure they meet specific program requirements, objectives, and transfer goals.

PROGRAM REQUIREMENTS (PR)

CHOOSE TWELVE (12) CREDITS FROM THE FOLLOWING LITERATURE COURSES:

ENG 203	**INTRODUCTION TO MYTHOLOGY (3/3)**
ENG 204	**INTRODUCTION TO LITERATURE (3/3)**
ENG 221	**BRITISH LITERATURE I (3/3)**
ENG 222	**BRITISH LITERATURE II (3/3)**
ENG 223	**AMERICAN LITERATURE I (3/3)**
ENG 224	**AMERICAN LITERATURE II (3/3)**
ENG 229	**CREATIVE WRITING (3/3)**
ENG 242	**CHILDREN'S LITERATURE (3/3)**
ENG 243	**THE SHORT STORY (3/3)**
ENG 244	**THE NOVEL (3/3)**

GENERAL EDUCATION
DEGREE DISTRIBUTION REQUIREMENTS

NOVEL (3/3)

GROUP 1 (G1) – ENGLISH COMPOSITION

Six (6) semester credits are required, including ENG 111 or 121 and 112, 122 or 123

GROUP 2 (G2) – SCIENCES/MATHEMATICS

Eight (8) semester credits are required, including at least one laboratory science course. Courses will be taken in more than one academic discipline (course abbreviation/prefix). Note: Two (2) courses in Natural Sciences, including one with laboratory experience (from two disciplines), in addition to MTH 118 or MTH 121 or higher, are required to achieve the Michigan Transfer Agreement (MTA).

GROUP 3 (G3) – SOCIAL SCIENCES

Eight (8) semester credits are required, including the Political Science or U.S. History courses used to satisfy the American Government requirement. Courses will be taken in more than one academic discipline (course abbreviation/prefix).

GROUP 4 (G4) – HUMANITIES/FINE ARTS

Eight (8) semester credits are required, and they must include either: a.) A combination of courses taken in more than one academic discipline (course abbreviation/prefix) or b.) HUM 241 and 242 — Humanities I and II. Note: Two (2) courses in Humanities and Fine Arts (from two disciplines and excluding studio and performance classes) are required for the Michigan Transfer Agreement (MTA).

ELECTIVE CREDITS (EC)

The remainder of credits for an AA degree with this concentration should be oriented toward additional courses in ENGLISH when available or selected from **ANP, ART, ECN, EDU, ENG, GEO, HST, HUM, MUS, PFA, PHL, PLS, PSY, SOC, SPE**, and/or foreign language courses in consultation with an ACC Academic Advisor in ENGLISH. It is strongly recommended that foreign language preparation begin as soon as possible, if pursued.

RECOMMENDED COURSES - SEQUENCE
GROUP 1-4 REQUIREMENTS + ELECTIVE CREDITS

Meets ACC degree distribution and MTA requirements
62 CREDITS - 64 CONTACT HOURS

YEAR 1 FALL	16 CREDITS	
G1	ENG 111	ENGLISH COMPOSITION I (3/3)
G2	MTH 118	Math for Liberal Arts/QR (4/4)
G3	HST 221	UNITED STATES HISTORY (3/3)
G3	SOC 123	INTRODUCTION TO SOCIOLOGY (3/3)
G4	HUM/FA	HUMANITIES/FINE ARTS (3/3)
YEAR 1 SPRING	**15 CREDITS**	
G1	ENG 112	ENGLISH COMPOSITION II (3/3)
G3	HST 222	UNITED STATES HISTORY (3/3)
G4 PR	**ENG**	**LITERATURE COURSE (3/3)**
G4	SPE 121	SPEECH COMMUNICATION (3/3)
EC	ELECTIVE	GENERAL ELECTIVE (3/3)
YEAR 2 FALL	**14 CREDITS**	
G2	BIO 114	INTRO TO BIOLOGICAL SCIENCE (4/5)
G4 PR	**ENG**	**LITERATURE COURSE (3/3)**
G4 PR	**ENG**	**LITERATURE COURSE (3/3)**
G4	HUM 241	HUMANITIES I (4/4)
YEAR 2 SPRING	**17 CREDITS**	
G2	GEO 127	PHYSICAL GEOGRAPHY (4/5)
G4 PR	**ENG**	**LITERATURE COURSE (3/3)**
G4	HUM 242	HUMANITIES II (4/4)
EC	ELECTIVE	GENERAL ELECTIVE (3/3)
EC	ELECTIVE	GENERAL ELECTIVE (3/3)

Environmental Science

Associate in Science (AS) Degree
Environmental Science Concentration

For students considering a major in ENVIRONMENTAL SCIENCE upon transferring to a four-year institution, the Associate of Science degree with an ENVIRONMENTAL SCIENCE concentration from ACC offers a strong foundation, providing essential courses that serve as building blocks for advanced study.

A concentration in ENVIRONMENTAL SCIENCE can lead to diverse career opportunities, including conservation, sustainability, policy, and research, and roles as environmental consultants, sustainability managers, environmental educators, ecologists, wildlife conservationists, air and water quality specialists, and environmental policy analysts.

Program Objectives

Upon graduating from ACC with an Associate of Science degree with a concentration in ENVIRONMENTAL SCIENCE, students will:

1. **Demonstrate** a solid understanding of environmental principles, including ecology, climate science, and sustainability practices.
2. **Apply** analytical and research skills to assess environmental issues, collect data, and propose solutions to ecological challenges.
3. **Apply** scientific knowledge and communication skills to advocate for environmental conservation and prepare for further academic study or careers in environmental science and policy.

It is strongly recommended that students consult with an ACC Academic Advisor in ENVIRONMENTAL SCIENCE to ensure they meet specific program requirements, objectives, and transfer goals.

Program Requirements (PR)

BIO 161	**General College Biology I (4/5)**
BIO162	**General College Biology II (4/5)**
BIO 207	**Wildlife & Fisheries Ecology & Mgt (3/3)**
CEM 121	**General & Inorganic Chemistry (4/7)**
CEM 122	**Inorganic Chem & Qualitative Analysis (4/7)**
ENV 101	**Environmental Science (4/5)**
MTH 223	**Statistical Methods (4/4)**
MTH 123	**College Algebra & Analytical Trig (4/4)**

General Education
Degree Distribution Requirements

Group 1 (G1) – English composition

Six (6) semester credits are required, including ENG 111 or 121 and 112, 122 or 123

Group 2 (G2) – Sciences/Mathematics

Twenty (20) semester credits are required, including at least one laboratory science course. Courses will be taken in more than one academic discipline (course abbreviation/prefix). Note: Two (2) courses in Natural Sciences, including one with laboratory experience (from two disciplines), in addition to MTH 118 or MTH 121 or higher, are required to achieve the Michigan Transfer Agreement (MTA).

Group 3 (G3) – Social Sciences & Humanities/Fine Arts

Ten (10) semester credits are required in combination from both of these groups, with a minimum of three (3) credits from each group. Political Science or U.S. History courses used to satisfy the American Government requirement can be included. Courses will be taken in more than one academic discipline (course abbreviation/prefix). Note: Two (2) courses in Social Sciences (from two disciplines) and two (2) courses in Humanities and Fine Arts (from two disciplines and excluding studio and performance classes) are required for the Michigan Transfer Agreement (MTA).

Elective Credits (EC)

The remainder of credits for an AS degree with this concentration should be oriented toward additional courses in ENVIRONMENTAL SCIENCE with prefixes **CEM, MTH, and PHY** when available in consultation with an ACC Academic Advisor in ENVIRONMENTAL SCIENCE.

Recommended Courses - Sequence
Group 1-4 Requirements + Elective Credits

Meets ACC degree distribution and MTA requirements
60 Credits - 73 Contact Hours

Year 1 Fall	15 Credits	
G1	ENG 111	English Composition I (3/3)
G2 PR	**BIO 161**	**General College Biology I (4/5)**
G2 PR	**ENV 101**	**Environmental Science (4/5)**
G2 PR	**MTH 123**	**College Algebra & Analytic Trig (4/4)**

Year 1 Spring	17 Credits	
G1	ENG 112	English Composition II (3/3)
G2 PR	**BIO 162**	**General College Biology II (4/5)**
G2 PR	**BIO 207**	**Wildlife & Fisheries Ecol & Mgt (3/3)**
G2 PR	**MTH 223**	**Statistical Methods (4/4)**
G3	GEO 151	Elective – Introduction to GIS (1.5/2)
G3	GEO 152	Elective – Advanced GIS (1.5/2)

Year 2 Fall	13 Credits	
G2 PR	**CEM 121**	**General & Inorganic Chemistry (4/7)**
G3	PLS 221	American Government & Politics (3/3)
G3	ECN 231	Economics (Micro) (3/3)
G3	PHL 228	Introduction to Ethics (3/3)

Year 2 Spring	15 Credits	
G2 PR	**CEM 122**	**Inorganic Chem & Qual Analysis (4/7)**
G2	BIO 227	Microbiology (4/6) *or* BIO 211 General Zoology (4/5)
G3/G2	GEO 127	Physical Geography (4/5) *or* PHY 124 Intro to Physical Geology (4/5)
G3	SPE 121	Speech Communication (3/3)

ESPORTS MANAGEMENT

ASSOCIATE IN ARTS (AA) DEGREE
ESPORTS MANAGEMENT CONCENTRATION

For students considering a major in ESPORTS MANAGEMENT upon transferring to a four-year institution, the Associate of Arts degree with an ESPORTS MANAGEMENT concentration from ACC offers a strong foundation, providing essential courses that serve as building blocks for advanced study.

A concentration in ESPORTS MANAGEMENT can lead to diverse career opportunities, including business and professional esports roles, such as team manager, coach, agent, professional player, and esports marketer.

Program Objectives
Upon graduating from ACC with an Associate of Arts degree with a concentration in ESPORTS MANAGEMENT, students will:

1. **Apply** business, marketing, and event management principles to the rapidly evolving esports industry.
2. **Plan, organize, and execute** esports tournaments, leagues, and live events while engaging with players, sponsors, and audiences.
3. **Practice** professionalism, teamwork, and ethical decision-making in esports operations, sponsorships, and community engagement.

It is strongly recommended that students consult with an ACC Academic Advisor in ESPORTS MANAGEMENT to ensure they meet specific program requirements, objectives, and transfer goals.

PROGRAM REQUIREMENTS (PR)

BUS 123	**PRINCIPLES OF ACCOUNTING I (4/4)**
BUS 124	**PRINCIPLES OF ACCOUNTING II (4/4)**
BUS 127	**PRINCIPLES OF MANAGEMENT (3/3)**
BUS 221	**BUSINESS LAW I (3/3)**
BUS 241	**PRINCIPLES OF MARKETING (3/3)**
CIS 120	**INTRODUCTION TO MICROCOMPUTERS (3/4)**
ECN 232	**ECONOMICS (MACRO) (3/3)**
PHL 228	**INTRODUCTION TO ETHICS (3/3)**

GENERAL EDUCATION
DEGREE DISTRIBUTION REQUIREMENTS

GROUP 1 (G1) – ENGLISH COMPOSITION

Six (6) semester credits are required, including ENG 111 or 121 and 112, 122 or 123

GROUP 2 (G2) – SCIENCES/MATHEMATICS

Eight (8) semester credits are required, including at least one laboratory science course. Courses will be taken in more than one academic discipline (course abbreviation/prefix). Note: Two (2) courses in Natural Sciences, including one with laboratory experience (from two disciplines), in addition to MTH 118 or MTH 121 or higher, are required to achieve the Michigan Transfer Agreement (MTA).

GROUP 3 (G3) – SOCIAL SCIENCES

Eight (8) semester credits are required, including the Political Science or U.S. History courses used to satisfy the American Government requirement. Courses will be taken in more than one academic discipline (course abbreviation/prefix).

GROUP 4 (G4) – HUMANITIES/FINE ARTS

Eight (8) semester credits are required, and they must include either: a.) A combination of courses taken in more than one academic discipline (course abbreviation/prefix) or b.) HUM 241 and 242 — Humanities I and II. Note: Two (2) courses in Humanities and Fine Arts (from two disciplines and excluding studio and performance classes) are required for the Michigan Transfer Agreement (MTA).

ELECTIVE CREDITS (EC)

The remainder of credits for an AA degree with this concentration should be oriented toward additional courses in ESPORTS MANAGEMENT, such as **BUS 262, CNS 230, BUS 248, or MTH 223**, when available and in consultation with an ACC Academic Advisor in ESPORTS MANAGEMENT.

RECOMMENDED COURSES - SEQUENCE
GROUP 1-4 REQUIREMENTS + ELECTIVE CREDITS

Meets ACC degree distribution and MTA requirements
62 CREDITS - 67 CONTACT HOURS

YEAR 1 FALL	15 CREDITS	
G1	ENG 111	ENGLISH COMPOSITION I (3/3)
G2	SCI	NATURAL SCIENCE (4/5)
G2	MTH 121	COLLEGE ALGEBRA OR MTH 123 *or* MTH 131 *or higher* (4/4)
PR	**BUS 123**	**PRINCIPLES OF ACCOUNTING I (4/4)**

YEAR 1 SPRING	16 CREDITS	
G1	ENG 112	ENGLISH COMPOSITION II (3/3)
G3	PLS 221	AMERICAN GOVERNMENT & POLITICS (3/3)
G4	HST 121	EARLY WESTERN WORLD (3/3)
PR	**BUS 124**	**PRINCIPLES OF ACCOUNTING II (4/4)**
PR	**CIS 120**	**INTRO TO MICROCOMPUTERS (3/4)**

YEAR 2 FALL	16 CREDITS	
G2	SCI	LAB SCIENCE (4/5)
G4 PR	**PHL 228**	**INTRODUCTION TO ETHICS (3/3)**
G3 PR	**ECN 232**	**ECONOMICS (MACRO) (3/3)**
PR	**BUS 221**	**BUSINESS LAW I (3/3)**
EC	BUS 262	PROJECT MANAGEMENT (3/4)

YEAR 2 SPRING	15 CREDITS	
G4	ART 106	2-D DIGITAL ART (3/4)
G3	PSY 101	GENERAL PSYCHOLOGY (3/3)
G4	SPE 121	SPEECH COMMUNICATION (3/3) *or* SPE 123 PUBLIC COMMUNICATION (3/3)
PR	**BUS 127**	**PRINCIPLES OF MANAGEMENT (3/3)**
PR	**BUS 241**	**PRINCIPLES OF MARKETING (3/3)**

Fine Arts

Associate in Arts (AA) Degree

Description: This is a suggested program of study which may be altered to meet individual goals and transfer plans. Successful completion of this program will prepare students to pursue a bachelor's degree in fine arts and related areas. Students should refer to Alpena Community College graduation requirements and degree distribution requirements and consult with an academic advisor concerning specific course selection.

General Education Requirements **Credits: 25**

ENG 111 *or*	English Composition I (3/3) *or*
ENG 121	Advanced English Composition I (3/3)
ENG 112 *or*	English Composition II (3/3) *or*
ENG 122	Advanced English Composition II (3/3)
GEO 127	Physical Geography (4/5)
HUM 241	Humanities I (4/4) [A]
HUM 242	Humanities II (4/4) [B]
MTH 118	Math for Liberal Arts/Quantitative Reasoning (4/4)
PLS 221	American Government & Politics (3/3)

Core Program Requirements **Credits: 27**

ART 101	Art History I (3/3)
ART 102	Art History II (3/3)
ART 103	2-D Design (3/4)
ART 104	3-D Design (3/4)
ART 105	Drawing I (3/4)
ART 106	2-D Digital Art (3/4) [C]
ART 108	Painting I (3/4) [D]
ART 109	Ceramics I (3/4) [E]
ART 280	Fine Art Portfolio (3/4)

Suggested Electives **Credits: 9**

General Elective (3/3) [F]
Social Science Electives (6/6)

Minimum 61.0 Credit Hours / 69.0 Contact Hours

Notes:
[A] HST 121: History of Early Western World may be substituted
[B] HST 122:History of Modern Western World may be substituted
[C] ART 107: Photography may be substituted
[D] ART 205: Drawing II may be substituted
[E] ART 110: Sculpture I may be substituted
[F] Additional science course required for MTA

Fine Arts

Associate in Arts (AA) Degree
Suggested Sequence of Courses

Year 1 (Fall Semester) **Credits: 16**

ART 101	Art History I (3/3)
ART 103	2-D Design (3/4)
ART 105	Drawing I (3/4)
ENG 111 *or*	English Composition I (3/3) *or*
ENG 121	Advanced English Composition I (3/3)
HUM 241	Humanities I (4/4)

Year 1 (Spring Semester) **Credits: 17**

ART 102	Art History II (3/3)
ART 104	3-D Design (3/4)
ENG 112 *or*	English Composition II (3/3) *or*
ENG 122	Advanced English Composition II (3/3)
HUM 242	Humanities II (4/4)
MTH 118	Math for Liberal Arts/Quantitative Reasoning (4/4)

Year 2 (Fall Semester) **Credits: 16**

ART 106	2-D Digital Art (3/4)
ART 108	Painting I (3/4)
ART 109	Ceramics I (3/4)
GEO 127	Physical Geography (4/5)
	Social Science Elective (3/3)

Year 2 (Spring Semester) **Credits: 12**

ART 280	Fine Art Portfolio (3/4)
PLS 221	American Government & Politics (3/3)
	General Elective (3/3)
	Social Science Elective (3/3)

General Sciences

Associate in Science (AS) Degree

Description: This is a degree that can be individually planned to meet transfer requirements for the specific program of study you intend to pursue at a particular four-year institution after attending Alpena Community College. Course work selected must also meet degree requirements, as well as the Associate in Science degree distribution requirements in this catalog. By working closely with your ACC academic advisor before registering for classes, you can get full benefit from transfer of general education credits. A minimum total of 60 credits is required for the Associate in Science degree.

Many areas of interest in the sciences and in the health care field can be served by working with your advisor and carefully selecting your courses at Alpena Community College. If you are undecided, an appointment with one of our advisors can provide information and guidance regarding the Associate in Science degree.

Listed elsewhere in this Programs of Study section of the catalog are AS transfer degrees in the following areas of concentration: Biology, Chemistry, Computer Science – General, Mathematics, Natural Sciences, Physics, Pre-Dental & Pre-Medicine, Pre-Engineering, Pre-Medical Technology, Pre-Pharmacy, and Pre-Veterinary. With the addition of general study classes, students may earn an Associate in Science degree in Pre-Nursing.

In addition, by working with your academic advisor at ACC, the appropriate choice of required and elective courses for this degree can be made for transfer to the following programs:

Pre-Occupational Therapy
Pre-Physical Therapy
Pre-Radiology Technology
(See information regarding cooperate program in Radiograph.)

General Studies

Associate in General Studies (AGS) Degree

Description: The Associate in General Studies degree is awarded to students primarily interested in general education. The suggested outline of courses, which may be altered to suit individual goals, is listed on page 37 of this catalog. Students should consult an academic advisor for course selection.

GEOGRAPHY

ASSOCIATE IN ARTS (AA) DEGREE
GEOGRAPHY CONCENTRATION

For students considering a major in GEOGRAPHY upon transferring to a four-year institution, the Associate of Arts degree with a GEOGRAPHY concentration from ACC offers a strong foundation, providing essential courses that serve as building blocks for advanced study.

A concentration in GEOGRAPHY can lead to diverse career opportunities, including urban planning, natural resource management, medical fields, GIS and cartography, transportation and logistics, environmental and climate science, government and policy, education, international development, and disaster response.

Program Objectives

Upon graduating from ACC with an Associate of Arts degree with a concentration in GEOGRAPHY, students will:

1. **Analyze** spatial patterns and relationships using geographic theories, methods, and technologies.
2. **Apply** geographic tools, including GIS and cartography, to solve real-world environmental and social challenges.
3. **Demonstrate** an understanding of human-environment interactions and their impact on global and local scales.

It is strongly recommended that students consult with an ACC Academic Advisor in GEOGRAPHY to ensure they meet specific program requirements, objectives, and transfer goals.

PROGRAM REQUIREMENTS (PR)

ANP 121	**CULTURAL ANTHROPOLOGY (3/3)**
GEO 127	**PHYSICAL GEOGRAPHY (3/3)**
PHY 124	**Introduction to Physical Geology (4/5)**
HST 122	**HISTORY OF MODERN WESTERN WORLD (3/3)**
SOC 123	**INTRODUCTION TO SOCIOLOGY (3/3)**

GENERAL EDUCATION
DEGREE DISTRIBUTION REQUIREMENTS

GROUP 1 (G1) – ENGLISH COMPOSITION

Six (6) semester credits are required, including ENG 111 or 121 and 112, 122 or 123

GROUP 2 (G2) – SCIENCES/MATHEMATICS

Eight (8) semester credits are required, including at least one laboratory science course. Courses will be taken in more than one academic discipline (course abbreviation/prefix). Note: Two (2) courses in Natural Sciences, including one with laboratory experience (from two disciplines), in addition to MTH 118 or MTH 121 or higher, are required to achieve the Michigan Transfer Agreement (MTA).

GROUP 3 (G3) – SOCIAL SCIENCES

Eight (8) semester credits are required, including the Political Science or U.S. History courses used to satisfy the American Government requirement. Courses will be taken in more than one academic discipline (course abbreviation/prefix).

GROUP 4 (G4) – HUMANITIES/FINE ARTS

Eight (8) semester credits are required, and they must include either: a.) A combination of courses taken in more than one academic discipline (course abbreviation/prefix) or b.) HUM 241 and 242 — Humanities I and II. Note: Two (2) courses in Humanities and Fine Arts (from two disciplines and excluding studio and performance classes) are required for the Michigan Transfer Agreement (MTA).

ELECTIVE CREDITS (EC)

The remainder of credits for an AA degree with this concentration should be oriented toward additional courses in GEOGRAPHY when available or selected from **ANP, ART, ECN, EDU, ENG, GEO, HST, HUM, MUS, PFA, PHL, PLS, PSY, SOC, SPE**, and/or foreign language courses in consultation with an ACC Academic Advisor in GEOGRAPHY. It is strongly recommended that foreign language preparation begin as soon as possible, if pursued.

RECOMMENDED COURSES - SEQUENCE
GROUP 1-4 REQUIREMENTS + ELECTIVE CREDITS

Meets ACC degree distribution and MTA requirements
61 CREDITS - 64 CONTACTS

YEAR 1 FALL	14 CREDITS	
G1	ENG 111	ENGLISH COMPOSITION I (3/3)
G2	PHS 113	INTRO TO PHYSICAL SCIENCE (4/5)
G2	MTH 118	Math for Liberal Arts/QR (4/4)
G4	HST 121	EARLY WESTERN WORLD (3/3)

YEAR 1 SPRING	16 CREDITS	
G1	ENG 111	ENGLISH COMPOSITION I (3/3)
G2 PR	**PHY 124**	**Intro to Physical Geology (4/5)**
G3	PLS 221	AMERICAN GOVERNMENT & POLITICS (3/3)
G4 PR	**HST 122**	**MODERN WESTERN WORLD (3/3)**
EC	ELECTIVE	GENERAL ELECTIVE (3/3)

YEAR 2 FALL	16 CREDITS	
G2	**GEO 127**	**PHYSICAL GEOGRAPHY (4/5)**
G3	ECN 231	ECONOMICS (MICRO) (3/3)
G3	PSY 101	GENERAL PSYCHOLOGY (3/3)
G4	HUM/FA	HUMANITIES/FINE ARTS (3/3)
EC	ELECTIVE	GENERAL ELECTIVE (3/3)

YEAR 2 SPRING	15 CREDITS	
G3 PR	**ANP 121**	**CULTURAL ANTHROPOLOGY (3/3)**
G3	**SOC 123**	**INTRODUCTION TO SOCIOLOGY (3/3)**
G4	SPE 121	SPEECH COMMUNICATION (3/3) *or* SPE 123 PUBLIC COMMUNICATION (3/3)
EC	ELECTIVE	GENERAL ELECTIVE (3/3)
EC	ELECTIVE	GENERAL ELECTIVE (3/3)

Graphic Design

Associate in Arts (AA) Degree

Description: This graphic design curriculum provides students with hands-on experience in the areas of photo-offset, letterpress, screen printing, thermography, paper making, computer layout and typesetting, foil stamping, multi-color printing, and bindery. Successful completion of this program will prepare a student to pursue a bachelor's degree in graphic design or related areas. Students should refer to the descriptions of Alpena Community College's graduation requirements and degree distribution requirements.

General Education Requirements **Credits: 35**

ENG 111 *or*	English Composition I (3/3) *or*
ENG 121	Advanced English Composition I (3/3)
ENG 112 *or*	English Composition II (3/3) *or*
ENG 122	Advanced English Composition II (3/3)
	General Science Elective (4/4)
GEO 127	Physical Geography (4/5)
HUM 241	Humanities I (4/4) [A]
HUM 242	Humanities II (4/4) [B]
MTH 118	Math for Liberal Arts/Quantitative Reasoning (4/4)
PLS 221	American Government & Politics (3/3)
	Social Science Elective (3/3)
	Social Science Elective (3/3)

Core Program Requirements **Credits: 27**

ART 103	2 D Design (3/4)
ART 104	3 D Design (3/4)
ART 106	2 D Digital Art (3/4)
ART 201	Graphic Design History (3/3)
ART 202	Graphic Design I: Type (3/4)
ART 203	Graphic Design II: Layout (3/4)
ART 204	Graphic Design III: Identity (3/4)
ART 281	Graphic Design Portfolio (3/4)
ART 291	Graphic Design Internship (3/3)

Minimum 62 Credit Hours / 70 Contact Hours

Notes:
[A] HST 121: History of Early Western World may be substituted
[B] HST 122:History of Modern Western World may be substituted

Graphic Design

Associate in Arts (AA) Degree
Suggested Sequence of Courses

Year 1 (Fall Semester) **Credits: 15**

ART 103	2 D Design (3/4)
ART 106	2 D Digital Art (3/4)
ART 201	Graphic Design History (3/3)
ART 202	Graphic Design I: Type (3/4)
ENG 111 *or*	English Composition I (3/3) *or*
ENG 121	Advanced English Composition I (3/3)

Year 1 (Spring Semester) **Credits: 13**

ART 104	3 D Design (3/4)
ART 203	Graphic Design II: Layout (3/4)
ENG 112 *or*	English Composition II (3/3) *or*
ENG 122	Advanced English Composition II (3/3)
MTH 118	Math for Liberal Arts/Quantitative Reasoning (4/4)

Year 2 (Fall Semester) **Credits: 18**

ART 204	Graphic Design III: Identity (3/4)
	General Science Elective (4/4)
GEO 127	Physical Geography (4/5)
HUM 241	Humanities I (4/4)
	Social Science Elective (3/3)

Year 2 (Spring Semester) **Credits: 16**

ART 281	Graphic Design Portfolio (3/4)
ART 291	Graphic Design Internship (3/3)
HUM 242	Humanities II (4/4)
PLS 221	American Government & Politics (3/3)
	Social Science Elective (3/3)

Graphic Design

Associate in Applied Science (AAS) Degree

Description: Students with an aptitude in problem-solving, drawing, design, photography, and/or computer-related visual communication should consider this rapidly expanding field of creative employment. The program offers students the opportunity to specialize in graphic design while exploring other arts disciplines. Students will prepare themselves for entry-level work in various applications of graphic design including print, web, motion, and 3-D. Integral parts of this program, which are necessary for employment in the graphic design field, include design creativity, problem-solving skills, and proficiency in art/design computer programs. Graphic designers are responsible for the creative concept, design, layout, and execution of printed and digital materials.

General Education Requirements **Credits: 17**

ENG 111 *or*	English Composition I (3/3) *or*
ENG 121	Advanced English Composition I (3/3)
ENG 112 *or*	English Composition II (3/3) *or*
ENG 122	Advanced English Composition II (3/3)
HUM 241	Humanities I (4/4) [A]
HUM 242	Humanities II (4/4) [B]
PLS 221	American Government & Politics (3/3)

Core Program Requirements **Credits: 36**

ART 103	2 D Design (3/4)
ART 104	3 D Design (3/4)
ART 106	2 D Digital Art (3/4)
ART 107	Photography I (3/4)
ART 201	Graphic Design History (3/3)
ART 202	Graphic Design I: Type (3/4)
ART 203	Graphic Design II: Layout (3/4)
ART 204	Graphic Design III: Identity (3/4)
ART 206	Digital Media II: 3-D (3/4)
ART 207	Photography II (3/4)
ART 281	Graphic Design Portfolio (3/4)
ART 291	Graphic Design Internship (3/3)

Suggested Electives **Credits: 7**

General Electives (7/7)

Minimum 60 Credit Hours / 69 Contact Hours

Notes:
[A] HST 121: History of Early Western World may be substituted
[B] HST 122:History of Modern Western World may be substituted

Graphic Design

Associate in Applied Science (AAS) Degree
Suggested Sequence of Courses

Year 1 (Fall Semester) **Credits: 16**

ART 103	2 D Design (3/4)
ART 201	Graphic Design History (3/3)
ART 202	Graphic Design I: Type (3/4)
ENG 111 *or*	English Composition I (3/3) *or*
ENG 121	Advanced English Composition I (3/3)
HUM 241	Humanities I (4/4)

Year 1 (Spring Semester) **Credits: 13**

ART 104	3 D Design (3/4)
ART 203	Graphic Design II: Layout (3/4)
ENG 112 *or*	English Composition II (3/3) *or*
ENG 122	Advanced English Composition II (3/3)
HUM 242	Humanities II (4/4)

Year 2 (Fall Semester) **Credits: 15**

ART 106	2 D Digital Art (3/4)
ART 107	Photography I (3/4)
ART 204	Graphic Design III: Identity (3/4)
PLS 221	American Government & Politics (3/3)
	Elective (3/3)

Year 2 (Spring Semester) **Credits: 15**

ART 206	Digital Media II: 3-D (3/4)
ART 207	Photography II (3/4)
ART 281	Graphic Design Portfolio (3/4)
ART 291	Graphic Design Internship (3/3)
	Elective (3/3)

HISTORY

ASSOCIATE IN ARTS (AA) DEGREE
HISTORY CONCENTRATION

For students considering a major in HISTORY upon transferring to a four-year institution, the Associate of Arts degree with a HISTORY concentration from ACC offers a strong foundation, providing essential courses that serve as building blocks for advanced study.

A concentration in HISTORY can lead to diverse career opportunities, including as a historian, archivist, museum curator, educator, researcher, historical consultant, and policy analyst, as well as positions in government, law, and nonprofit organizations.

Program Objectives

Upon graduating from ACC with an Associate of Arts degree with a concentration in HISTORY, students will:

1. **Demonstrate** a broad understanding of historical developments within a global context.
2. **Analyze** the causes, key events, influential figures, and major trends in U.S. and world history, and evaluate their enduring impacts on personal, professional, and civic life.
3. **Perform** critical thinking, research, documentation, and communication skills to interpret historical evidence and present well-supported arguments.

It is strongly recommended that students consult with an ACC Academic Advisor in HISTORY to ensure they meet specific program requirements, objectives, and transfer goals.

PROGRAM REQUIREMENTS (PR)

HST 121	**HISTORY OF THE EARLY WESTERN WORLD (3/3)**
HST 122	**HISTORY OF THE MODERN WESTERN WORLD (3/3)**
HST 221	**U.S. HISTORY I (3/3)**
HST 222	**U.S. HISTORY II (3/3)**

GENERAL EDUCATION
DEGREE DISTRIBUTION REQUIREMENTS

GROUP 1 (G1) – ENGLISH COMPOSITION

Six (6) semester credits are required, including ENG 111 or 121 and 112, 122 or 123

GROUP 2 (G2) – SCIENCES/MATHEMATICS

Eight (8) semester credits are required, including at least one laboratory science course. Courses will be taken in more than one academic discipline (course abbreviation/prefix). Note: Two (2) courses in Natural Sciences, including one with laboratory experience (from two disciplines), in addition to MTH 118 or MTH 121 or higher, are required to achieve the Michigan Transfer Agreement (MTA).

GROUP 3 (G3) – SOCIAL SCIENCES

Eight (8) semester credits are required, including the Political Science or U.S. History courses used to satisfy the American Government requirement. Courses will be taken in more than one academic discipline (course abbreviation/prefix).

GROUP 4 (G4) – HUMANITIES/FINE ARTS

Eight (8) semester credits are required, and they must include either: a.) A combination of courses taken in more than one academic discipline (course abbreviation/prefix) or b.) HUM 241 and 242 — Humanities I and II. Note: Two (2) courses in Humanities and Fine Arts (from two disciplines and excluding studio and performance classes) are required for the Michigan Transfer Agreement (MTA).

ELECTIVE CREDITS (EC)

The remainder of credits for an AA degree with this concentration should be oriented toward additional courses in HISTORY such as **HST 223, HST 224, HST 227, and HST 228** when available, or selected from **ANP, ART, ECN, EDU, ENG, GEO, HST, HUM, MUS, PFA, PHL, PLS, PSY, SOC, SPE**, and/or foreign language courses in consultation with an ACC Academic Advisor in HISTORY. It is strongly recommended that foreign language preparation begin as soon as possible, if pursued.

RECOMMENDED COURSES - SEQUENCE
GROUP 1-4 REQUIREMENTS + ELECTIVE CREDITS

Meets ACC degree distribution and MTA requirements
60 CREDITS - 62 CONTACT HOURS

YEAR 1 FALL	16 CREDITS	
G1	ENG 111	ENGLISH COMPOSITION I (3/3)
G2	MTH 118	MATH FOR LIBERAL ARTS/QR (4/4)
G3	PLS 221	AMERICAN GOVERNMENT & POLITICS (3/3)
G3	PSY 101	GENERAL PSYCHOLOGY (3/3)
G4 PR	**HST 121**	**EARLY WESTERN WORLD (3/3)**

YEAR 1 SPRING	16 CREDITS	
G1	ENG 112	ENGLISH COMPOSITION II (3/3)
G2	GEO 127	PHYSICAL GEOGRAPHY (4/5)
G3	ANP 121	CULTURAL ANTHROPOLOGY (3/3)
G4 PR	**HST 122**	**MODERN WESTERN WORLD (3/3)**
EC	ELECTIVE	GENERAL ELECTIVE (3/3)

YEAR 2 FALL	14 CREDITS	
G2	PHS 113	INTRO TO PHYSICAL SCIENCE (4/5)
G3 PR	**HST 221**	**U. S. HISTORY I (3/3)**
G4	HUM 241	HUMANITIES I (4/4)
EC	ELECTIVE	GENERAL ELECTIVE (3/3)

YEAR 2 SPRING	14 CREDITS	
G3 PR	**HST 222**	**U. S. HISTORY II (3/3)**
G4	HUM 242	HUMANITIES II (4/4)
EC	ELECTIVE	GENERAL ELECTIVE (3/3)
EC	ELECTIVE	GENERAL ELECTIVE (4/4)

Industrial Sales

Associate in Applied Science (AAS) Degree

Description: This program equips successful students with the foundational skills to pursue a career in industrial sales, which differs significantly from retail sales. The successful industrial salesperson must identify and understand the needs of potential industrial customers, determine if their product will add value by improving effectiveness, efficiency, and quality, then appropriately communicate with the customer to develop long term partnerships.

General Education Requirements **Credits: 12**

ENG 120 *or*	Applied Communication (3/3) *or*
ENG 111 *or*	English Composition I (3/3) *or*
ENG 121	Advanced English Composition I (3/3)
ECN 231	Economics (Micro) (3/3)
PLS 221 *or*	American Government & Politics (3/3) *or*
PLS 222	State & Local Government (3/3)
SPE 121	Speech Communication (3/3)

Core Program Requirements **Credits: 50**

APP 100E	Electrical Studies for Trades (3/4)
APP 122M	Machine Repair (2.5/4)
APP 124M	Apprentice Hydraulics (2.5/4)
BUS 122	Personal Selling (3/3)
BUS 123	Principles of Accounting I (4/4)
BUS 221	Business Law (3/3)
BUS 222	Business Law (3/3)
BUS 241	Principles of Marketing (3/3)
BUS 249	Principles of Negotiation (3/3)
BUS 255	Business Application Software (3/4)
CIS 120	Introduction to Microcomputers (3/4)
ENG 123	Technical Communication (3/3)
IND 110	Industrial Organizations (3/3)
MFG 100	Machinery's Handbook (3/4)
MFG 120	Print Interpretation & Processes (3/4)
MTH 115	Applied Algebra & Trigonometry I (5/6)

Minimum 62 Credit Hours / 71 Contact Hours

Industrial Sales

Associate in Applied Science (AAS) Degree
Suggested Sequence of Courses

Year 1 (Fall Semester) **Credits: 16**

ENG 120 *or*	Applied Communication (3/3) *or*
ENG 111 *or*	English Composition I (3/3) *or*
ENG 121	Advanced English Composition I (3/3)
IND 110	Industrial Organizations (3/3)
MFG 120	Print Interpretation & Processes (3/4)
SPE 121	Speech Communication (3/3)
BUS 123	Principles of Accounting I (4/4)

Year 1 (Spring Semester) **Credits: 16.5**

ECN 231	Economics (Micro) (3/3)
APP 122M	Machine Repair (2.5/4)
MFG 100	Machinery's Handbook (3/4)
BUS 122	Personal Selling (3/3)
MTH 115	Applied Algebra & Trigonometry I (5/6)

Year 2 (Fall Semester) **Credits: 14.5**

CIS 120	Introduction to Microcomputers (3/4)
BUS 221	Business Law (3/3)
BUS 241	Principles of Marketing (3/3)
APP 100E	Electrical Studies for Trades (3/4)

Year 2 (Spring Semester) **Credits: 15**

BUS 249	Principles of Negotiation (3/3)
BUS 222	Business Law (3/3)
PLS 221 *or*	American Government & Politics (3/3) *or*
PLS 222	State & Local Government (3/3)
BUS 255	Business Application Software (3/4)
ENG 123	Technical Communication (3/3)

Industrial Technology

Certificate (C)

Description: This program is designed to give students the basis for overall knowledge for employment in entry level positions in industry and manufacturing. Courses will include basic knowledge of electricity, safety, blueprint reading, math, computer, and necessary skills to attain and maintain employment in today's industrial workforce.

General Education Requirements		**Credits: 6**
MTH 110	Technical Math I (3/4)	
MTH 112	Technical Math II (3/4)	

Core Program Requirements		**Credits: 26**
APP 100E	Electrical Studies for Trades (3/4) [A]	
APP 104E	AC & DC Fundamentals (3/4) [A]	
APP 106M	Industrial Safety (.5/.5) [A]	
CAD 150	3D Modeling (3/4) [A]	
IND 229	Hydraulic & Pneumatic Power (3/4) [A]	
MET 200	Material Science (3/4) [A]	
MFG 120	Print Interpretation & Processes (3/4) [A]	
MFG 122	Manufacturing Processes (3/4) [A]	
SDE 201	Job Search Strategies (1/1) [A]	
WLD 134	Introduction to Welding Techniques (2/3) [A]	
WLD 135	Intermediate Welding (1.5/2.25) [A]	

Minimum 32 Credit Hours / 42.75 Contact Hours

Notes:
[A] Included in occupational specialty.
A grade of 2.0 or higher must be maintained in occupational specialty courses

Industrial Technology

Certificate (C)

Suggested Sequence of Courses

Year 1 (Fall Semester)		**Credits: 14.5**
APP 100E	Electrical Studies for Trades (3/4)	
MTH 110	Technical Math I (3/4)	
APP 106M	Industrial Safety (.5/.5)	
MFG 120	Print Interpretation & Processes (3/4)	
WLD 134	Introduction to Welding Techniques (2/3)	
CAD 150	3D Modeling (3/4)	

Year 1 (Spring Semester)		**Credits: 17.5**
APP 104E	AC & DC Fundamentals (3/4)	
MTH 112	Technical Math II (3/4)	
MET 200	Material Science (3/4)	
IND 229	Hydraulic & Pneumatic Power (3/4)	
MFG 122	Manufacturing Processes (3/4)	
SDE 201	Job Search Strategies (1/1)	
WLD 135	Intermediate Welding (1.5/2.25)	

INDUSTRIAL TECHNOLOGY

ASSOCIATE IN APPLIED SCIENCE (AAS) DEGREE

DESCRIPTION: This Associate Degree program is designed to provide a multi-disciplined technical background. Students interested in pursuing careers in technology can tailor the program to emphasize their major area of interest. The program offers students a broad-based curriculum across all areas of technical education, preparing graduates for emerging job markets and technical fields. The program is designed to allow students to focus on areas of interest or specialize in one of several technical specializations: Design, Mechatronics, machining, and Unmanned Remote Robotics. Students, with assistance from an advisor, will select a major area of technical emphasis. These technical courses plus supporting courses from other disciplines comprise the Industrial Technology degree requirements.

Graduates can move on to complete a four-year degree in the field of Engineering Technology and should consult with an academic advisor for this option.

GENERAL EDUCATION REQUIREMENTS **CREDITS: 18-20**

ENG 111 *or*	ENGLISH COMPOSITION I (3/3) *or*
ENG 120	APPLIED COMMUNICATION (3/3)
ENG 112 *or*	ENGLISH COMPOSITION II (3/3) *or*
ENG 123	TECHNICAL COMMUNICATION (3/3)
MTH 110 *or*	TECHNICAL MATH I (3/4) *or*
MTH 113	INTERMEDIATE ALGEBRA (4/4)
MTH 112 *or*	TECHNICAL MAT II (3/4) *or*
MTH 122	PLANE TRIGONOMETRY (3/3)
PLS 221	AMERICAN GOVERNMENT & POLITICS (3/3)
PHY 111 *or*	APPLIED PHYSICS (3/4) *or*
PHY 121	GENERAL COLLEGE PHYSICS (4/6)

CORE PROGRAM REQUIREMENTS **CREDITS: 25-26**

APP 100E	ELECTRICAL STUDIES FOR TRADES (3/4) [A]
CAD 150	3D MODELING (3/4) [A]
MFG 101	MACHINING PROCESSES I (4/6) [A]
APP 106M	INDUSTRIAL SAFETY (1/1) [A]
IND 229	HYDRAULIC & PNEUMATIC POWER (3/4) [A]
MET 200	MATERIAL SCIENCE (3/4) [A]
EGR 130	TEAM DESIGN PROJECT (2/3) [A]
MFG 122 *or*	MANUFACTURING PROCESSES (3/4) *or*
MFG 120 *or*	PRINT INTERPRETATION & PROCESSES (3/4) *or*
APP 121M	APPRENTICE BLUEPRINT READING (3/4)
APP 114E *or*	PROGRAMMABLE LOGIC CONTROLLERS (3/4) *or*
IND 120 *or*	INDUSTRIAL COMPUTERS & NETWORKING (3/4) *or*
MFG 201 *or*	CNC I (4/6) *or*
WLD 260 *or*	WELDING AUTOMATION (3/4) *or*
MTH 119 *or*	INTRO TO COMPUTERS & PROGRAMMING (3/3) *or*
CIS 206 *or*	OBJECT-ORIENTED PROGRAMMING (3/4) *or*
MTH 221	C++ PROGRAMMING

SUGGESTED ELECTIVES **CREDITS: 16**

FROM THE LIST BELOW, SELECT COURSES TO TOTAL 60 CREDITS:

APP 104E *or* APP 111E *or* APP 114E *or* APP 123E	APPRENTICE – ELECTRICAL COURSE (3/4) [A]
APP 122M *or* APP 128M *or* APP 223M	APPRENTICE – MILLWRIGHT COURSES (1.5/2)
AVI 135 *or* AVI 136 *or* AVI 137	AVIATION UNMANNED COURSE (1/1.25-1.5) [A]
CAD 220 *or* CAD 250	COMPUTER-AIDED DESIGN COURSE (3/4) [A]
CNS 150 *or* CNS 151 *or* CNS 170	COMPUTER NETWORKING SYSTEMS COURSE (3-4/4-5) [A]
EGR 122	INTRODUCTION TO ENGINEERING (1/1) [A]
ELE 220	PC BASE DATA ACQUISITION & CONTROL (3/4) [A]
IND 225	STRENGTH OF MATERIALS (4/5) [A]
GEO 151 *or* GEO 152	GLOBAL INFORMATION SYSTEMS (GIS) COURSE (1.5/2) [A]
MFG 102 *or* MFG 122 *or* MFG 201 *or* MFG 204 *or* MFG 220	MANUFACTURING TECHNOLOGY COURSE (3-4/3-7) [A]
MRT 101	INTRODUCTION TO UNDERWATER ROBOTICS (3/4)
WLD 123 *or* WLD 124 *or* WLD 134 *or* WLD 135 *or* WLD 240 *or* WLD 242 *or* WLD 250 *or* WLD 252 *or* WLD 260	WELDING COURSE (1.5-5/2.25-8) [A]

MINIMUM 60 CREDIT HOURS / 76.5 CONTACT HOURS

NOTES:

[A] Included in occupational specialty.

A grade of 2.0 or higher must be maintained in occupational specialty courses

INDUSTRIAL TECHNOLOGY
ASSOCIATE IN APPLIED SCIENCE (AAS) DEGREE

CONCENTRATION – CNC MACHINING

MFG 102	MACHINING PROCESSES II (4/6) [A]
MFG 201	CNC I (4/6) [A] (FROM PROGRAM REQ)
MFG 202	CNC II (4/6) [A]
MFG 204	COMPUTER AIDED MFG (3/4) [A]
MFG 205	CNC III (4/6) [A]
	TECHNICAL ELECTIVE (3/4) [A]

SUGGESTED SEQUENCE OF COURSES

YEAR 1 (FALL SEMESTER)	**CREDITS: 14-15**
ENG 111 *or*	ENGLISH COMPOSITION I (3/3) *or*
ENG 120	APPLIED COMMUNICATION (3/3)
MTH 110 *or*	TECHNICAL MATH I (3/4) *or*
MTH 113	INTERMEDIATE ALGEBRA (4/4)
MFG 101	MACHINING PROCESSES I (4/6)
MFG 122	MANUFACTURING PROCESSES (3/4)
APP 106M	INDUSTRIAL SAFETY (1/1)

YEAR 1 (SPRING SEMESTER)	**CREDITS: 17**
ENG 112 *or*	ENGLISH COMPOSITION II (3/3) *or*
ENG 123	TECHNICAL COMMUNICATION (3/3)
MTH 112 *or*	TECHNICAL MATH II (3/4) *or*
MTH 122	PLANE TRIGONOMETRY (3/3)
MFG 201	CNC I (4/6)
CAD 150	3D MODELING (3/4)
MFG 102	MACHINING PROCESSES II (4/6)

YEAR 2 (FALL SEMESTER)	**CREDITS: 16**
MFG 202	CNC II (4/6)
APP 100E	ELECTRICAL STUDIES FOR TRADES (3/4)
MET 200	MATERIAL SCIENCE (3/4)
IND 229	HYDRAULIC & PNEUMATIC POWER (3/4)
PLS 221	AMERICAN GOVERNMENT & POLITICS (3/3)

YEAR 2 (SPRING SEMESTER)	**CREDITS: 15**
MFG 204	COMPUTER AIDED MFG (3/4)
MFG 205	CNC III (4/6)
EGR 130	TEAM DESIGN PROJECT (2/3)
PHY 111	APPLIED PHYSICS (3/4)
	TECHNICAL ELECTIVE (3/4)

INDUSTRIAL TECHNOLOGY
ASSOCIATE IN APPLIED SCIENCE (AAS) DEGREE

CONCENTRATION – DESIGN

CAD 220	MACHINE DESIGN (3/4) [A]
CAD 250	ADVANCED 3D MODELING (3/4) [A]
MFG 204	COMPUTER AIDED MFG (3/4) [A]
IND 225	STRENGTH OF MATERIALS (4/5) [A]
CIS 171	SPREADSHEETS I (1/1.25) [A]
CIS 172	SPREADSHEETS II (1/1.25) [A]
	TECHNICAL ELECTIVE (3/4) [A]

SUGGESTED SEQUENCE OF COURSES

YEAR 1 (FALL SEMESTER)	**CREDITS: 14-15**
MTH 110	TECHNICAL MATH I (3/4)
MFG 101	MACHINING PROCESSES I (4/6)
MFG 122	MANUFACTURING PROCESSES (3/4)
APP 100E	ELECTRICAL STUDIES FOR TRADES (3/4)
APP 106M	INDUSTRIAL SAFETY (1/1)

YEAR 1 (SPRING SEMESTER)	**CREDITS: 15**
MTH 112	TECHNICAL MATH II (3/4)
PHY 111	APPLIED PHYSICS (3/4)
CAD 150	3D MODELING (3/4)
APP 114E	PROGRAMMABLE LOGIC CONTROLLERS (3/4)
MFG 204	COMPUTER AIDED MANUFACTURING (3/4)

YEAR 2 (FALL SEMESTER)	**CREDITS: 15**
ENG 111 *or*	ENGLISH COMPOSITION I (3/3) *or*
ENG 120	APPLIED COMMUNICATION (3/3)
CAD 220	COMPUTER-AIDED DESIGN COURSE (3/4)
IND 229	HYDRAULIC & PNEUMATIC POWER (3/4)
MET 200	MATERIAL SCIENCE (3/4)
PLS 221	AMERICAN GOVERNMENT & POLITICS (3/3)

YEAR 2 (SPRING SEMESTER)	**CREDITS: 17**
ENG 112 *or*	ENGLISH COMPOSITION II (3/3) *or*
ENG 123	TECHNICAL COMMUNICATION (3/3)
IND 225	STRENGTH OF MATERIALS (4/5)
CAD 250	ADVANCED 3D MODELING (3/4)
EGR 130	TEAM DESIGN PROJECT (2/3)
CIS 171	SPREADSHEETS I (1/1.25)
CIS 172	SPREADSHEETS II (1/1.25)
	TECHNICAL ELECTIVE (3/4)

INDUSTRIAL TECHNOLOGY
ASSOCIATE IN APPLIED SCIENCE (AAS) DEGREE

CONCENTRATION – MECHATRONICS

APP 107E *or*	SPECIALTY WIRING (3/4) [A] *or*
CNS 151	NETWORK COMMUNICATION CABLING (3/4) [A]
APP 123E	LINEAR ELECTRONICS (3/4) [A]
CAD 220	MACHINE DESIGN (3/4) [A]
IND 120	INDUSTRIAL COMPUTERS & NETWORKING (3/4) [A] (FROM PROGRAM REQ)
APP 114E	PROGRAMMABLE LOGIC CONTROLLERS (3/4) [A]
MFG 201	CNC I (4/6) [A]

SUGGESTED SEQUENCE OF COURSES

YEAR 1 (FALL SEMESTER)	**CREDITS: 17-18**
MTH 110 *or*	TECHNICAL MATH I (3/4) *or*
MTH 113	INTERMEDIATE ALGEBRA (4/4)
MFG 101	MACHINING PROCESSES I (4/6)
MFG 122	MANUFACTURING PROCESSES (3/4)
APP 100E	ELECTRICAL STUDIES FOR TRADES (3/4)
IND 120	INDUSTRIAL COMPUTERS & NETWORKING (3/4)
APP 106M	INDUSTRIAL SAFETY (1/1)

YEAR 1 (SPRING SEMESTER)	**CREDITS: 15**
MTH 112 *or*	TECHNICAL MATH II (3/4) *or*
MTH 122	PLANE TRIGONOMETRY (3/3)
PHY 111	APPLIED PHYSICS (3/4)
CAD 150	3D MODELING (3/4)
APP 123E	LINEAR ELECTRONICS (3/4)
PLS 221	AMERICAN GOVERNMENT & POLITICS (3/3)

YEAR 2 (FALL SEMESTER)	**CREDITS: 15**
ENG 111 *or*	ENGLISH COMPOSITION I (3/3) *or*
ENG 120	APPLIED COMMUNICATION (3/3)
CAD 220	MACHINE DESIGN (3/4)
IND 229	HYDRAULIC & PNEUMATIC POWER (3/4)
MET 200	MATERIAL SCIENCE (3/4)
APP 107E	SPECIALTY WIRING (3/4)

YEAR 2 (SPRING SEMESTER)	**CREDITS: 15**
ENG 112 *or*	ENGLISH COMPOSITION II (3/3) *or*
ENG 123	TECHNICAL COMMUNICATION (3/3)
APP 114E	PROGRAMMABLE LOGIC CONTROLLERS (3/4)
MFG 201	CNC I (4/6)
EGR 130	TEAM DESIGN PROJECT (2/3)
	TECHNICAL ELECTIVE (3/4)

INDUSTRIAL TECHNOLOGY
ASSOCIATE IN APPLIED SCIENCE (AAS) DEGREE

CONCENTRATION – UNMANNED REMOTE ROBOTICS

MRT 101	INTRODUCTION TO UNDERWATER ROBOTICS (3/4) [A]
AVI 135	UAS PILOT EXAM PREP (1/1.25) [A]
AVI 136	UAS OPERATIONS & SAFETY (1/1.5) [A]
AVI 137	UAS PAYLOADS & PROCESSING (1/1.25) [A]
APP 107E *or*	SPECIALTY WIRING (3/4) [A] *or*
CNS 151	NETWORK COMMUNICATION CABLING (3/4) [A]
APP 123E	LINEAR ELECTRONICS (3/4) [A]
GEO 151	INTRODUCTION TO GIS (1.5/2) [A]
GEO 152	ADVANCED GIS (1.5/2) [A]

SUGGESTED SEQUENCE OF COURSES

YEAR 1 (FALL SEMESTER)	**CREDITS: 17**
MTH 113	INTERMEDIATE ALGEBRA (4/4)
MRT 101	INTRODUCTION TO UNDERWATER ROBOTICS (3/4)
MFG 122	MANUFACTURING PROCESSES (3/4)
APP 100E	ELECTRICAL STUDIES FOR TRADES (3/4)
IND 120	INDUSTRIAL COMPUTERS & NETWORKING (3/4)
APP 106M	INDUSTRIAL SAFETY (1/1)

YEAR 1 (SPRING SEMESTER)	**CREDITS: 15**
MTH 122	PLANE TRIGONOMETRY (3/3)
GEO 151	INTRODUCTION TO GIS (1.5/2)
GEO 152	ADVANCED GIS (1.5/2)
CAD 150	3D MODELING (3/4)
APP 123E	LINEAR ELECTRONICS (3/4)
PLS 221	AMERICAN GOVERNMENT & POLITICS (3/3)

YEAR 2 (FALL SEMESTER)	**CREDITS: 17**
ENG 111 *or*	ENGLISH COMPOSITION I (3/3) *or*
ENG 120	APPLIED COMMUNICATION (3/3)
MFG 101	MACHINING PROCESSES I (4/6)
IND 229	HYDRAULIC & PNEUMATIC POWER (3/4)
PHY 121	APPLIED PHYSICS (4/6)
APP 107E	SPECIALTY WIRING (3/4)

YEAR 2 (SPRING SEMESTER)	**CREDITS: 14**
ENG 112 *or*	ENGLISH COMPOSITION II (3/3) *or*
ENG 123	TECHNICAL COMMUNICATION (3/3)
MET 200	MATERIAL SCIENCE (3/4)
AVI 135	UAS PILOT EXAM PREP (1/1.25)
AVI 136	UAS OPERATIONS & SAFETY (1/1.5)
AVI 137	UAS PAYLOADS & PROCESSING (1/1.25)
EGR 130	TEAM DESIGN PROJECT (2/3)
	TECHNICAL ELECTIVE (3/4)

Information Technology

Associate in Applied Science (AAS) Degree

Description: This program prepares students for employment at Information Technology (IT) professionals in areas such as network administration, cybersecurity, system support, virtualization, and server administration. Successful completion will equip students with the skills and knowledge to plan, install, secure, and maintain enterprise-level technology environments; perform maintenance and troubleshooting activities associated with IT equipment and software; work with cloud infrastructure; and identify and remediate security issues. This program helps prepare students for multiple industry-recognized certifications.

General Education Courses		**Credits: 9**
ENG 111	English Composition I (3/3) [B]	
ENG 112	English Composition II (3/3) [C]	
PLS 221	American Government & Politics (3/3) [D]	

Core Program Requirements		**Credits: 52**
BUS 248	Business Communications (3/3)	
BUS 262	Project Management (3/3) [A]	
CIS 140	Introduction to Microsoft Client OS (3/4) [A]	
CIS 206	Object Oriented Programming (3/4)	
CIS 241	Introduction to Web Design Mgt (3/4)	
CIS 258	Introduction to Enterprise Database (3/4) [A]	
CNS 150	Networking Fundamentals (3/4) [A]	
CNS 155	Introduction to Routing & Switching (3/3)	
CNS 170	PC Repair & Maintenance (4/5) [A]	
CNS 180	Introduction to Microsoft Server (3/4) [A]	
CNS 220	Advanced Microsoft Server (3/4) [A]	
CNS 230	Information Security (3/4) [A]	
CNS 240	Open-Source Networking (3/4) [A]	
CNS 245	Ethical Hacking & Penetration Testing (3/4) [A]	
CNS 252	PowerShell & Scripting (3/4) [A]	
CNS 260	Amazon Web Services (AWS) Cloud Practitioner (3/4) [A]	
CNS 295	Network Admin/Cyber Security Capstone (3/5) [A]	

Minimum 61 Credit Hours / 78 Contact Hours

Notes:
[A] Included in occupational specialty.
GPA of 2.0 or higher must be maintained in occupational specialty courses
[B] *or ENG 121*
[C] *or ENG 123*
[D] *or PLS 222 or HST 221 & HST 222*

Information Technology

Associate in Applied Science (AAS) Degree
Suggested Sequence of Courses

Year 1 (Fall Semester)		**Credits: 16**
CIS 140	Introduction to Microsoft Client OS (3/4)	
CIS 206	Object Oriented Programming (3/4)	
CNS 150	Networking Fundamentals (3/4)	
CNS 170	PC Repair & Maintenance (4/5)	
ENG 111	English Composition I (3/3)	

Year 1 (Spring Semester)		**Credits: 15**
BUS 248	Business Communications (3/3)	
CIS 241	Introduction to Web Design Mgt (3/4)	
CNS 155	Introduction to Routing & Switching (3/3)	
CNS 180	Introduction to Microsoft Server (3/4)	
ENG 112	English Composition II (3/3)	

Year 2 (Fall Semester)		**Credits: 15**
BUS 262	Project Management (3/3)	
CNS 220	Advanced Microsoft Server (3/4)	
CNS 230	Information Security (3/4)	
CNS 240	Open-Source Networking (3/4)	
PLS 221	American Government & Politics (3/3)	

Year 2 (Spring Semester)		**Credits: 15**
CIS 258	Introduction to Enterprise Database (3/4)	
CNS 245	Ethical Hacking & Penetration Testing (3/4)	
CNS 252	PowerShell & Scripting (3/4)	
CNS 260	Amazon Web Services (AWS) Cloud Practitioner (3/4)	
CNS 295	Network Admin/Cyber Security Capstone (3/5)	

LIBERAL ARTS

ASSOCIATE IN ARTS (AA) DEGREE
LIBERAL ARTS CONCENTRATION

For students considering a major in LIBERAL ARTS upon transferring to a four-year institution, the Associate of Arts degree with a LIBERAL ARTS concentration from ACC offers a strong foundation, providing essential courses that serve as building blocks for advanced study.

A concentration in LIBERAL ARTS can lead to diverse career opportunities, including roles in education, communications, marketing, human resources, social services, journalism, public relations, and nonprofit organizations, as well as positions in business, government, and the arts.

Program Objectives

Upon graduating from ACC with an Associate of Arts degree with a concentration in LIBERAL ARTS, students will:

1. **Demonstrate** a broad understanding of the humanities, social sciences, and natural sciences to approach diverse issues from multiple perspectives.
2. **Perform** strong critical thinking, problem-solving, and communication skills to analyze complex topics and articulate ideas effectively.
3. **Apply** interdisciplinary knowledge to prepare for further academic study or careers in education, business, public service, and other fields requiring adaptable, well-rounded skills.

It is strongly recommended that students consult with an ACC Academic Advisor in LIBERAL ARTS to ensure they meet specific program requirements, objectives, and transfer goals.

PROGRAM REQUIREMENTS (PR)

Consult your ACC academic advisor in LIBERAL ARTS for guidance based on specific career plans, transfer goals, and eventual declaration of major/minor.

GENERAL EDUCATION
DEGREE DISTRIBUTION REQUIREMENTS

GROUP 1 (G1) – ENGLISH COMPOSITION

Six (6) semester credits are required, including ENG 111 or 121 and 112, 122 or 123

GROUP 2 (G2) – SCIENCES/MATHEMATICS

Eight (8) semester credits are required, including at least one laboratory science course. Courses will be taken in more than one academic discipline (course abbreviation/prefix). Note: Two (2) courses in Natural Sciences, including one with laboratory experience (from two disciplines), in addition to MTH 118 or MTH 121 or higher, are required to achieve the Michigan Transfer Agreement (MTA).

GROUP 3 (G3) – SOCIAL SCIENCES

Eight (8) semester credits are required, including the Political Science or U.S. History courses used to satisfy the American Government requirement. Courses will be taken in more than one academic discipline (course abbreviation/prefix).

GROUP 4 (G4) – HUMANITIES/FINE ARTS

Eight (8) semester credits are required, and they must include either: a.) A combination of courses taken in more than one academic discipline (course abbreviation/prefix) or b.) HUM 241 and 242 — Humanities I and II. Note: Two (2) courses in Humanities and Fine Arts (from two disciplines and excluding studio and performance classes) are required for the Michigan Transfer Agreement (MTA).

ELECTIVE CREDITS (EC)

The remainder of credits for an AA degree with this concentration should be oriented toward additional courses in LIBERAL ARTS in prefixes such as **ANP, ART, ECN, EDU, ENG, GEO, HST, HUM, MUS, PFA, PHL, PLS, PSY, SOC, SPE**, and/or foreign language courses in consultation with an ACC Academic Advisor in LIBERAL ARTS. It is strongly recommended that foreign language preparation begin as soon as possible, if pursued.

RECOMMENDED COURSES - SEQUENCE
GROUP 1-4 REQUIREMENTS + ELECTIVE CREDITS

Meets ACC degree distribution and MTA requirements
60 CREDITS - 62 CONTACT HOURS

YEAR 1 FALL	16 CREDITS	
G1	ENG 111	ENGLISH COMPOSITION I (3/3)
G2	MTH 118	MATH FOR LIBERAL ARTS/QR (4/4) *or higher*
G3	HST 121	EARLY WESTERN WORLD (3/3)
G4	HUM/FA	HUMANITIES/FINE ARTS (3/3)
EC	ELECTIVE	GENERAL ELECTIVE (3/3)

YEAR 1 SPRING	16 CREDITS	
G1	ENG 112	ENGLISH COMPOSITION II (3/3)
G2	SCI	LAB SCIENCE/NATURAL SCIENCE (4/5)
G3	HST 122	MODERN WESTERN WORLD (3/3)
G3	SOC SCI	SOCIAL SCIENCE (3/3)
G3/4	SS/HU	SOC SCI-HUMANITIES/FINE ARTS (3/3)

YEAR 2 FALL	14 CREDITS	
G3	PLS 221	AMERICAN GOVERNMENT & POLITICS (3/3)
G4	HUM 241	HUMANITIES I (4/4)
G4	SPE 121	SPEECH COMMUNICATION *or* SPE 123 PUBLIC COMMUNICATION (3/3)
EC	ELECTIVE	GENERAL ELECTIVE (4/4)

YEAR 2 SPRING	14 CREDITS	
G2	SCI	NATURAL SCIENCE (4/5)
G3	SOC SCI	SOCIAL SCIENCE (3/3)
G4	HUM 242	HUMANITIES II (4/4)
EC	ELECTIVE	GENERAL ELECTIVE (3/3)

Machine Tool Technology, Basic

Certificate (C)

Description: This certificate program develops student skills in the operation of lathes, milling machines, and surface grinders. The student will also become proficient in applied mathematics and blueprint reading and will understand the theory of machine shop practices. There will also be an introduction to the operation of Computer Numerical Control (CNC) equipment. Completion of this certificate will qualify the student for entry-level employment in basic machining and manufacturing operations.

Program Requirements		**Credits: 25**
APP 106M	Industrial Safety (1/1) [A]	
MET 200	Material Science (3/4) [A]	
MTH 110	Technical Math I (3/4) [A]	
MFG 101	Machining Processes I (4/6) [A]	
MFG 102	Machining Processes II (4/6) [A]	
MFG 120	Print Interpretation & Processes (3/4) [A]	
MFG 201	CNC I (4/6) [A]	
MFG 204	Computer-Aided Manufacturing (3/4) [A]	

Minimum 25 Credit Hours / 35 Contact Hours

Notes:
[A] Included in occupational specialty.
A grade of 2.0 or higher must be maintained in occupational specialty courses

Machine Tool Technology, Basic

Certificate (C)

Suggested Sequence of Courses

Year 1 (Fall Semester)		**Credits: 13**
MET 200	Material Science (3/4)	
MFG 101	Machining Processes I (4/6)	
MFG 120	Print Interpretation & Processes (3/4)	
MTH 110	Technical Math I (3/4)	

Year 1 (Spring Semester)		**Credits: 12**
APP 106M	Industrial Safety (1/1)	
MFG 102	Machining Processes II (4/6)	
MFG 201	CNC I (4/6)	
MFG 204	Computer-Aided Manufacturing (3/4)	

Machine Tool Technology, Advanced

Certificate (C)

Description: This certificate program develops student skills in the operation of Computer-Aided Drafting (CAD) software and extensive focus on set-up, programming, and operation of Computer Numerical Control (CNC), CNC lathes, milling machines, and wire EDM, plus advanced inspection equipment. Completion of this certificate will qualify the student for entry-level employment as CNC machine operators, set-up personnel, and programmers.

A prerequisite for this program is the completion of the Machine Tool Technology, Basic certificate program, Welding Fabrication certificate, or CAD Technology associate degree.

Program Requirements		**Credits: 21**
CAD 150	3D Modeling (3/4)	
CAD 250	Advanced 3D Modeling (3/4) [A]	
MFG 122	Manufacturing Processes (3/4)	
MFG 202	CNC II (4/6) [A]	
MFG 205	CNC III (4/6) [A]	
MFG 220	Jigs & Fixtures Design Fundamentals (4/6) [A]	

Suggested Electives		**Credits: 6**
	Any two APP Course (6/8)	

Minimum 27 Credit Hours / 38 Contact Hours

Notes:
[A] Included in occupational specialty.
A grade of 2.0 or higher must be maintained in occupational specialty courses

Machine Tool Technology, Advanced

Certificate (C)

Suggested Sequence of Courses

Year 1 (Fall Semester)		**Credits: 14**
CAD 150	3D Modeling (3/4)	
MFG 122	Manufacturing Processes (3/4)	
MFG 202	CNC II (4/6)	
MFG 220	Jigs & Fixture Design Fundamentals (4/6)	

Year 1 (Spring Semester)		**Credits: 13**
	APP Electives (6/8)	
CAD 250	Advanced 3D Modeling (3/4)	
MFG 205	CNC III (4/6)	

Machine Tool Technology

Associate in Applied Science (AAS) Degree

Description: This associate degree program familiarizes the student with machine tools and manufacturing processes, develops skills in the operation of computer-aided drafting software, and provides hands-on experience setting up, programming, and operating Computer Numerical Control (CNC) machines and advanced inspection equipment. Computer-Aided Manufacturing (CAM) and Statistical Process Control (SPC) are skills integrated within the curriculum to prepare the student for employment as CNC programmers, machinists, toolmakers, and quality assurance technicians, or move on to complete a four-year degree in Manufacturing Engineering.

General Education Requirements **Credits: 12**

ENG 120 *or*	Applied Communication (3/3) *or*
ENG 111	English Composition I (3/3)
ENG 123 *or*	Technical Communication (3/3) *or*
ENG 112	English Composition II (3/3)
PHY 111	Applied Physics (3/4)
PLS 221 *or*	American Government & Politics (3/3) *or*
PLS 222	State & Local Government (3/3)

Core Program Requirements **Credits: 48-49**

CAD 150	3D Modeling (3/4) [A]
CAD 220	Machine Design (3/4) [A B]
CAD 250	Advanced 3D Modeling (3/4) [A]
MET 200	Material Science (3/4) [A]
MFG 101	Machining Processes I (4/6) [A]
MFG 102	Machining Processes II (4/6) [A]
MFG 122	Manufacturing Processes (3/3) [A C]
MFG 201	CNC I (4/6) [A]
MFG 202	CNC II (4/6) [A]
MFG 204	Computer-Aided Mfg (CAM) (3/4) [A]
MFG 205	CNC III (4/6) [A]
MFG 220	Jigs & Fixture Design (4/6) [A]
MTH 110 *or*	Technical Math I (3/4) *or*
MTH 113	Intermediate Algebra (4/4)
MTH 122	Plane Trigonometry (3/3) [D]

Suggested Electives **Credits: 3**

APP or WLD Course (3/3)

Minimum 63 Credit Hours / 83 Contact Hours

Notes:

[A] Included in occupational specialty.
A grade of 2.0 or higher must be maintained in occupational specialty courses

[B] May substitute with MFG 206 Advanced CAD/CAM Integration

[C] May substitute with MFG 230 Manufacturing Capstone Project

[D] May substitute with MTH 112

Machine Tool Technology

Associate in Applied Science (AAS) Degree
Suggested Sequence of Courses

Year 1 (Fall Semester) **Credits: 16-17**

CAD 150	3D Modeling (3/4)
ENG 120 *or*	Applied Communication (3/3) *or*
ENG 111	English Composition I (3/3)
MET 200	Material Science (3/4)
MFG 101	Machining Processes I (4/6)
MTH 110 *or*	Technical Math I (3/4) *or*
MTH 113	Intermediate Algebra (4/4)

Year 1 (Spring Semester) **Credits: 17**

ENG 123 *or*	Technical Communication (3/3) *or*
ENG 112	English Composition II (3/3)
MFG 102	Machining Processes II (4/6)
MFG 201	CNC I (4/6)
MFG 204	Computer-Aided Mfg (CAM) (3/4)
MTH 122	Plane Trigonometry (3/3)

Year 2 (Fall Semester) **Credits: 17**

CAD 220	Machine Design (3/4)
MFG 122	Manufacturing Processes (3/3)
MFG 202	CNC II (4/6)
MFG 220	Jigs & Fixture Design (4/6)
PLS 221 *or*	American Government & Politics (3/3) *or*
PLS 222	State & Local Government (3/3)

Year 2 (Spring Semester) **Credits: 13**

	APP or WLD Elective (3/3)
CAD 250	Advanced 3D Modeling (3/4)
MFG 205	CNC III (4/6)
PHY 111	Applied Physics (3/4)

MARKETING

ASSOCIATE IN APPLIED SCIENCE (AAS) DEGREE

DESCRIPTION: This program prepares students for positions in the marketing area of a business organization. Successful completion will equip the student with the necessary knowledge and skills to seek employment in sales and sales management, retailing, and other marketing-related positions.

GENERAL EDUCATION REQUIREMENTS		**CREDITS: 21**
ENG 111	ENGLISH COMPOSITION I (3/3)	
ENG 112	ENGLISH COMPOSITION II (3/3)	
ECN 231	ECONOMICS (MICRO) (3/3)	
ECN 232	ECONOMICS (MACRO) (3/3)	
PLS 221	AMERICAN GOVERNMENT & POLITICS (3/3)	
PSY 101	GENERAL PSYCHOLOGY (3/3)	
SPE 121	SPEECH COMMUNICATION (3/3)	

CORE PROGRAM REQUIREMENTS		**CREDITS: 41**
BUS 121	INTRODUCTION TO BUSINESS (3/3) [A]	
BUS 122	PERSONAL SELLING (3/3) [A]	
BUS 123	PRINCIPLES OF ACCOUNTING I (4/4) [A]	
BUS 124	PRINCIPLES OF ACCOUNTING II (4/4) [A]	
BUS 125	BUSINESS MATH OR HIGHER MATH (3/3)	
BUS 221	BUSINESS LAW (3/3) [A]	
BUS 222	BUSINESS LAW (3/3) [A]	
BUS 229	ADVERTISING (3/3) [A]	
BUS 241	PRINCIPLES OF MARKETING (3/3) [A]	
BUS 255	BUSINESS APPLICATION SOFTWARE (3/4) [A]	
CIS 120	INTRODUCTION TO MICROCOMPUTERS (3/4) [A]	
CIS 240	MULTIMEDIA PRESENTATIONS (3/4) [A]	
CIS 250	DESKTOP PUBLISHING (3/3)	

MINIMUM 62 CREDIT HOURS / 66 CONTACT HOURS

NOTES:
[A] Included in occupational specialty.
A grade of 2.0 or higher must be maintained in occupational specialty courses

MARKETING

ASSOCIATE IN APPLIED SCIENCE (AAS) DEGREE
SUGGESTED SEQUENCE OF COURSES

Year 1 (Fall Semester)		**Credits: 16**
BUS 121	INTRODUCTION TO BUSINESS (3/3)	
BUS 122	PERSONAL SELLING (3/3)	
BUS 123	PRINCIPLES OF ACCOUNTING I (4/4)	
BUS 125	BUSINESS MATH OR HIGHER MATH (3/3)	
ENG 111	ENGLISH COMPOSITION I (3/3)	

YEAR 1 (SPRING SEMESTER)		**CREDITS: 16**
BUS 124	PRINCIPLES OF ACCOUNTING II (4/4)	
BUS 241	PRINCIPLES OF MARKETING (3/3)	
CIS 120	INTRODUCTION TO MICROCOMPUTERS (3/4)	
ECN 232	ECONOMICS (MACRO) (3/3)	
ENG 112	ENGLISH COMPOSITION II (3/3)	

YEAR 2 (FALL SEMESTER)		**CREDITS: 15**
BUS 221	BUSINESS LAW (3/3)	
CIS 250	DESKTOP PUBLISHING (3/3)	
ECN 231	ECONOMICS (MICRO) (3/3)	
PLS 221	AMERICAN GOVERNMENT REQUIREMENT (3/3)	
PSY 101	GENERAL PSYCHOLOGY (3/3)	

YEAR 2 (SPRING SEMESTER)		**CREDITS: 15**
BUS 222	BUSINESS LAW (3/3)	
BUS 229	ADVERTISING (3/3)	
BUS 255	BUSINESS APPLICATION SOFTWARE (3/4)	
CIS 240	MULTIMEDIA PRESENTATIONS (3/4)	
SPE 121	SPEECH COMMUNICATION (3/3)	

MATHEMATICS

ASSOCIATE IN SCIENCE (AS) DEGREE MATHEMATICS CONCENTRATION

For students considering a major in MATHEMATICS upon transferring to a four-year institution, the Associate of Science degree with a MATHEMATICS concentration from ACC offers a strong foundation, providing essential courses that serve as building blocks for advanced study.

A concentration in MATHEMATICS can lead to diverse career opportunities, including finance, technology, research, education, engineering, data analysis, actuarial science, software development, statistics, and operations research.

Program Objectives

Upon graduating from ACC with an Associate of Science degree with a concentration in MATHEMATICS, students will:

1. **Demonstrate** a strong understanding of mathematical concepts, including algebra, calculus, statistics, and discrete mathematics.
2. **Apply** problem-solving and analytical skills to mathematical principles in real-world situations and related fields of study.
3. **Communicate** mathematical ideas effectively and be prepared for further academic study or careers in mathematics, engineering, finance, and related disciplines.

It is strongly recommended that students consult with an ACC Academic Advisor in MATHEMATICS to ensure they meet specific program requirements, objectives, and transfer goals.

PROGRAM REQUIREMENTS (PR)

MTH 131	**ANALYTIC GEOMETRY & CALCULUS I (5/5)**
MTH 132	**ANALYTIC GEOMETRY & CALCULUS II (5/5)**
MTH 231	**ANALYTIC GEOMETRY & CALCULUS III (5/5)**
MTH 232	**DIFFERENTIAL EQUATIONS (4/4)**

GENERAL EDUCATION DEGREE DISTRIBUTION REQUIREMENTS

GROUP 1 (G1) – ENGLISH COMPOSITION

Six (6) semester credits are required, including ENG 111 or 121 and 112, 122 or 123

GROUP 2 (G2) – SCIENCES/MATHEMATICS

Twenty (20) semester credits are required, including at least one laboratory science course. Courses will be taken in more than one academic discipline (course abbreviation/prefix). Note: Two (2) courses in Natural Sciences, including one with laboratory experience (from two disciplines), in addition to MTH 118 or MTH 121 or higher, are required to achieve the Michigan Transfer Agreement (MTA).

GROUP 3 (G3) – SOCIAL SCIENCES & HUMANITIES/FINE ARTS

Ten (10) semester credits are required in combination from both of these groups, with a minimum of three (3) credits from each group. Political Science or U.S. History courses used to satisfy the American Government requirement can be included. Courses will be taken in more than one academic discipline (course abbreviation/prefix). Note: Two (2) courses in Social Sciences (from two disciplines) and two (2) courses in Humanities and Fine Arts (from two disciplines and excluding studio and performance classes) are required for the Michigan Transfer Agreement (MTA).

ELECTIVE CREDITS (EC)

The remainder of credits for an AS degree with this concentration should be oriented toward additional courses in MATHEMATICS with prefixes **MTH, PHY, CEM,** and **EGR** when available in consultation with an ACC Academic Advisor in MATHEMATICS.

RECOMMENDED COURSES - SEQUENCE GROUP 1-4 REQUIREMENTS + ELECTIVE CREDITS

Meets ACC degree distribution and MTA requirements
60 CREDITS – 62 CONTACT HOURS

YEAR 1 FALL	15 CREDITS	
G1	ENG 111	ENGLISH COMPOSITION I (3/3)
G2 PR	**MTH 131**	**ANALYTIC GEOMETRY & CALCULUS I (5/5)**
G2	SCI	LABORATORY SCIENCE (4/5)
G3	HUM/FA	HUMANITIES/FINE ARTS (3/3)

YEAR 1 SPRING	15 CREDITS	
G1	ENG 112	ENGLISH COMPOSITION II (3/3)
G2 PR	**MTH 132**	**ANAL GEOMETRY & CALCULUS II (5/5)**
G2	SCI	NATURAL SCIENCE (4/5)
G3	SS	SOCIAL SCIENCE (3/3)

YEAR 2 FALL	15 CREDITS	
G2 PR	**MTH 231**	**ANAL GEOMETRY & CALCULUS III (5/5)**
G2	MTH/SCI	MATH/SCIENCE (4/4)
G3	PLS 221	AMERICAN GOVERNMENT & POLITICS (3/3)
EC	ELECTIVE	GENERAL ELECTIVE (3/3)

YEAR 2 SPRING	15 CREDITS	
G2 PR	**MTH 232**	**DIFFERENTIAL EQUATIONS (4/4)**
G2	MTH/SCI	MATH/SCIENCE (4/4)
G3	HUM/FA	HUMANITIES/FINE ARTS (4/4)
EC	ELECTIVE	GENERAL ELECTIVE (3/3)

Mechanical Design Technology

Associate in Applied Science (AAS) Degree

Description: This associate degree program is designed for students who want to work in the field of engineering and design at the applied level in positions such as engineering technician, designer, and/or CAD operator. The program emphasizes a hands-on approach to design from the use of hand tools to the utilization of the latest software and computers recommended by industry. Theoretical, scientific, and mathematical topics are utilized and serve as a basis for the research and development of new designs. A technical elective allows for the customization of the program with courses ranging from manufacturing to electronics. Graduates can move on to complete a four-year degree in the field of Engineering Technology and should consult with an academic advisor.

General Education Requirements **Credits: 12**

ENG 120 *or*	Applied Communication (3/3) *or*
ENG 111	English Composition I (3/3)
ENG 123 *or*	Technical Communication (3/3) *or*
ENG 112	English Composition II (3/3)
PHY 111 *or*	Applied Physics (3/4) *or*
PHY 121	General College Physics (4/6)
PLS 221 *or*	American Government Requirement (3-6/3-6)
PLS 222 *or* HST 221 & HST 222	

Core Program Requirements **Credits: 45**

APP 100E	Electrical Studies for Trades (3/4) [A]
APP 114E	Programmable Controllers (3/4) [A]
APP 124M	Apprentice Hydraulics (3/4) [A]
CAD 150	3D Modeling (3/4) [A]
CAD 220	Machine Design (3/4) [A]
CAD 250	Advanced 3D Modeling (3/4) [A]
CIS 170	Spreadsheet Software (3/4) [A]
EGR 122	Introduction to Engineering (1/1) [A]
EGR 130	Team Design Project (2/3) [A]
MET 200	Material Science (3/4) [A]
MFG 101	Machining Processes I (4/6) [A]
MFG122	Introduction to Manufacturing (3/4) [A]
MFG 201	CNC I (4/6) [A]
MTH 110 *or*	Technical Math I (3/4) *or*
MTH 113	Intermediate Algebra (4/4)
MTH 112 *or*	Technical Math II (3/4) *or*
MTH 122	Plane Trigonometry (3/3)
SDE 201	Job Search Strategies (1/1)

Suggested Electives **Credits: 3**

APP 104E	AC & DC Fundamentals (3/4) [A]
APP 111E	Electric Motor Control (3/4) [A]
APP 123E	Linear Electronics for Electricians (3/4) [A]
APP 106M	Industrial Safety (1/1) [A]
CEM 100	Introduction to Chemistry (5/7) [A]
MFG 102	Machining Processes II (4/6) [A]
MFG 204	Computer Aided Manufacturing (3/4) [A]
MFG 220	Jigs & Fixture Design Fundamentals (4/6) [A]
MTH 131	Analytic Geometry & Calculus I (5/5)
SPE 123	Public Communication (3/3)
WLD 123	SMAW Welding Processes (4/6) [A]
WLD 124	GMAW & FCAW Welding Processes (4/6) [A]

Minimum 60 Credit Hours / 78 Contact Hours

Notes: [A] Included in occupational specialty
GPA of 2.0 or higher must be maintained in occupational specialty courses

Mechanical Design Technology

Associate in Applied Science (AAS) Degree
Suggested Sequence of Courses

Year 1 (Fall Semester) **Credits: 14**

APP 100E	Electrical Studies for Trades (3/4)
EGR 122	Introduction to Engineering (1/1)
MFG 101	Machining Processes I (4/6)
MFG122	Introduction to Manufacturing (3/4)
MTH 110 *or*	Technical Math I (3/4) *or*
MTH 113	Intermediate Algebra (4/4)

Year 1 (Spring Semester) **Credits: 16**

APP 114E	Programmable Controllers (3/4)
CAD 150	3D Modeling (3/4)
CIS 170	Spreadsheet Software (3/4)
MFG 201	CNC I (4/6)
MTH 112 *or*	Technical Math II (3/4) *or*
MTH 122	Plane Trigonometry (3/3)

Year 2 (Fall Semester) **Credits: 16**

APP 124M	Apprentice Hydraulics (3/4)
CAD 220	Machine Design (3/4)
ENG 120 *or*	Applied Communication (3/3) *or*
ENG 111	English Composition I (3/3)
MET 200	Material Science (3/4)
SDE 201	Job Search Strategies (1/1)
	Technical Elective (3/4)

Year 2 (Spring Semester) **Credits: 14**

CAD 250	Advanced 3D Modeling (3/4)
EGR 130	Team Design Project (2/3)
ENG 123 *or*	Technical Communication (3/3) *or*
ENG 112	English Composition II (3/3)
PHY 111 *or*	Applied Physics (3/4) *or*
PHY 121	General College Physics (4/6)
PLS 221 *or*	American Government Requirement (3-6/3-6)
PLS 222 *or* HST 221 & HST 222	

MILLWRIGHT TECHNICIAN

ASSOCIATE IN APPLIED SCIENCE (AAS) DEGREE

DESCRIPTION: This program meets industry standards for this skilled trade, preparing students to work in an industrial setting with installation and maintenance of hydraulics, pneumatic equipment, power trains, belts, gears, and chains. The program also includes course work in industrial electrical maintenance to allow for cross-training as a millwright/electrical maintenance technician. Students will also earn basic and advanced millwright certification upon successful completion of the program. The Apprentice (APP) courses for this program of study are offered primarily at night on a four-year rotating basis.

GENERAL EDUCATION REQUIREMENTS		**CREDITS: 15**
ENG 120 *or*	APPLIED COMMUNICATION (3/3) *or*	
ENG 111	ENGLISH COMPOSITION I (3/3)	
ENG 123 *or*	TECHNICAL COMMUNICATION (3/3) *or*	
ENG 112	ENGLISH COMPOSITION II (3/3)	
MTH 110	TECHNICAL MATH I (3/4)	
PLS 221 *or*	AMERICAN GOVERNMENT & POLITICS (3/3) *or*	
PLS 222	STATE & LOCAL GOVERNMENT (3/3)	
SPE 123	PUBLIC COMMUNICATION (3/3)	

CORE PROGRAM REQUIREMENTS		**CREDITS: 32**
APP 100E	ELECTRICAL STUDIES FOR TRADES (3/4)	
APP 102E	RESIDENTIAL WIRING & BLUEPRINT RDG (3/4)	
APP 103E	COMMERCIAL & INDUSTRIAL WIRING (3/4)	
APP 106M	INDUSTRIAL SAFETY (1/1)	
APP 121M *or*	APPRENTICE BLUEPRINT READING (3/4) *or*	
MFG 120	PRINT INTERPRETATION & PROCESSES (3/4)	
APP 122 M	MACHINE REPAIR (3/4) [A]	
APP 124M	APPRENTICE HYDRAULICS (3/4) [A]	
APP 125M *or*	APPRENTICE MACHINE SHOP (3/4) *or*	
MFG 101	MACHINING PROCESSES I (4/6)	
APP 128M	RIGGING & WEIGHT ESTIMATING (1.5/2) [A]	
APP 129M	APPRENTICE PNEUMATICS (1.5/2) [A]	
APP 223M	PREDICTIVE & PREVENTATIVE MAINT (3/4) [A]	
WLD 123 *or*	SMAW WELDING PROCESSES (4/6) *or*	
WLD 124	GMAW & FCAW WELDING (4/6)	

SUGGESTED ELECTIVES		**CREDITS: 14**
APP 111E	ELECTRIC MOTOR CONTROL (3/4)	
APP 114E	PROGRAMMABLE CONTROLLERS (3/4)	
APP 210M	METAL FORMING & SHEETMETAL (3/4)	
APP 220M	MECHATRONIC SYST INTEGRATION & REP (3/4)	
APP 290M	MILLWRIGHT INTERNSHIP (4/4)	
CIS	COMPUTER INFO SYSTEMS ELECTIVE (3/4)	
	GENERAL ELECTIVE (3/3)	
MFG 102	MACHINING PROCESSES II (4/6)	
MFG 201	CNC I (4/6) [B]	

MINIMUM 61 CREDIT HOURS / 77 CONTACT HOURS

NOTES:
[A] Offered on a four-year rotating basis based upon demand
[B] Course can be used as Computer Elective

Natural Sciences

Associate in Science (AS) Degree
Natural Sciences Concentration

For students considering a major in NATURAL SCIENCES upon transferring to a four-year institution, the Associate of Science degree with a NATURAL SCIENCES concentration from ACC offers a strong foundation, providing essential courses that serve as building blocks for advanced study.

A concentration in NATURAL SCIENCES can lead to diverse career opportunities, including research and development, environmental consulting, healthcare and medical professions, pharmaceuticals, education, data analysis, environmental conservation, biotechnology, and roles in government agencies or nonprofit organizations focused on science policy, public health, or sustainability.

Program Objectives

Upon graduating from ACC with an Associate of Science degree with a concentration in NATURAL SCIENCES, students will:

1. **Demonstrate** a solid understanding of core scientific principles in mathematics, physical sciences, and related fields applicable to further academic and professional pursuits.
2. **Apply** critical thinking, analytical, and problem-solving skills to address scientific challenges and real-world issues effectively.
3. **Communicate** scientific concepts and findings clearly through written, oral, and visual presentations, preparing students for careers or further education in science-related fields.

It is strongly recommended that students consult with an ACC Academic Advisor in NATURAL SCIENCES to ensure they meet specific program requirements, objectives, and transfer goals.

Program Requirements (PR)

BIO-161	**General College Biology I (4/5)**
BIO-162	**General College Biology II (4/5)**
BIO-210	**Introduction to Botany (4/6)**
BIO 211	**General Zoology (4/5)**
CEM 121	**General & Inorganic Chemistry (4/7)**
CEM 122	**Inorganic Chem & Qualitative Analysis (4/7)**
CEM 221	**Organic Chemistry (4/6)**
CEM 222	**Organic Chemistry (5/7)**
PHY 121	**General College Physics (4/6)**
PHY 122	**General College Physics (4/6)**

General Education
Degree Distribution Requirements

Group 1 (G1) – English composition

Six (6) semester credits are required, including ENG 111 or 121 and 112, 122 or 123

Group 2 (G2) – Sciences/Mathematics

Twenty (20) semester credits are required, including at least one laboratory science course. Courses will be taken in more than one academic discipline (course abbreviation/prefix). Note: Two (2) courses in Natural Sciences, including one with laboratory experience (from two disciplines), in addition to MTH 118 or MTH 121 or higher, are required to achieve the Michigan Transfer Agreement (MTA).

Group 3 (G3) – Social Sciences & Humanities/Fine Arts

Ten (10) semester credits are required in combination from both of these groups, with a minimum of three (3) credits from each group. Political Science or U.S. History courses used to satisfy the American Government requirement can be included. Courses will be taken in more than one academic discipline (course abbreviation/prefix). Note: Two (2) courses in Social Sciences (from two disciplines) and two (2) courses in Humanities and Fine Arts (from two disciplines and excluding studio and performance classes) are required for the Michigan Transfer Agreement (MTA).

Elective Credits (EC)

The remainder of credits for an AS degree with this concentration should be oriented toward additional courses in NATURAL SCIENCES with prefixes **BIO**, **CEM, MTH, and PHY** when available in consultation with an ACC Academic Advisor in NATURAL SCIENCES.

Recommended Courses - Sequence
Group 1-4 Requirements + Elective Credits

Meets ACC degree distribution and MTA requirements
64 Credits - 83 Contact Hours

Year 1 Fall	17 Credits	
G1	ENG 111	English Composition I (3/3)
G2 PR	**CEM 121**	**General & Inorganic Chemistry (4/7)**
G2 PR	**BIO-161**	**General College Biology I (4/5)**
G2	MTH	Math Elective (4/4)
G3	HUM/FA	Humanities/Fine Arts (3/3)

Year 1 Spring	14 Credits	
G1	ENG 112	English Composition II (3/3)
G2 PR	**CEM 122**	**Inorganic Chem & Qual Analysis (4/7)**
G2 PR	**BIO-162**	**General College Biology II (4/5)**
G3	HUM/FA	Humanities/Fine Arts (3/3)

Year 2 Fall	16 Credits	
G2 PR	**CEM 221**	**Organic Chemistry I (5/7)**
G2 PR	**BIO 210**	**Introduction to Botany (4/6)**
G2 PR	**PHY 121**	**General College Physics (4/6)**
G3	PLS 221	American Government & Politics (3/3)

Year 2 Spring	16 Credits	
G2 PR	**BIO 211**	**General Zoology (4/5)**
G2	**CEM 222**	**Organic Chemistry II (5/7)**
G2	**PHY 122**	**General College Physics (4/6)**
G3	SOC SCI	Social Science (3-3)

Network Administration

Certificate (C)

Description: This two-semester program prepares students for entry level positions in Network Administration support positions. Successful completion will equip students with the skills and knowledge to support and maintain computer networks, as well as to preform maintenance and troubleshooting activities associated with Information Technology (IT) equipment and software. The program helps prepare students for industry certification.

General Education Requirements **Credits: 3**

ENG 111 *or*	English Composition I (3/3) *or*
ENG 121	Advanced English Composition I (3/3)

Core Program Requirements **Credits: 28**

CIS 140	Introduction to Microsoft Client OS (3/4)
CIS 206	Object Oriented Programming (3/4)
CIS 241	Introduction to Web Design Mgt (3/4)
CNS 150	Networking fundamentals (3/4)
CNS 155	Introduction to routing & Switching (3/4)
CNS 170	PC Repair & Maintenance (4/5)
CNS 180	Introduction to Microsoft Server (3/4)
CNS 252	Power shell & Scripting (3/4)
CNS 260	Amazon Web Serv (AWS) Cloud Practitioner (3/4)

Minimum 31 Credit Hours / 40 Contact Hours

Network Administration

Certificate (C)

Suggested Sequence of Courses

Year 1 (Fall Semester) **Credits: 16**

CIS 140	Introduction to Microsoft Client OS (3/4)
CIS 206	Object Oriented Programming (3/4)
CNS 150	Networking Fundamental (3/4)
CNS 170	PC Repair & Maintenance (4/5)
ENG 111 *or*	English Composition I (3/3) *or*
ENG 121	Advanced English Composition I (3/3)

Year 1 (Spring Semester) **Credits: 15**

CIS 241	Introduction to Web Design Mgt (3/4)
CNS 155	Introduction to Routing & Switching (3/4)
CNS 180	Introduction to Microsoft Server (3/4)
CNS 252	Power shell & Scripting (3/4)
CNS 260	Amazon Web Serv (AWS) Cloud Practitioner (3/4)

Nursing Program Information

Alpena Community College (ACC) offers two program options in nursing: Practical Nursing Certificate Program (PN) and the Associate Degree Nursing Program (ADN); both are approved by the Michigan Board of Nursing. The Licensed Practical Nurse and Registered Nurse programs at Alpena Community College at the Alpena and Oscoda campuses are accredited by the: Accreditation Commission for Education in Nursing (ACEN). 3390 Peachtree Road NE, Suite 1400 Atlanta, GA, 30326. The most recent accreditation decision made by the ACEN Board of Commissioners for the Licensed Practical Nurse and Registered Nurse programs is Continuing Accreditation. View the public information disclosed by the ACEN regarding this program on the ACEN website. ACEN contact details: Phone: 404.975.5000 / Website: www.acenursing.org.

The nursing programs at ACC will prepare the nursing student with the knowledge, skills, and expertise to practice as an LPN or RN in the healthcare workplace. The nursing curriculum is designed to promote career mobility and to offer qualified students alternative educational tracks according to their career goals. The full-time PN & ADN programs admit 24 students each fall and spring semester to the Alpena Campus and 8 PN and 10 ADN students to the Oscoda Campus.

Applicants should be aware that the Michigan Board of Nursing may deny a license to any applicant who has been convicted of a felony or certain misdemeanor charges or is addicted to drugs or alcohol. ACC is not responsible if an applicant is denied licensure after completion of the nursing program. If the felony is such that the student would not be able to attend clinical rotations at any of our sites, admission to the program would be denied. Students entering any program must be 18 years of age prior to the start of their first clinical rotation and have a high school diploma, or General Education Degree (GED), or be enrolled in an Early College Program.

Nursing – PN

Certificate (C)

Description: Alpena Community College offers two nursing program options: a one-year certificate program (PN Certificate Practical Nursing), and an Associate in Applied Science (AAS) Degree (Associate Degree Nursing). Both programs are approved by the State of Michigan Board of Nursing. Upon successful completion of the PN Certificate Practical Nursing Program and with the approval of the Board of Nursing, graduates are eligible to take the NCLEX-PN for LPN licensure.

General Education Requirements		**Credits: 12**
BIO 110	Essentials of Anatomy & Physiology (4/5)	
ENG 111	English Composition I (3/3)	
HEA 133	Dosage Calculation & Medical Terminology (2/2)	
SPE 121 *or*	Speech Communication (3/3) *or*	
SPE 123	Public Communication (3/3)	

Core Program Requirements		**Credits: 23.5**
NUR 128	Pharmacology I (1.5/1.5)	
NUR 135	PN Transition to Practice (1/1)	
NUR 140	Foundations of Nursing Theory (3/3)	
NUR 140LC	Foundations of Nursing Lab (1.5/4.5)	
NUR 142	Medical Surgical Nursing I Theory (2.5/2.5)	
NUR 143	Medical Surgical Nursing I Clinical (2/6)	
NUR 150	Medical Surgical Nursing II Theory (2.5/2.5)	
NUR 151	Medical Surgical Nursing II Clinical (2/6)	
NUR 152	OB/Reproductive Health/Peds Theory (2/2)	
NUR 153	OB/Reproductive Health/Peds Clinical (1.5/4.5)	
NUR 156	Pharmacology II (2/2)	
NUR 157	PN Nursing Simulation Lab (2/6)	

Minimum 35.5 Credit Hours / 54.5 Contact Hours

Notes:
Students are required to provide on their own a nursing uniform, shoes, stethoscope, penlight, and a watch with second hand. A list is provided. Estimated cost is $330.

Nursing – PN

Certificate (C)

Suggested Sequence of Courses

Year 1 (Fall Semester)		**Credits: 12**
BIO 110	Essentials of Anatomy & Physiology (4/5)	
ENG 111	English Composition I (3/3)	
HEA 133	Dosage Calculation & Medical Terminology (2/2)	
SPE 121 *or*	Speech Communication (3/3) *or*	
SPE 123	Public Communication (3/3)	

Year 1 (Spring Semester)		**Credits: 10.5**
NUR 128	Pharmacology I (1.5/1.5)	
NUR 140	Foundations of Nursing Theory (3/3)	
NUR 140LC	Foundations of Nursing Lab (1.5/4.5)	
NUR 142	Medical Surgical Nursing I Theory (2.5/2.5)	
NUR 143	Medical Surgical Nursing I Clinical (2/6)	

Year 2 (Fall Semester)		**Credits: 13**
NUR 135	PN Transition to Practice (1/1)	
NUR 150	Medical Surgical Nursing II Theory (2.5/2.5)	
NUR 151	Medical Surgical Nursing II Clinical (2/6)	
NUR 152	OB/Reproductive Health/Peds Theory (2/2)	
NUR 153	OB/Reproductive Health/Peds Clinical (1.5/4.5)	
NUR 156	Pharmacology II (2/2)	
NUR 157	PN Nursing Simulation Lab (2/6)	

NURSING – ADN

ASSOCIATE IN APPLIED SCIENCE (AAS) DEGREE

DESCRIPTION: The Associate Degree Nursing program at Alpena Community College is designed to prepare the nursing student with the knowledge, skills & expertise to function as a Registered Nurse in the healthcare workplace. The nursing curriculum is designed to promote career mobility & to offer qualified students alternative educational tracks in accordance with their career goals. Upon successful completion of the ADN program & with the approval of the Board of Nursing, graduates are eligible to take the NCLEX-RN for RN licensure.

GENERAL EDUCATION REQUIREMENTS		**CREDITS: 12**
ENG 111 *or*	ENGLISH COMPOSITION I (3/3) *or*	
ENG 121	ADVANCED ENGLISH COMPOSITION I (3/3)	
ENG 112 *or*	ENGLISH COMPOSITION II (3/3) *or*	
ENG 122	ADVANCED ENGLISH COMPOSITION II (3/3)	
SPE 121 *or*	SPEECH COMMUNICATION (3/3) *or*	
SPE 123	PUBLIC COMMUNICATION (3/3)	
PLS 221	AMERICAN GOVERNMENT & POLITICS (3/3)	

CORE PROGRAM REQUIREMENTS		**CREDITS: 45.5**
BIO 110	ESSENTIALS OF ANATOMY & PHYSIOLOGY (4/5)	
BIO 140	MICROBIOLOGY FOR THE HEALTH SCIENCES (3/5)	
HEA 133	DOSAGE CALCULATION & MEDICAL TERMINOLOGY (2/2)	
NUR 228	RN PHARMACOLOGY I (2.5/2.5)	
NUR 229	RN PHARMACOLOGY II (2.5/2.5)	
NUR 238	RN FOUNDATIONS (3/3)	
NUR 239LC	RN FOUNDATIONS LC (2/6)	
NUR 242	RN PARENT/CHILD NURSING THEORY (2.5/2.5)	
NUR 243	RN PARENT/CHILD NURSING CLINICAL (1.5/4.5)	
NUR 245	PHYSICAL ASSESSMENT (2/2)	
NUR 245LC	PHYSICAL ASSESSMENT LAB (1/3)	
NUR 247	RN SIMULATION LAB I (2/6)	
NUR 248	RN SIMULATION LAB II (2/6)	
NUR 252	RN PSYCHIATRIC NURSING THEORY (2/2)	
NUR 253	RN PSYCHIATRIC NURSING CLINICAL (1.5/4.5)	
NUR 255	RN NURSING LEADERSHIP (1/1)	
NUR 258	RN MEDICAL SURGICAL I (2/2)	
NUR 259	RN MEDICAL SURGICAL I CLINICAL (3/9)	
NUR 260	RN MEDICAL SURGICAL II (2/2)	
NUR 261	RN MEDICAL SURGICAL II CLINICAL (2/6)	
NUR 262	RN TRANSITION TO PRACTICE (2/2)	

ELECTIVES		**CREDITS: 3**
	GENERAL ELECTIVE COURSE (3/3) [A] [B]	

MINIMUM 60.5 CREDIT HOURS / 93.5 CONTACT HOURS

NOTES:

[A] BIO 201, BIO 203, BIS 167, CEM 111, HEA 102, HUM 241, MTH 223, PHL 125, PHL 228, PSY 101, SOC 123

[B] General education courses must be taken within 5 years or less of admission to the program

Students are required to provide on their own a nursing uniform, shoes, stethoscope, penlight, and a watch with second hand. A list is provided. Estimated cost is $330.

NURSING – ADN

ASSOCIATE IN APPLIED SCIENCE (AAS) DEGREE
SUGGESTED SEQUENCE OF COURSES

YEAR 1 (FALL SEMESTER)		**CREDITS: 15**
BIO 110	ESSENTIALS OF ANATOMY & PHYSIOLOGY (4/5)	
ENG 111 *or*	ENGLISH COMPOSITION I (3/3) *or*	
ENG 121	ADVANCED ENGLISH COMPOSITION I (3/3)	
	GENERAL ELECTIVE COURSE (3/3)	
HEA 133	DOSAGE CALCULATION & MEDICAL TERMINOLOGY (2/2)	
SPE 121 *or*	SPEECH COMMUNICATION (3/3) *or*	
SPE 123	PUBLIC COMMUNICATION (3/3)	

YEAR 1 (SPRING SEMESTER)		**CREDITS: 16.5**
BIO 140	MICROBIOLOGY FOR THE HEALTH SCIENCES (3/5)	
ENG 112 *or*	ENGLISH COMPOSITION II (3/3) *or*	
ENG 122	ADVANCED ENGLISH COMPOSITION II (3/3)	
NUR 228	RN PHARMACOLOGY I (2.5/2.5)	
NUR 238	RN FOUNDATIONS (3/3)	
NUR 239LC	RN FOUNDATIONS LC (2/6)	
NUR 245	PHYSICAL ASSESSMENT (2/2)	
NUR 245LC	PHYSICAL ASSESSMENT LAB (1/3)	

YEAR 2 (FALL SEMESTER)		**CREDITS: 16**
NUR 229	RN PHARMACOLOGY II (2.5/2.5)	
NUR 247	RN SIMULATION LAB I (2/6)	
NUR 252	RN PSYCHIATRIC NURSING THEORY (2/2)	
NUR 253	RN PSYCHIATRIC NURSING CLINICAL (1.5/4.5)	
NUR 258	RN MEDICAL SURGICAL I (2/2)	
NUR 259	RN MEDICAL SURGICAL I CLINICAL (3/9)	
PLS 221	AMERICAN GOVERNMENT & POLITICS (3/3)	

YEAR 2 (SPRING SEMESTER)		**CREDITS: 13**
NUR 242	RN PARENT/CHILD NURSING THEORY (2.5/2.5)	
NUR 243	RN PARENT/CHILD NURSING CLINICAL (1.5/4.5)	
NUR 248	RN SIMULATION LAB II (2/6)	
NUR 255	RN NURSING LEADERSHIP (1/1)	
NUR 260	RN MEDICAL SURGICAL II (2/2)	
NUR 261	RN MEDICAL SURGICAL II CLINICAL (2/6)	
NUR 262	RN TRANSITION TO PRACTICE (2/2)	

PHYSICS

ASSOCIATE IN SCIENCE (AS) DEGREE
PHYSICS CONCENTRATION

For students considering a major in PHYSICS upon transferring to a four-year institution, the Associate of Science degree with a PHYSICS concentration from ACC offers a strong foundation, providing essential courses that serve as building blocks for advanced study.

A concentration in PHYSICS can lead to diverse career opportunities, including research, engineering, data science, healthcare, energy, finance, defense, education, and consulting, leveraging analytical and problem-solving skills across industries.

Program Objectives

Upon graduating from ACC with an Associate of Science degree with a concentration in PHYSICS, students will:

1. **Demonstrate** a strong foundation in physics by applying mathematical, analytical, and experimental methods to solve scientific problems.
2. **Apply** critical thinking and technical skills for data analysis, laboratory research, and computational applications in STEM fields.
3. **Communicate** scientific concepts effectively and be prepared for further academic study or entry-level careers in physics, engineering, and related disciplines.

It is strongly recommended that students consult with an ACC Academic Advisor in PHYSICS to ensure they meet specific program requirements, objectives, and transfer goals.

PROGRAM REQUIREMENTS (PR)

CEM 121	**GENERAL & INORGANIC CHEMISTRY (4/7)**
CEM 122	**INORGANIC CHEMISTRY & QUALITATIVE ANALYSIS (4/7)**
MTH 131	**ANALYTIC GEOMETRY & CALCULUS I (5/5)**
MTH 132	**ANALYTIC GEOMETRY & CALCULUS II (5/5)**
MTH 221	**C++ PROGRAMMING (4/5)**
MTH 231	**ANALYTIC GEOMETRY & CALCULUS III (5/5)**
MTH 232	**DIFFERENTIAL EQUATIONS (4/4)**
PHY 221	**PHYSICS I (5/7)**
PHY 222	**PHYSICS II (5/7)**

GENERAL EDUCATION
DEGREE DISTRIBUTION REQUIREMENTS

GROUP 1 (G1) – ENGLISH COMPOSITION

Six (6) semester credits are required, including ENG 111 or 121 and 112, 122 or 123

GROUP 2 (G2) – SCIENCES/MATHEMATICS

Twenty (20) semester credits are required, including at least one laboratory science course. Courses will be taken in more than one academic discipline (course abbreviation/prefix). Note: Two (2) courses in Natural Sciences, including one with laboratory experience (from two disciplines), in addition to MTH 118 or MTH 121 or higher, are required to achieve the Michigan Transfer Agreement (MTA).

GROUP 3 (G3) – SOCIAL SCIENCES & HUMANITIES/FINE ARTS

Ten (10) semester credits are required in combination from both of these groups, with a minimum of three (3) credits from each group. Political Science or U.S. History courses used to satisfy the American Government requirement can be included. Courses will be taken in more than one academic discipline (course abbreviation/prefix). Note: Two (2) courses in Social Sciences (from two disciplines) and two (2) courses in Humanities and Fine Arts (from two disciplines and excluding studio and performance classes) are required for the Michigan Transfer Agreement (MTA).

ELECTIVE CREDITS (EC)

The remainder of credits for an AS degree with this concentration should be oriented toward additional courses in PHYSICS with prefixes **CEM, MTH, PHY,** and **EGR** when available in consultation with an ACC Academic Advisor in PHYSICS.

RECOMMENDED COURSES - SEQUENCE
GROUP 1-4 REQUIREMENTS + ELECTIVE CREDITS

Meets ACC degree distribution and MTA requirements
62 CREDITS - 73 CONTACT HOURS

YEAR 1 FALL	15 CREDITS	
G1	ENG 111	ENGLISH COMPOSITION I (3/3)
G2 PR	**CEM 121**	**GENERAL & INORGANIC CHEMISTRY (4/7)**
G2 PR	**MTH 131**	**ANALYTIC GEOMETRY & CALCULUS I (5/5)**
G3	HUM/FA	HUMANITIES/FINE ARTS (3/3)

YEAR 1 SPRING	16 CREDITS	
G1	ENG 112	ENGLISH COMPOSITION II (3/3)
G2 PR	**CEM 122**	**INORGANIC CHEM & QUAL ANALYSIS (4/7)**
G2 PR	**MTH 132**	**ANALYTIC GEOMETRY & CAL II (5/5)**
G2 PR	**MTH 221**	**C++ PROGRAMMING (4/5)**

YEAR 2 FALL	16 CREDITS	
G2 PR	**PHY 221**	**PHYSICS (5/7)**
G2 PR	**MTH 231**	**ANALYTIC GEOMETRY & CAL III (5/5)**
G3	PLS 221	AMERICAN GOVERNMENT & POLITICS (3/3)
G3	SOC SCI	SOCIAL SCIENCE (3/3)

YEAR 2 SPRING	15 CREDITS	
G2 PR	**MTH 232**	**DIFFERENTIAL EQUATIONS (4/4)**
G2 PR	**PHY 222**	**PHYSICS (5/7)**
G3	HUM/FA	HUMANITIES/FINE ARTS (3/3)
EC	ELECTIVE	GENERAL ELECTIVE (3/3)

POLITICAL SCIENCE

ASSOCIATE IN ARTS (AA) DEGREE
POLITICAL SCIENCE CONCENTRATION

For students considering a major in POLITICAL SCIENCE upon transferring to a four-year institution, the Associate of Arts degree with a POLITICAL SCIENCE concentration from ACC offers a strong foundation, providing essential courses that serve as building blocks for advanced study.

A concentration in POLITICAL SCIENCE can lead to diverse career opportunities, including teaching, legal studies, law, public policy, research, and roles in both the private and public sectors, including political analysts, public relations specialists, lobbyists, and government officials.

Program Objectives

Upon graduating from ACC with an Associate of Arts degree with a concentration in POLITICAL SCIENCE, students will:

1. **Demonstrate** a broad understanding of politics and government within a global context.
2. **Develop** a comprehensive understanding of the causes, key events, individuals, and trends in U.S. and world politics and government, along with their lasting impacts on both personal and professional aspects of life and as citizens.
3. **Perform** critical thinking, research, documentation, and communication skills.

It is strongly recommended that students consult with an ACC Academic Advisor in POLITICAL SCIENCE to ensure they meet specific program requirements, objectives, and transfer goals.

PROGRAM REQUIREMENTS (PR)

PLS 221	**AMERICAN GOVERNMENT & POLITICS (3/3)**
PLS 222	**STATE & LOCAL GOVERNMENT (3/3)**
HST 221	**US HISTORY I (3/3)**
HST 222	**US HISTORY II (3/3)**

GENERAL EDUCATION
DEGREE DISTRIBUTION REQUIREMENTS

GROUP 1 (G1) – ENGLISH COMPOSITION

Six (6) semester credits are required, including ENG 111 or 121 and 112, 122 or 123

GROUP 2 (G2) – SCIENCES/MATHEMATICS

Eight (8) semester credits are required, including at least one laboratory science course. Courses will be taken in more than one academic discipline (course abbreviation/prefix). Note: Two (2) courses in Natural Sciences, including one with laboratory experience (from two disciplines), in addition to MTH 118 or MTH 121 or higher, are required to achieve the Michigan Transfer Agreement (MTA).

GROUP 3 (G3) – SOCIAL SCIENCES

Eight (8) semester credits are required, including the Political Science or U.S. History courses used to satisfy the American Government requirement. Courses will be taken in more than one academic discipline (course abbreviation/prefix).

GROUP 4 (G4) – HUMANITIES/FINE ARTS

Eight (8) semester credits are required, and they must include either: a.) A combination of courses taken in more than one academic discipline (course abbreviation/prefix) or b.) HUM 241 and 242 — Humanities I and II. Note: Two (2) courses in Humanities and Fine Arts (from two disciplines and excluding studio and performance classes) are required for the Michigan Transfer Agreement (MTA).

ELECTIVE CREDITS (EC)

The remainder of credits for an AA degree with this concentration should be oriented toward additional courses in POLITICAL SCIENCE such as **PLS 228, PLS 230** when available, or selected from **ANP, ART, ECN, EDU, ENG, GEO, HST, HUM, MUS, PFA, PHL, PLS, PSY, SOC, SPE**, and/or foreign language courses in consultation with an ACC Academic Advisor in POLITICAL SCIENCE. It is strongly recommended that foreign language preparation begin as soon as possible, if pursued.

RECOMMENDED COURSES - SEQUENCE
GROUP 1-4 REQUIREMENTS + ELECTIVE CREDITS

Meets ACC degree distribution and MTA requirements
60 CREDITS - 62 CONTACT HOURS

YEAR 1 FALL	16 CREDITS
G1	ENG 111 ENGLISH COMPOSITION I (3/3)
G2	MTH 118 MATH FOR LIBERAL ARTS/QR (4/4)
G3 PR	**PLS 221 AMERICAN GOVERNMENT & POLITICS (3/3)**
G3 PR	**HST 221 US HISTORY I (3/3)**
EC	ELECTIVE GENERAL ELECTIVE (3/3)

YEAR 1 SPRING	16 CREDITS
G1	ENG 112 ENGLISH COMPOSITION II (3/3)
G2	GEO 127 PHYSICAL GEOGRAPHY (4/5)
G3 PR	**HST 222 US HISTORY II (3/3)**
G3	PSY 101 GENERAL PSYCHOLOGY (3/3)
G4	SPE 121 SPEECH COMMUNICATION (3/3)

YEAR 2 FALL	14 CREDITS
G2	PHS 113 INTRO TO PHYSICAL SCIENCE (4/5)
G3	ANP 121 CULTURAL ANTHROPOLOGY (3/3)
G3	ECN 231 ECONOMICS (MICRO) (3/3)
G4	HUM 241 HUMANITIES I (4/4)

YEAR 2 SPRING	14 CREDITS
G3 PR	**PLS 222 STATE & LOCAL GOVERNMENT (3/3)**
G3	ECN 232 ECONOMICS (MACRO) (3/3)
G4	HUM 242 HUMANITIES II (4/4)
EC	ELECTIVE GENERAL ELECTIVE (4/4)

Pre-Construction Management

Associate in Science (AS) Degree

Description:

General Education Requirements **Credits: 29**

ENG 111 *or*	English Composition I (3/3) *or*
ENG 120	Applied Communication (3/3)
ENG 112 *or*	English Composition II (3/3) *or*
ENG 123	Technical Communication (3/3)
MTH 122	Plane Trigonometry (3/3)
ECN 232	Economics (Macro) (3/3)
	Social Awareness (3/3)
SPE 123	Public Communication (3/3)
	Cultural Enrichment (3/3)
CEM 111	General Chemistry (4/7)
PHY 121	General College Physics (4/6)

Core Program Requirements **Credits: 51**

BUS 127	Principles of Management (3/3)
BUS 241	Principles of Marketing (3/3)
CON 121	Aggregates (3.5/5)
CON 123	Cementitious Materials (1.5/2.1)
CON 124	Concrete Mix Proportioning (4/6)
CON 221	Placed Concrete I (4/6)
CON 222	Placed Concrete II (4/6)
CON 223 *or*	Concrete Masonry Production (4/6) *or*
CON 231 &	Concrete Project Lab I (1/1) &
CON 232	Concrete Project Lab II (2/2)
CON 226	Concrete Troubleshooting & Repair (2/2)
CON 227	Construction Inspection (2/2)
CST 112	Building Construction Analysis (3/3)
MTH 113	Intermediate Algebra (4/4)
MTH 130	Calculus for Business/Social Sciences (4/4)
	Cultural Enrichment (6/6)

Minimum 80 Credit Hours / 95.1 Contact Hours

Pre-Construction Management

Associate in Science (AS) Degree
Suggested Sequence of Courses

Year 1 (Fall Semester) **Credits: 15**

ENG 111 *or*	English Composition I (3/3) *or*
ENG 120	Applied Communication (3/3)
	Cultural Enrichment (3/3)
MTH 113	Intermediate Algebra (4/4)
CON 121	Aggregates (3.5/5)
CON 123	Cementitious Materials (1.5/2.1)

Year 1 (Spring Semester) **Credits: 17**

ENG 112 *or*	English Composition II (3/3) *or*
ENG 123	Technical Communication (3/3)
MTH 122	Plane Trigonometry (3/3)
CEM 111	General Chemistry (4/7)
CON 124	Concrete Mix Proportioning (4/6)
CST 112	Building Construction Analysis (3/3)

Year 1 (Summer Semester) **Credits: 9**

	Cultural Enrichment (3/3)
	Social Awareness (3/3)
SPE 123	Public Communication (3/3)

Year 2 (Fall Semester) **Credits: 18**

MTH 130	Calculus for Business/Social Sciences (4/4)
CON 221	Placed Concrete I (4/6)
CON 223	Concrete Masonry Production (4/6)
CON 227	Construction Inspection (2/2)
PHY 121	General College Physics (4/6)

Year 2 (Spring Semester) **Credits: 15**

BUS 127	Principles of Management (3/3)
CON 222	Placed Concrete II (4/6)
CON 226	Concrete Troubleshooting & Repair (2/2)
ECN 232	Economics (Macro) (3/3)
BUS 241	Principles of Marketing (3/3)

Year 2 (Summer Semester) **Credits: 6**

	Social Awareness (3/3)
	Cultural Enrichment (3/3)

PRE-DENTISTRY

ASSOCIATE IN SCIENCE (AS) DEGREE

DESCRIPTION: This is a suggested program of study for students seeking a degree in one of the many fields of biology which may be altered to meet individual goals and transfer plans. Students should refer to the descriptions of Alpena Community College graduation requirements and degree distribution requirements and consult with an academic advisor concerning specific course selection. A minimum total of 60 credits is required for the Associate in Science degree.

GENERAL EDUCATION REQUIREMENTS		**CREDITS: 22**
ENG 111 *or*	ENGLISH COMPOSITION I (3/3) *or*	
ENG 121	ADVANCED ENGLISH COMPOSITION I (3/3)	
ENG 112 *or*	ENGLISH COMPOSITION II (3/3) *or*	
ENG 122	ADVANCED ENGLISH COMPOSITION II (3/3)	
HUM	HUMANITIES CREDIT (3/3)	
HUM	HUMANITIES CREDIT (3/3)	
MTH 123	COLLEGE ALGEBRA & ANALYTIC TRIG (4/4)	
PLS 221 *or*	AMERICAN GOVERNMENT REQUIREMENT (3/3)	
PLS 222 *or*		
HST 221 & HST 222		
SOC	SOCIAL SCIENCE CREDIT (3/3)	

CORE PROGRAM REQUIREMENTS		**CREDITS: 38**
BIO 161	GENERAL & INORGANIC BIOLOGY I (4/5)	
BIO 162	GENERAL COLLEGE BIOLOGY II (4/5)	
CEM 121	GENERAL & INORGANIC CHEMISTRY (4/7)	
CEM 122	INORGANIC CHEM & QUALITATIVE ANALYSIS (4/7)	
CEM 221	ORGANIC CHEMISTRY I (5/7)	
CEM 222	ORGANIC CHEMISTRY II (5/7)	
MTH 223	STATISTICAL METHODS (4/4) [A]	
PHY 121	GENERAL COLLEGE PHYSICS (4/6)	
PHY 122	GENERAL COLLEGE PHYSICS (4/6)	

MINIMUM 60 CREDIT HOURS / 76 CONTACT HOURS

NOTES:
[A] OR MTH 131

PRE-DENTISTRY

ASSOCIATE IN SCIENCE (AS) DEGREE
SUGGESTED SEQUENCE OF COURSES

YEAR 1 (FALL SEMESTER)		**CREDITS: 15**
BIO 162	GENERAL COLLEGE BIOLOGY II (4/5)	
CEM 121	GENERAL & INORGANIC CHEMISTRY (4/7)	
ENG 111 *or*	ENGLISH COMPOSITION I (3/3) *or*	
ENG 121	ADVANCED ENGLISH COMPOSITION I (3/3)	
MTH 123	COLLEGE ALGEBRA & ANALYTIC TRIG (4/4)	

YEAR 1 (SPRING SEMESTER)		**CREDITS: 15**
BIO 161	GENERAL COLLEGE BIOLOGY I (4/5)	
CEM 122	INORGANIC CHEM & QUALITATIVE ANALYSIS (4/7)	
ENG 112 *or*	ENGLISH COMPOSITION II (3/3) *or*	
ENG 122	ADVANCED ENGLISH COMPOSITION II (3/3)	
MTH 223	STATISTICAL METHODS (4/4)	

YEAR 2 (FALL SEMESTER)		**CREDITS: 15**
CEM 221	ORGANIC CHEMISTRY I (5/7)	
HUM	HUMANITIES CREDIT (3/3)	
PHY 121	GENERAL COLLEGE PHYSICS (4/6)	
PLS 221 *or*	AMERICAN GOVERNMENT REQUIREMENT (3/3)	
PLS 222 *or*		
HST 221 & HST 222		

YEAR 2 (SPRING SEMESTER)		**CREDITS: 15**
CEM 222	ORGANIC CHEMISTRY (5/7)	
HUM	HUMANITIES CREDIT (3/3)	
PHY 122	GENERAL COLLEGE PHYSICS (4/6)	
SOC	SOCIAL SCIENCE CREDIT (3/3)	

PRE-ENGINEERING

SCIENCE (AS) DEGREE
PRE-ENGINEERING CONCENTRATION

For students considering a major in PRE-ENGINEERING upon transferring to a four-year institution, the Associate of Science degree with a PRE-ENGINEERING concentration from ACC provides a strong foundation, offering essential courses that serve as building blocks for advanced study.

A concentration in PRE-ENGINEERING can lead to diverse career opportunities, including civil, mechanical, electrical, chemical, aerospace, environmental, and biomedical engineering, among others.

Program Objectives

Upon graduating from ACC with an Associate of Science degree with a concentration in PRE-ENGINEERING, students will:

1. **Acquire** a solid foundation in mathematics and physical sciences applicable to engineering.
2. **Apply** critical problem-solving and communication skills related to engineering.

It is strongly recommended that students consult with an ACC Academic Advisor in PRE-ENGINEERING to ensure they meet specific program requirements, objectives, and transfer goals.

PROGRAM REQUIREMENTS (PR)

CEM 111 *OR* **CEM 121**	**CEM 111 GENERAL CHEMISTRY (4/7) OR CEM 121 GENERAL AND INORGANIC CHEM (4/7) - CONSULT TRANSFER INSTITUTION**
MTH 131	**ANALYTICAL GEOMETRY & CALCULUS I (5/5)**
MTH 132	**ANALYTIC GEOMETRY & CALCULUS II (5/5)**
MTH 231	**ANALYTIC GEOMETRY & CALCULUS III (5/5)**
MTH 232	**DIFFERENTIAL EQUATIONS (4/4)**
PHY 221	**PHYSICS (5/7)**
PHY 222	**PHYSICS (5/7)**

GENERAL EDUCATION
DEGREE DISTRIBUTION REQUIREMENTS

GROUP 1 (G1) – ENGLISH COMPOSITION

Six (6) semester credits required, including ENG 111 or 121 and 112, 122 or 123

GROUP 2 (G2) – SCIENCES/MATHEMATICS

Twenty (20) semester credits are required, including at least one laboratory science course. Courses will be taken in more than one academic discipline (course abbreviation/prefix). Note: Two (2) courses in Natural Sciences, including one with laboratory experience (from two disciplines), in addition to MTH 118 or MTH 121 or higher, are required to achieve the Michigan Transfer Agreement (MTA).

GROUP 3 (G3) – SOCIAL SCIENCES & HUMANITIES/FINE ARTS

Ten (10) semester credits are required in combination from both of these groups, with a minimum of three (3) credits from each group. Political Science or U.S. History courses used to satisfy the American Government requirement can be included. Courses will be taken in more than one academic discipline (course abbreviation/prefix). Note: Two (2) courses in Social Sciences (from two disciplines) and two (2) courses in Humanities and Fine Arts (from two disciplines and excluding studio and performance classes) are required for the Michigan Transfer Agreement (MTA).

ELECTIVE CREDITS (EC)

The remainder of credits for an AS degree with this concentration should be oriented toward additional courses in PRE-ENGINEERING with prefixes **CEM, MTH, PHY,** and **EGR** when available in consultation with an ACC Academic Advisor in PRE-ENGINEERING. Other courses include prefixes **ECN, GEO**, and **PHL**.

SUGGESTED ELECTIVES

CAD 150	3D MODELING (3/4)
CEM 122	INORGANIC CHEM & QUALITATIVE ANALYSIS (4/7) (DEPENDS ON CHOSEN ENGINEERING CAREER)
CEM 221	ORGANIC CHEMISTRY (5/7) - DEPENDS ON CHOSEN ENGINEERING CAREER
CEM 222	ORGANIC CHEMISTRY (5/7) - DEPENDS ON CHOSEN ENGINEERING CAREER
ECN 231	ECONOMICS (MICRO) (3/3) *or* ECN 232 ECONOMICS (MACRO) (3/3)
EGR 122	INTRODUCTION TO ENGINEERING (1/1)
EGR 290	ENGINEERING INTERNSHIP (1/1)
GEO 151	INTRODUCTION TO GIS (1.5/2)
GEO 152	ADVANCED GIS (1.5/2)
MTH 221	C++ PROGRAMMING (4/5)
MTH 223	Statistical Methods (4/4) - DEPENDS ON TRANSFER PROGRAM
PHL 125	LANGUAGE & REASON (3/3)
PHL 228	INTRODUCTION TO ETHICS (3/3)

RECOMMENDED COURSES - SEQUENCE
GROUP 1-4 REQUIREMENTS + ELECTIVE CREDITS

Meets ACC degree distribution and MTA requirements
61 CREDITS - 69 CONTACT HOURS

YEAR 1 FALL	15 CREDITS	
G1	ENG 111	ENGLISH COMPOSITION I (3/3)
G2 PR	**MTH 131**	**ANAL GEOMETRY & CALCULUS I (5/5)**
G2 PR	**CEM 111**	**GENERAL CHEMISTRY (4/7) OR CEM 121 GENERAL AND INORGANIC CHEMISTRY (4/7) - CONSULT TRANSFER INSTITUTION**
G3	SOC SCI	SOCIAL SCIENCE (3/3)

YEAR 1 SPRING	15 CREDITS	
G1	ENG 112	ENGLISH COMPOSITION II (3/3)
G2 PR	**MTH 132**	**ANAL GEOMETRY & CALCULUS II (5/5)**
G2	MTH 221	C++ PROGRAMMING (4/5) – DEPENDS ON CHOSEN ENGINEERING CAREER
G3	HUM/FA	HUMANITIES/FINE ARTS (3/3)

YEAR 2 FALL	16 CREDITS	
G2 PR	**MTH 231**	**ANAL GEOMETRY & CALCULUS III (5/5)**
G2 PR	**PHY 221**	**PHYSICS (5/7)**
G3	PLS 221	AMERICAN GOVERNMENT & POLITICS (3/3)
EC	ELECTIVE	GENERAL ELECTIVE (3/3)

YEAR 2 SPRING	15 CREDITS	
G2 PR	**MTH 232**	**DIFFERENTIAL EQUATIONS (4/4)**
G2 PR	**PHY 222**	**PHYSICS (5/7)**
G2	EGR 221	STATICS (3/3) - DEPENDS ON CHOSEN ENGINEERING CAREER
G3	HUM/FA	HUMANITIES/FINE ARTS (3/3)

PRE-FISHERIES AND WILDLIFE MANAGEMENT

ASSOCIATE IN SCIENCE (AS) DEGREE
PRE-FISHERIES & WILDLIFE MGT CONCENTRATION

For students considering a major in FISHERIES & WILDLIFE MANAGEMENT upon transferring to a four-year institution, the Associate of Science degree with a concentration in PRE-FISHERIES & WILDLIFE MANAGEMENT offers a strong foundation, providing essential courses that serve as building blocks for advanced study.

A concentration in PRE-FISHERIES & WILDLIFE MANAGEMENT can lead to diverse career opportunities, including conservation, ecology, resource management, environmental policy, wildlife biology, fisheries management, park rangers, and environmental science.

Program Objectives

Upon graduating from ACC with an Associate of Science degree with a concentration in PRE-FISHERIES & WILDLIFE MANAGEMENT, students will:

1. **Demonstrate** a foundational understanding of ecology, conservation, and wildlife management to support the protection and sustainability of natural resources.
2. **Apply** field research, data analysis, and technical skills for assessing and managing fish and wildlife populations.
3. **Apply** scientific principles and communication skills to address environmental challenges and prepare for further academic study or conservation and resource management careers.

It is strongly recommended that students consult with an ACC Academic Advisor in PRE-FISHERIES & WILDLIFE MANAGEMENT to ensure they meet specific program requirements, objectives, and transfer goals.

PROGRAM REQUIREMENTS (PR)

BIO 161	**GENERAL COLLEGE BIOLOGY I (4/5)**
BIO 162	**GENERAL COLLEGE BIOLOGY II (4/5)**
BIO 207	**WILDLIFE & FISHERIES ECOLOGY & MGT (3/3)**
CEM 111 *or*	**GENERAL CHEMISTRY (4/7) OR**
CEM 121	**GENERAL & INORGANIC CHEMISTRY (4/7)**
CEM-112 *or*	**ORGANIC & BIOLOGICAL CHEMISTRY (4/7)**
CEM 122	**INORGANIC CHEM & QUAL. ANALYSIS (4/7)**
MTH 121 *or*	**COLLEGE ALGEBRA (4/4)**
MTH 123	**COLLEGE ALGEBRA & ANALYTICAL TRIG (4/4)**
MTH 223	**STATISTICAL METHODS (4/4)**
PHY 121	**GENERAL COLLEGE PHYSICS (4/6)**

GENERAL EDUCATION
DEGREE DISTRIBUTION REQUIREMENTS

GROUP 1 (G1) – ENGLISH COMPOSITION

Six (6) semester credits are required, including ENG 111 or 121 and 112, 122 or 123

GROUP 2 (G2) – SCIENCES/MATHEMATICS

Twenty (20) semester credits are required, including at least one laboratory science course. Courses will be taken in more than one academic discipline (course abbreviation/prefix). Note: Two (2) courses in Natural Sciences, including one with laboratory experience (from two disciplines), in addition to MTH 118 or MTH 121 or higher, are required to achieve the Michigan Transfer Agreement (MTA).

GROUP 3 (G3) – SOCIAL SCIENCES & HUMANITIES/FINE ARTS

Ten (10) semester credits are required in combination from both of these groups, with a minimum of three (3) credits from each group. Political Science or U.S. History courses used to satisfy the American Government requirement can be included. Courses will be taken in more than one academic discipline (course abbreviation/prefix). Note: Two (2) courses in Social Sciences (from two disciplines) and two (2) courses in Humanities and Fine Arts (from two disciplines and excluding studio and performance classes) are required for the Michigan Transfer Agreement (MTA).

ELECTIVE CREDITS (EC)

The remainder of credits for an AS degree with this concentration should be oriented toward additional courses in PRE-FISHERIES & WILDLIFE MANAGEMENT with prefixes **BIO, CEM, MTH, and PHY** when available in consultation with an ACC Academic Advisor in PRE-FISHERIES & WILDLIFE MANAGEMENT.

RECOMMENDED COURSES - SEQUENCE
GROUP 1-4 REQUIREMENTS + ELECTIVE CREDITS

Meets ACC degree distribution and MTA requirements
63 CREDITS - 81 CONTACT HOURS

YEAR 1 FALL	14 CREDITS	
G1	ENG 111	ENGLISH COMPOSITION I (3/3)
G2 PR	**CEM 111**	**GENERAL CHEMISTRY (4/7) OR CEM 121 GENERAL & INORGANIC CHEMISTRY (4/7)**
G2 PR	**BIO 161**	**GENERAL COLLEGE BIOLOGY I (4/5)**
G2	BIO 129	FIELD BIOLOGY (3/4)

YEAR 1 SPRING	17 CREDITS	
G1	ENG 112	ENGLISH COMPOSITION II (3/3)
G2 PR	**CEM-112**	**ORGANIC & BIOLOGICAL CHEMISTRY (4/7) OR CEM 122 INORG CHEM & QUAL ANALYSIS (4/7)**
G2 PR	**BIO 162**	**GENERAL COLLEGE BIOLOGY II (4/5)**
G2 PR	**BIO 207**	**WILDLIFE & FISHERIES ECOL & MGT (3/3)**
G3	HUM/FA	HUMANITIES/FINE ARTS (3/3)

YEAR 2 FALL	15 CREDITS	
G2 PR	**MTH 121**	**COLLEGE ALGEBRA (4/4)**
G2 PR	**PHY 121**	**GENERAL COLLEGE PHYSICS (4/6)**
G3	SOC SCI	SOCIAL SCIENCE (3/3)
G3	SCI	SCIENCE ELECTIVE (4/7)

YEAR 2 SPRING	17 CREDITS	
G2 PR	**MTH 223**	**STATISTICAL METHODS (4/4)**
G2	GEO 151	ELECTIVE – INTRODUCTION TO GIS (1.5/2)
G2	GEO 152	ELECTIVE – ADVANCED GIS (1.5/2)
G3	PLS 221	AMERICAN GOVERNMENT & POLITICS (3/3)
G3	HUM/FA	HUMANITIES/FINE ARTS (3/3)
G2	SCI	SCIENCE ELECTIVE (4/7)

PRE-LAW

ASSOCIATE IN ARTS (AA) DEGREE
PRE-LAW CONCENTRATION

For students considering a major in PRE-LAW upon transferring to a four-year institution, the Associate of Arts degree with a PRE-LAW concentration from ACC offers a strong foundation, providing essential courses that serve as building blocks for advanced study.

A concentration in PRE-LAW can lead to diverse career opportunities, including law-related roles such as lawyers, paralegals, legal assistants, judges, legal consultants, policy analysts, and compliance officers, as well as positions in government, corporate law, nonprofit organizations, and advocacy groups.

Program Objectives

Upon graduating from ACC with an Associate of Arts degree with a concentration in PRE-LAW, students will:

1. **Demonstrate** a foundational understanding of legal principles, including constitutional law, civil liberties, criminal law, and legal ethics.
2. **Perform** critical thinking, research, and analytical skills to assess legal issues and construct logical arguments.
3. **Communicate** effectively in writing and orally on legal topics and be prepared for further academic study or careers in law, policy, and related fields.

It is strongly recommended that students consult with an ACC Academic Advisor in PRE-LAW to ensure they meet specific program requirements, objectives, and transfer goals.

PROGRAM REQUIREMENTS (PR)

BUS 221	**BUSINESS LAW I (3/3)**
BUS 222	**BUSINESS LAW II (3/3)**
CRJ 221	**CRIMINAL LAW (3/3)**
CRJ 222	**CRIMINAL PROCEDURE (3/3)**

GENERAL EDUCATION
DEGREE DISTRIBUTION REQUIREMENTS

GROUP 1 (G1) – ENGLISH COMPOSITION

Six (6) semester credits are required, including ENG 111 or 121 and 112, 122 or 123

GROUP 2 (G2) – SCIENCES/MATHEMATICS

Eight (8) semester credits are required, including at least one laboratory science course. Courses will be taken in more than one academic discipline (course abbreviation/prefix). Note: Two (2) courses in Natural Sciences, including one with laboratory experience (from two disciplines), in addition to MTH 118 or MTH 121 or higher, are required to achieve the Michigan Transfer Agreement (MTA).

GROUP 3 (G3) – SOCIAL SCIENCES

Eight (8) semester credits are required, including the Political Science or U.S. History courses used to satisfy the American Government requirement. Courses will be taken in more than one academic discipline (course abbreviation/prefix).

GROUP 4 (G4) – HUMANITIES/FINE ARTS

Eight (8) semester credits are required, and they must include either: a.) A combination of courses taken in more than one academic discipline (course abbreviation/prefix) or b.) HUM 241 and 242 — Humanities I and II. Note: Two (2) courses in Humanities and Fine Arts (from two disciplines and excluding studio and performance classes) are required for the Michigan Transfer Agreement (MTA).

ELECTIVE CREDITS (EC)

The remainder of credits for an AA degree with this concentration should be oriented toward additional courses in **PRE-LAW**, such as **LAW 125, BUS 123, ECN 231, ECN 232, SOC 123**, when available, or selected from **ANP, ART, ECN, EDU, ENG, GEO, HST, HUM, MUS, PFA, PHL, PLS, PSY, SOC, SPE**, and/or foreign language courses in consultation with an ACC Academic Advisor in PRE-LAW. It is strongly recommended that foreign language preparation begin as soon as possible, if pursued.

RECOMMENDED COURSES - SEQUENCE
GROUP 1-4 REQUIREMENTS + ELECTIVE CREDITS

Meets ACC degree distribution and MTA requirements
60 CREDITS - 62 CONTACT HOURS

YEAR 1 FALL	16 Credits	
G1	ENG 111	ENGLISH COMPOSITION I (3/3)
G2	BIO 114	INTRO TO BIOLOGICAL SCIENCE (4/5)
G3	PSY 101	GENERAL PSYCHOLOGY (3/3)
G3	HST 121	EARLY WESTERN WORLD (3/3)
G4	SPE 121	SPEECH COMMUNICATION (3/3) *or* SPE 123 PUBLIC COMMUNICATION (3/3)

YEAR 1 SPRING	14 CREDITS	
G1	ENG 112	ENGLISH COMPOSITION II (3/3)
G2	GEO 127	PHYSICAL GEOGRAPHY (4/5)
G2	MTH 118	MATH FOR LIBERAL ARTS/QR (4/4)
G4	HST 122	MODERN WESTERN WORLD (3/3)

YEAR 2 FALL	15 CREDITS	
G3	PLS 221	AMERICAN GOVERNMENT & POLITICS (3/3)
PR	**BUS 221**	**BUSINESS LAW I (3/3)**
PR	**CRJ 221**	**CRIMINAL LAW (3/3)**
EC	ELECTIVE	GENERAL ELECTIVE (3/3)
EC	ELECTIVE	GENERAL ELECTIVE (3/3)

YEAR 2 SPRING	15 CREDITS	
G4	PHL 228	INTRODUCTION TO ETHICS (3/3)
PR	**BUS 222**	**BUSINESS LAW II (3/3)**
PR	**CRJ 222**	**CRIMINAL PROCEDURE (3/3)**
EC	ELECTIVE	GENERAL ELECTIVE (3/3)
EC	ELECTIVE	GENERAL ELECTIVE (3/3)

PRE-MEDICINE

ASSOCIATE IN SCIENCE (AS) DEGREE
PRE-MEDICINE CONCENTRATION

For students considering a major in PRE-MEDICINE upon transferring to a four-year institution, the Associate of Science degree with a PRE-MEDICINE concentration from ACC offers a strong foundation, providing essential courses that serve as building blocks for advanced study.

A concentration in PRE-MEDICINE can lead to diverse career opportunities, including medicine, biomedical research, public health, healthcare administration, medical technology, and allied health professions.

Program Objectives

Upon graduating from ACC with an Associate of Science degree with a concentration in PRE-MEDICINE, students will:

1. **Demonstrate** a strong foundation in biological, chemical, and health sciences essential for medical studies.
2. **Apply** hands-on experience through laboratory work, research, and healthcare-related learning opportunities.

It is strongly recommended that students consult with an ACC Academic Advisor in PRE-MEDICINE to ensure they meet specific program requirements, objectives, and transfer goals.

PROGRAM REQUIREMENTS (PR)

MTH 123 *or* **MTH 131**	**COLLEGE ALGEBRA & ANALYTIC TRIG (4/4)** **ANALYTIC GEOMETRY & CALCULUS I (5/5)**
BIO 161	**GENERAL COLLEGE BIOLOGY (4/5)**
BIO 162	**GENERAL COLLEGE BIOLOGY II (4/5)**
CEM 121	**GENERAL & INORGANIC CHEMISTRY (4/7)**
CEM 122	**INORGANIC CHEM & QUALITATIVE ANALYSIS (4/7)**
CEM 221	**ORGANIC CHEMISTRY (5/7)**
CEM 222	**ORGANIC CHEMISTRY (5/7)**
MTH 223	**STATISTICAL METHODS (4/4)**
PHY 121	**GENERAL COLLEGE PHYSICS (4/6)**
PHY 122	**GENERAL COLLEGE PHYSICS (4/6)**

GENERAL EDUCATION
DEGREE DISTRIBUTION REQUIREMENTS

GROUP 1 (G1) – ENGLISH COMPOSITION

Six (6) semester credits are required, including ENG 111 or 121 and 112, 122 or 123

GROUP 2 (G2) – SCIENCES/MATHEMATICS

Twenty (20) semester credits are required, including at least one laboratory science course. Courses will be taken in more than one academic discipline (course abbreviation/prefix). Note: Two (2) courses in Natural Sciences, including one with laboratory experience (from two disciplines) in addition to MTH 118 or MTH 121 or higher, are required to achieve the Michigan Transfer Agreement (MTA).

GROUP 3 (G3) – SOCIAL SCIENCES & HUMANITIES/FINE ARTS

Ten (10) semester credits are required in combination from both of these groups, with a minimum of three (3) credits from each group. Political Science or U.S. History courses used to satisfy the American Government requirement can be included. Courses will be taken in more than one academic discipline (course abbreviation/prefix). Note: Two (2) courses in Social Sciences (from two disciplines) and two (2) courses in Humanities and Fine Arts (from two disciplines and excluding studio and performance classes) are required for the Michigan Transfer Agreement (MTA).

ELECTIVE CREDITS (EC)

The remainder of credits for an AS degree with this concentration should be oriented toward additional courses in PRE-MEDICINE with prefixes **BIO, CEM, MTH, and PHY** when available in consultation with an ACC Academic Advisor in PRE-MEDICINE.

RECOMMENDED COURSES - SEQUENCE
GROUP 1-4 REQUIREMENTS + ELECTIVE CREDITS

Meets ACC degree distribution and MTA requirements
60 CREDITS - 76 CONTACT HOURS

YEAR 1 FALL	15 CREDITS
G1	ENG 111 ENGLISH COMPOSITION I (3/3)
G2 PR	**BIO 161 GENERAL COLLEGE BIOLOGY I (4/5)**
G2 PR	**CEM 121 GENERAL & INORGANIC CHEMISTRY (4/7)**
G2 PR	**MTH 123 COLLEGE ALGEBRA & ANALYTIC TRIG (4/4) OR MTH 131 ANALYTIC GEOMETRY & CALCULUS I (5/5)**

YEAR 1 SPRING	15 CREDITS
G1	ENG 112 ENGLISH COMPOSITION II (3/3)
G2 PR	**BIO 162 GENERAL COLLEGE BIOLOGY II (4/5)**
G2 PR	**CEM 122 INORGANIC CHEM & QUAL ANALYSIS (4/7)**
G2 PR	**MTH 223 STATISTICAL METHODS (4/4)**

YEAR 2 FALL	15 CREDITS
G2 PR	**CEM 221 ORGANIC CHEMISTRY (5/7)**
G2 PR	**PHY 121 GENERAL COLLEGE PHYSICS (4/6)**
G3	PLS 221 AMERICAN GOVERNMENT & POLITICS (3/3)
G3	HUM/FA HUMANITIES/FINE ARTS (3/3)

YEAR 2 SPRING	15 CREDITS
G2 PR	**CEM 222 ORGANIC CHEMISTRY (5/7)**
G2 PR	**PHY 122 GENERAL COLLEGE PHYSICS (4/6)**
G3	SOC SCI SOCIAL SCIENCE (3/3)
G3	HUM/FA HUMANITIES/FINE ARTS (3/3)

PRE-MEDICAL TECHNOLOGY

ASSOCIATE IN SCIENCE (AS) DEGREE
PRE-MEDICAL TECHNOLOGY CONCENTRATION

For students considering a major in PRE-MEDICAL TECHNOLOGY upon transferring to a four-year institution, the Associate of Science degree with a PRE-MEDICAL TECHNOLOGY concentration from ACC offers a strong foundation, providing essential courses that serve as building blocks for advanced study.

A concentration in PRE-MEDICAL TECHNOLOGY can lead to diverse career opportunities, including clinical laboratory science, medical research, biotechnology, forensic science, public health, and healthcare administration.

Program Objectives

Upon graduating from ACC with an Associate of Science degree with a concentration in PRE-MEDICAL TECHNOLOGY, students will:

1. **Demonstrate** a solid foundation in biological, chemical, and medical sciences relevant to medical technology.
2. **Apply** hands-on experience through laboratory work and exposure to medical technology practices.

It is strongly recommended that students consult with an ACC Academic Advisor in PRE-MEDICAL TECHNOLOGY to ensure they meet specific program requirements, objectives, and transfer goals.

PROGRAM REQUIREMENTS (PR)

BIO 201	**HUMAN ANATOMY (4/5)**
BIO 203	**HUMAN PHYSIOLOGY (4/5)**
BIO 227	**MICROBIOLOGY (4/6)**
CEM 121	**GENERAL & INORGANIC CHEMISTRY (4/7)**
CEM 122	**INORGANIC CHEM & QUAL ANALYSIS (4/7)**
CEM 221	**ORGANIC CHEMISTRY I (4/6)**
CEM 222	**ORGANIC CHEMISTRY II (4/6)**
MTH 122	**PLANE TRIGONOMETRY (3/3)**
MTH 123	**COLLEGE ALGEBRA (4/4)**
PHY 121	**GENERAL COLLEGE PHYSICS I (4/6)**
PHY 122	**GENERAL COLLEGE PHYSICS II (4/6)**

See information on the cooperative 2+2 program in Medical Technology with Ferris State University.

GENERAL EDUCATION
DEGREE DISTRIBUTION REQUIREMENTS

GROUP 1 (G1) – ENGLISH COMPOSITION

Six (6) semester credits are required, including ENG 111 or 121 and 112, 122 or 123

GROUP 2 (G2) – SCIENCES/MATHEMATICS

Twenty (20) semester credits are required, including at least one laboratory science course. Courses will be taken in more than one academic discipline (course abbreviation/prefix). Note: Two (2) courses in Natural Sciences, including one with laboratory experience (from two disciplines) in addition to MTH 118 or MTH 121 or higher, are required to achieve the Michigan Transfer Agreement (MTA).

GROUP 3 (G3) – SOCIAL SCIENCES & HUMANITIES/FINE ARTS

Ten (10) semester credits are required in combination from both of these groups, with a minimum of three (3) credits from each group. Political Science or U.S. History courses used to satisfy the American Government requirement can be included. Courses will be taken in more than one academic discipline (course abbreviation/prefix). Note: Two (2) courses in Social Sciences (from two disciplines) and two (2) courses in Humanities and Fine Arts (from two disciplines and excluding studio and performance classes) are required for the Michigan Transfer Agreement (MTA).

ELECTIVE CREDITS (EC)

The remainder of credits for an AS degree with this concentration should be oriented toward additional courses in PRE-MEDICAL TECHNOLOGY with prefixes **BIO, CEM, MTH, and PHY** when available in consultation with an ACC Academic Advisor in PRE-MEDICAL TECHNOLOGY.

RECOMMENDED COURSES - SEQUENCE
GROUP 1-4 REQUIREMENTS + ELECTIVE CREDITS

Meets ACC degree distribution and MTA requirements
63 CREDITS - 81 CONTACT HOURS

YEAR 1 FALL	16 CREDITS	
G1	ENG 111	ENGLISH COMPOSITION I (3/3)
G2 PR	**CEM 121**	**GENERAL & INORGANIC CHEMISTRY (4/7)**
G2 PR	**MTH 122**	**PLANE TRIGONOMETRY (3/3)**
G3	HUM/FA	HUMANITIES/FINE ARTS (3/3)
G3	SOC SCI	SOCIAL SCIENCE (3/3)

YEAR 1 SPRING	14 CREDITS	
G1	ENG 112	ENGLISH COMPOSITION II (3/3)
G2 PR	**MTH 123**	**COLLEGE ALGEBRA (4/4)**
G2 PR	**CEM 122**	**GENERAL & INORGANIC CHEMISTRY (4/7)**
G3	HUM/FA	HUMANITIES/FINE ARTS (3/3)

YEAR 2 FALL	16 CREDITS	
G2 PR	**BIO 201**	**HUMAN ANATOMY (4/5)**
G2 PR	**CEM 221**	**ORGANIC CHEMISTRY (5/7)**
G2 PR	**PHY 121**	**GENERAL COLLEGE PHYSICS (4/6)**
G3	PLS 221	AMERICAN GOVERNMENT & POLITICS (3/3)

YEAR 2 SPRING	17 CREDITS	
G2 PR	**BIO 203**	**HUMAN PHYSIOLOGY (4/5)**
G2 PR	**CEM 222**	**ORGANIC CHEMISTRY (5/7)**
G2 PR	**PHY 122**	**GENERAL COLLEGE PHYSICS (4/6)**
G2 PR	**BIO 227**	**MICROBIOLOGY (4/6)**

PRE-PHARMACY

SCIENCE (AS) DEGREE
PRE-PHARMACY CONCENTRATION

For students considering a major in PRE-PHARMACY upon transferring to a four-year institution, the Associate of Science degree with a PRE-PHARMACY concentration from ACC offers a strong foundation, providing essential courses that serve as building blocks for advanced study.

A concentration in PRE-PHARMACY can lead to diverse career opportunities, including pharmacy, pharmaceutical research, pharmacology, healthcare administration, drug regulation, and clinical or hospital pharmacy.

Program Objectives

Upon graduating from ACC with an Associate of Science degree with a concentration in PRE-PHARMACY, students will:

1. **Demonstrate** a strong foundation in biological, chemical, and health sciences essential for pharmacy studies.
2. **Apply** practical experience through laboratory work and exposure to pharmaceutical practices.

It is strongly recommended that students consult with an ACC Academic Advisor in PRE-PHARMACY to ensure they meet specific program requirements, objectives, and transfer goals.

PROGRAM REQUIREMENTS (PR)

MTH 131	**ANALYTICAL GEOMETRY & CALCULUS I (5/5)**
BIO 161	**GENERAL COLLEGE BIOLOGY (4/5)**
BIO 162	**GENERAL COLLEGE BIOLOGY II (4/5)**
BIO 201	**HUMAN ANATOMY (4/5)**
BIO 203	**HUMAN PHYSIOLOGY (4/5)**
BIO 227	**MICROBIOLOGY (4/6)**
CEM 121	**GENERAL & INORGANIC CHEMISTRY (4/7)**
CEM 122	**INORGANIC CHEM & QUALITATIVE ANALYSIS (4/7)**
CEM 221	**ORGANIC CHEMISTRY (5/7)**
CEM 222	**ORGANIC CHEMISTRY (5/7)**
MTH 223	**STATISTICAL METHODS (4/4)**

GENERAL EDUCATION
DEGREE DISTRIBUTION REQUIREMENTS

GROUP 1 (G1) – ENGLISH COMPOSITION

Six (6) semester credits are required, including ENG 111 or 121 and 112, 122 or 123

GROUP 2 (G2) – SCIENCES/MATHEMATICS

Twenty (20) semester credits are required, including at least one laboratory science course. Courses will be taken in more than one academic discipline (course abbreviation/prefix). Note: Two (2) courses in Natural Sciences, including one with laboratory experience (from two disciplines), in addition to MTH 118 or MTH 121 or higher, are required to achieve the Michigan Transfer Agreement (MTA).

GROUP 3 (G3) – SOCIAL SCIENCES & HUMANITIES/FINE ARTS

Ten (10) semester credits are required in combination from both of these groups, with a minimum of three (3) credits from each group. Political Science or U.S. History courses used to satisfy the American Government requirement can be included. Courses will be taken in more than one academic discipline (course abbreviation/prefix). Note: Two (2) courses in Social Sciences (from two disciplines) and two (2) courses in Humanities and Fine Arts (from two disciplines and excluding studio and performance classes) are required for the Michigan Transfer Agreement (MTA).

ELECTIVE CREDITS (EC)

The remainder of credits for an AS degree with this concentration should be oriented toward additional courses in PRE-PHARMACY with prefixes **BIO, CEM, MTH, and PHY** when available in consultation with an ACC Academic Advisor in PRE-PHARMACY.

RECOMMENDED COURSES - SEQUENCE
GROUP 1-4 REQUIREMENTS + ELECTIVE CREDITS

Meets ACC degree distribution and MTA requirements
65 CREDITS - 81 CONTACT HOURS

YEAR 1 FALL	16 CREDITS
G1	ENG 111 ENGLISH COMPOSITION I (3/3)
G2 PR	**BIO 161 GENERAL COLLEGE BIOLOGY I (4/5)**
G2 PR	**CEM 121 GENERAL & INORGANIC CHEMISTRY (4/7)**
G2 PR	**MTH 131 CALCULUS I (5/5)**

YEAR 1 SPRING	17 CREDITS
G1	ENG 112ENGLISH COMPOSITION II (3/3)
G2 PR	**BIO 162 GENERAL COLLEGE BIOLOGY II (4/5)**
G2 PR	**CEM 122 INORGANIC CHEM & QUAL ANALYSIS (4/7)**
G3	HUM/FA HUMANITIES/FINE ARTS (3/3)
G3	SOC SCI SOCIAL SCIENCE (3/3)

YEAR 2 FALL	15 CREDITS
G2 PR	**CEM 221 ORGANIC CHEMISTRY (5/7)**
G2 PR	**BIO-201 HUMAN ANATOMY (4/5)**
G3	PLS 221 AMERICAN GOVERNMENT & POLITICS (3/3)
G3	HUM/FA HUMANITIES/FINE ARTS (3/3)

YEAR 2 SPRING	17 CREDITS
G2 PR	**CEM 222 ORGANIC CHEMISTRY (5/7)**
G2 PR	**BIO 203 HUMAN PHYSIOLOGY (4/5)**
G2 PR	**BIO 227 MICROBIOLOGY (4/6)**
G2 PR	**MTH 223 STATISTICAL METHODS (4/4)**

PRE-VETERINARY

ASSOCIATE IN SCIENCE (AS) DEGREE
PRE-VETERINARY CONCENTRATION

For students considering a major in PRE-VETERINARY upon transferring to a four-year institution, the Associate of Science degree with a PRE-VETERINARY concentration from ACC offers a strong foundation, providing essential courses that serve as building blocks for advanced study.

A concentration in PRE-VETERINARY can lead to diverse career opportunities, including veterinary medicine, animal science, wildlife biology, research, public health, and animal welfare.

Program Objectives

Upon graduating from ACC with an Associate of Science degree with a concentration in PRE-VETERINARY, students will:

1. **Demonstrate** a strong foundation in biological and animal sciences, including health, nutrition, and behavior.
2. **Apply** hands-on experience through laboratory work and animal handling.

It is strongly recommended that students consult with an ACC Academic Advisor in PRE-VETERINARY to ensure they meet specific program requirements, objectives, and transfer goals.

PROGRAM REQUIREMENTS (PR)

BIO 161	**GENERAL COLLEGE BIOLOGY (4/5)**
BIO 162	**GENERAL COLLEGE BIOLOGY II (4/5)**
BIO 201	**HUMAN ANATOMY (4/5)**
BIO 203	**HUMAN PHYSIOLOGY (4/5)**
CEM 121	**GENERAL & INORGANIC CHEMISTRY (4/7)**
CEM 122	**INORGANIC CHEM & QUALITATIVE ANALYSIS (4/7)**
CEM 221	**ORGANIC CHEMISTRY (5/7)**
CEM 222	**ORGANIC CHEMISTRY (5/7)**
MTH 123	**COLLEGE ALGEBRA & ANALYTIC TRIG (4/4)**
PHY 121	**GENERAL COLLEGE PHYSICS (4/6)**
PHY 122	**GENERAL COLLEGE PHYSICS (4/6)**

GENERAL EDUCATION
DEGREE DISTRIBUTION REQUIREMENTS

GROUP 1 (G1) – ENGLISH COMPOSITION

Six (6) semester credits are required, including ENG 111 or 121 and 112, 122 or 123

GROUP 2 (G2) – SCIENCES/MATHEMATICS

Twenty (20) semester credits are required, including at least one laboratory science course. Courses will be taken in more than one academic discipline (course abbreviation/prefix). Note: Two (2) courses in Natural Sciences, including one with laboratory experience (from two disciplines), in addition to MTH 118 or MTH 121 or higher, are required to achieve the Michigan Transfer Agreement (MTA).

GROUP 3 (G3) – SOCIAL SCIENCES & HUMANITIES/FINE ARTS

Ten (10) semester credits are required in combination from both of these groups, with a minimum of three (3) credits from each group. Political Science or U.S. History courses used to satisfy the American Government requirement can be included. Courses will be taken in more than one academic discipline (course abbreviation/prefix). Note: Two (2) courses in Social Sciences (from two disciplines) and two (2) courses in Humanities and Fine Arts (from two disciplines and excluding studio and performance classes) are required for the Michigan Transfer Agreement (MTA).

ELECTIVE CREDITS (EC)

The remainder of credits for an AS degree with this concentration should be oriented toward additional courses in PRE-VETERINARY with prefixes **BIO, CEM, MTH, and PHY** when available in consultation with an ACC Academic Advisor in PRE-VETERINARY.

RECOMMENDED COURSES - SEQUENCE
GROUP 1-4 REQUIREMENTS + ELECTIVE CREDITS

Meets ACC degree distribution and MTA requirements
64 CREDITS - 82 CONTACT HOURS

YEAR 1 FALL	15 CREDITS	
G1	ENG 111	ENGLISH COMPOSITION I (3/3)
G2 PR	**BIO 161**	**GENERAL COLLEGE BIOLOGY (4/5)**
G2 PR	**CEM 121**	**GENERAL & INORGANIC CHEMISTRY (4/7)**
G2 PR	**MTH 123**	**COLLEGE ALG & ANALYTIC TRIG (4/4)**

YEAR 1 SPRING	17 CREDITS	
G1	ENG 112	ENGLISH COMPOSITION II (3/3)
G2 PR	**BIO 162**	**GENERAL COLLEGE BIOLOGY II (4/5)**
G2 PR	**CEM 122**	**INORGANIC CHEM & QUAL ANALYSIS (4/7)**
G3	PLS 221	AMERICAN GOVERNMENT & POLITICS (3/3)
G3	HUM/FA	HUMANITIES/FINE ARTS (3/3)

YEAR 2 FALL	16 CREDITS	
G2 PR	**CEM 221**	**ORGANIC CHEMISTRY (5/7)**
G2 PR	**BIO 201**	**HUMAN ANATOMY (4/5)**
G2 PR	**PHY 121**	**GENERAL COLLEGE PHYSICS (4/6)**
G3	SOC SCI	SOCIAL SCIENCE (3/3)

YEAR 2 SPRING	16 CREDITS	
G2 PR	**CEM 222**	**ORGANIC CHEMISTRY (5/7)**
G2 PR	**BIO 203**	**HUMAN PHYSIOLOGY (4/5)**
G2 PR	**PHY 122**	**GENERAL COLLEGE PHYSICS (4/6)**
G3	HUM/FA	HUMANITIES/FINE ARTS (3/3)

PSYCHOLOGY

ASSOCIATE IN ARTS (AA) DEGREE
PSYCHOLOGY CONCENTRATION

For students considering a major in PSYCHOLOGY upon transferring to a four-year institution, the Associate of Arts degree with a PSYCHOLOGY concentration from ACC offers a strong foundation, providing essential courses that serve as building blocks for advanced study.

A concentration in PSYCHOLOGY can lead to diverse career opportunities, including teaching, research, clinical practice, and interdisciplinary fields that integrate psychology with business, criminal justice, healthcare, education, technology, public policy, human resources, organizational consulting, and mental health services.

Program Objectives

Upon graduating from ACC with an Associate of Arts degree with a concentration in PSYCHOLOGY, students will:

1. **Gain** a broad understanding of psychological principles and theories within a global and cultural context.
2. **Develop** a comprehensive understanding of the key concepts, historical foundations, influential figures, and major perspectives in psychology, along with their lasting impacts on individual behavior, social interactions, and professional applications.
3. **Strengthen** critical thinking, research, ethical reasoning, and communication skills essential for analyzing human behavior and psychological phenomena in diverse personal, academic, and professional settings.

It is strongly recommended that students consult with an ACC Academic Advisor in PSYCHOLOGY to ensure they meet specific program requirements, objectives, and transfer goals.

PROGRAM REQUIREMENTS (PR)

PSY 101 **GENERAL PSYCHOLOGY (3/3)**

AND AT LEAST THREE (3) CLASSES FROM THE FOLLOWING:

PSY 226 **DEVELOPMENTAL PSYCHOLOGY (3/3)**
PSY 230 **HUMAN SEXUALITY (3/3)**
PSY 241 **SOCIAL PSYCHOLOGY (3/3)**
PSY 242 **ABNORMAL PSYCHOLOGY (3/3)**

GENERAL EDUCATION
DEGREE DISTRIBUTION REQUIREMENTS

GROUP 1 (G1) – ENGLISH COMPOSITION

Six (6) semester credits are required, including ENG 111 or 121 and 112, 122 or 123

GROUP 2 (G2) – SCIENCES/MATHEMATICS

Eight (8) semester credits are required, including at least one laboratory science course. Courses will be taken in more than one academic discipline (course abbreviation/prefix). Note: Two (2) courses in Natural Sciences, including one with laboratory experience (from two disciplines), in addition to MTH 118 or MTH 121 or higher, are required to achieve the Michigan Transfer Agreement (MTA).

GROUP 3 (G3) – SOCIAL SCIENCES

Eight (8) semester credits are required, including the Political Science or U.S. History courses used to satisfy the American Government requirement. Courses will be taken in more than one academic discipline (course abbreviation/prefix).

GROUP 4 (G4) – HUMANITIES/FINE ARTS

Eight (8) semester credits are required, and they must include either: a.) A combination of courses taken in more than one academic discipline (course abbreviation/prefix) or b.) HUM 241 and 242 — Humanities I and II. Note: Two (2) courses in Humanities and Fine Arts (from two disciplines and excluding studio and performance classes) are required for the Michigan Transfer Agreement (MTA).

ELECTIVE CREDITS (EC)

The remainder of credits for an AA degree with this concentration should be oriented toward additional courses in PSYCHOLOGY such as **PSY 101, PSY 226, PSY 230, PSY 241, and PSY 242** when available, or selected from **ANP, ART, ECN, EDU, ENG, GEO, HST, HUM, MUS, PFA, PHL, PLS, PSY, SOC, SPE**, and/or foreign language courses in consultation with an ACC Academic Advisor in PSYCHOLOGY. It is strongly recommended that foreign language preparation begin as soon as possible, if pursued.

RECOMMENDED COURSES - SEQUENCE
GROUP 1-4 REQUIREMENTS + ELECTIVE CREDITS

Meets ACC degree distribution and MTA requirements
60 CREDITS - 62 CONTACT HOURS

YEAR 1 – FALL	16 CREDITS	
G1	ENG 111	ENGLISH COMPOSITION I (3/3)
G2	MTH 223	STATISTICAL METHODS (4/4)
G3 PR	**PSY 101**	**GENERAL PSYCHOLOGY (3/3)**
G4	SPE 121	SPEECH COMMUNICATION (3/3) *or* SPE 123 PUBLIC COMMUNICATION (3/3)
EC	SS/HUM	SOC SCI-HUMANITIES/FINE ARTS (3/3)

YEAR 1 – SPRING	16 CREDITS	
G1	ENG 112	ENGLISH COMPOSITION II (3/3)
G2	BIO 114	INTRO TO BIOLOGICAL SCIENCE (4/5)
G3 PR	**PSY 230**	**HUMAN SEXUALITY (3/3)**
G3	SOC 123	INTRODUCTION TO SOCIOLOGY (3/3)
EC	ELECTIVE	GENERAL ELECTIVE (3/3)

YEAR 2 – FALL	15 CREDITS	
G3	PLS 221	AMERICAN GOVERNMENT & POLITICS (3/3)
G3 PR	**PSY 226**	**DEVELOPMENTAL PSYCHOLOGY (3/3)**
G3 PR	**PSY 242**	**ABNORMAL PSYCHOLOGY (3/3)**
G4	HST 121	EARLY WESTERN WORLD (3/3)
EC	SS/HUM	SOC SCI-HUMANITIES/FINE ARTS (3/3)

YEAR 2 - SPRING	13 CREDITS	
G2	GEO 127	PHYSICAL GEOGRAPHY (4/5)
G3 PR	**PSY 241**	**SOCIAL PSYCHOLOGY (3/3)**
G4	HST 122	HISTORY OF MODERN WORLD (3/3)
EC	ELECTIVE	GENERAL ELECTIVE (3/3)

PSYCHOLOGY

ASSOCIATE IN SCIENCE (AS) DEGREE
PSYCHOLOGY CONCENTRATION

For students considering a major in PSYCHOLOGY upon transferring to a four-year institution, the Associate of Science degree with a PSYCHOLOGY concentration from ACC offers a strong foundation, providing essential courses that serve as building blocks for advanced study.

A concentration in PSYCHOLOGY can lead to diverse career opportunities, including clinical psychology, cognitive psychology, experimental psychology, forensic psychology, health psychology, physiological psychology, and neuropsychology.

Program Objectives

Upon graduating from ACC with an Associate of Science degree with a concentration in PSYCHOLOGY, students will:

1. **Demonstrate** a foundational understanding of psychological principles, including human behavior, cognitive processes, and mental health.
2. **Apply** critical thinking and research skills to analyze psychological studies and real-world scenarios.
3. **Communicate** psychological concepts effectively and be prepared for further academic study or careers in psychology, counseling, social services, and related fields.

It is strongly recommended that students consult with an ACC Academic Advisor in PSYCHOLOGY to ensure they meet specific program requirements, objectives, and transfer goals.

PROGRAM REQUIREMENTS (PR)

PSY 101 **GENERAL PSYCHOLOGY (3/3)**

AND AT LEAST 3 OF THE FOLLOWING COURSES:

PSY 226 **DEVELOPMENTAL PSYCHOLOGY (3/3)**
PSY 230 **HUMAN SEXUALITY (3/3)**
PSY 241 **SOCIAL PSYCHOLOGY (3/3)**
PSY 242 **ABNORMAL PSYCHOLOGY (3/3)**

GENERAL EDUCATION
DEGREE DISTRIBUTION REQUIREMENTS

GROUP 1 (G1) – ENGLISH COMPOSITION

Six (6) semester credits are required, including ENG 111 or 121 and 112, 122 or 123

GROUP 2 (G2) – SCIENCES/MATHEMATICS

Twenty (20) semester credits are required, including at least one laboratory science course. Courses will be taken in more than one academic discipline (course abbreviation/prefix). Note: Two (2) courses in Natural Sciences, including one with laboratory experience (from two disciplines), in addition to MTH 118 or MTH 121 or higher, are required to achieve the Michigan Transfer Agreement (MTA).

GROUP 3 (G3) – SOCIAL SCIENCES & HUMANITIES/FINE ARTS

Ten (10) semester credits are required in combination from both of these groups, with a minimum of three (3) credits from each group. Political Science or U.S. History courses used to satisfy the American Government requirement can be included. Courses will be taken in more than one academic discipline (course abbreviation/prefix). Note: Two (2) courses in Social Sciences (from two disciplines) and two (2) courses in Humanities and Fine Arts (from two disciplines and excluding studio and performance classes) are required for the Michigan Transfer Agreement (MTA).

ELECTIVE CREDITS (EC)

The remainder of credits for an AS degree with this concentration should be oriented toward additional courses in PSYCHOLOGY with prefixes **BIO, CEM, MTH, PSY, PHL, and SOC** when available in consultation with an ACC Academic Advisor in PSYCHOLOGY.

RECOMMENDED COURSES - SEQUENCE
GROUP 1-4 REQUIREMENTS + ELECTIVE CREDITS

Meets ACC degree distribution and MTA requirements
60 CREDITS - 65 CONTACT HOURS

YEAR 1 FALL	14 CREDITS	
G1	ENG 111	ENGLISH COMPOSITION I (3/3)
G2	BIO 161	GENERAL COLLEGE BIOLOGY (4/5)
G2	MTH 123	COLLEGE ALGEBRA & ANALYTIC TRIG (4/4)
G3 PR	**PSY 101**	**GENERAL PSYCHOLOGY (3/3)**

YEAR 1 SPRING	17 CREDITS	
G1	ENG 112	ENGLISH COMPOSITION II (3/3)
G2	GEO 127	PHYSICAL GEOGRAPHY (4/5)
G2	MTH 223	STATISTICAL METHODS (4/4)
G3 PR	**PSY 230**	**HUMAN SEXUALITY (3/3)**
G3	HST 121	EARLY WESTERN WORLD (3/3)

YEAR 2 FALL	16 CREDITS	
G2	CEM 111	GENERAL CHEMISTRY (4/7)
G3	PLS 221	AMERICAN GOVERNMENT & POLITICS (3/3)
G3 PR	**PSY 226**	**DEVELOPMENTAL PSYCHOLOGY (3/3)**
G3 PR	**PSY 242**	**ABNORMAL PSYCHOLOGY (3/3)**
G3	SOC 123	INTRODUCTION TO SOCIOLOGY (3/3)

YEAR 2 SPRING	13 CREDITS	
G3	HST 122	MODERN WESTERN WORLD (3/3)
G3 PR	**PSY 241**	**SOCIAL PSYCHOLOGY (3/3)**
G3	SPE 121	SPEECH COMMUNICATION (3/3) *or* SPE 123 PUBLIC COMMUNICATION (3/3)
EC	ELECTIVE	GENERAL ELECTIVE (4/4)

Small Business Management

Certificate (C)

Description: Self-employment is the goal of many individuals and one method of achieving this goal is to own a business. Alpena Community College has designed the Small Business Management program specifically to help people to become prepared to manage a small firm. The curriculum includes courses to provide a general business background with specific emphasis on salesmanship, applied accounting, management, business law, marketing, and retailing. This two-semester program leads to a Certificate of Achievement.

General Education Requirements **Credits: 6**

CIS 151,152,153	Word Processing I, II, III (3/3.75)
ECN 231	Economics (Micro) (3/3)

Core Program Courses **Credits: 18**

BUS 121	Introduction to Business (3/3)
BUS 122	Personal Selling (3/3)
BUS 125	Business mathematics (3/3)
BUS 128	Small Business Management (3/3)
BUS 131	Applied Accounting (3/4)
BUS 221	Business Law (3/3)

Suggested Electives **Credits: 9**

Business Elective (6/6)

BUS 123	Principles of Accounting I (4/4)
BUS 234	Mgt of Information Systems (3/3)
BUS 241	Principles of Marketing (3/3)
BUS 248	Business Communications (3/3)
CIS 171, 172, 173	Spreadsheets I, II, III (3/3.75)

Computer Elective (3/3)

BUS 257	Computerized Accounting Systems (1.5/2)
CIS 120	Introduction to Microcomputers (3/4)
MTH 119	Intro to Computers & Programming (3/3)

Minimum 33 Credit Hours / 34.75 Contact Hours

Small Business management

Certificate (C)
Suggested Sequence of Courses

Year 1 (Fall Semester) **Credits: 18**

BUS 121	Introduction to Business (3/3)
BUS 122	Personal Selling (3/3)
BUS 128	Small Business Management (3/3)
BUS 221	Business Law (3/3)
CIS 151,152,153	Word Processing I, II, III (3/3.75)
ECN 231	Economics (Micro) (3/3)

Year 1 (Spring Semester) **Credits: 15**

BUS 131	Applied Accounting (3/4)
BUS 125	Business mathematics (3/3)
	Computer Elective (3/3)
	Business Elective (6/6)

Small Business Management

Associate in Applied Science (AAS) Degree

Description: Self-employment is the goal of many individuals and one method of achieving this goal is to own a business. This program is designed to specifically help students prepare to manage a small firm. Students will gain a general business background with an emphasis on salesmanship, applied accounting, management, business, law, marketing, and retailing.

General Education Requirements **Credits: 15**

ECN 231	Economics (Micro) (3/3)
ENG 111 *or* ENG 121	English Composition I (3/3) *or* Advanced English Composition I (3/3)
ENG 112 *or* ENG 122	English Composition II (3/3) *or* Advanced English Composition II (3/3)
PLS 221 *or* PLS 222 *or* HST 221 & HST 222	American Government Requirement (3/3)
SPE 121 *or* SPE 123	Speech Communication (3/3) *or* Public Communication (3/3)

Core Program Requirements **Credits: 37**

BUS 121	Introduction to Business (3/3) [A]
BUS 122	Personal Selling (3/3) [A]
BUS 123	Principles of Accounting I (4/4) [A]
BUS 125	Business Math (3/3) *or higher math*
BUS 127	Principles of Management (3/3) [A]
BUS 128	Small Business management (3/3) [A]
BUS 221	Business Law I (3/3) [A]
BUS 222	Business Law II (3/3) [A]
BUS 235	Human Resources Management (3/3) [A]
BUS 241	Principles of Marketing (3/3) [A]
BUS 248	Business Communications (3/3) [A]
CIS 120	Introduction to Microcomputers (3/4)

Suggested Electives **Credits: 9**

Choose a total of 6 credits (minimum of 2 courses) from the Business Elective & a total of 3 credits from Computer Electives below:

BIS 140	Proofreading & Editing for Bus Prof (3/4)
BUS 115, 116, 117	Foundations in Personal Finance (3/3)
BUS 124	Principles of Accounting II (4/4)
BUS 229	Advertising (3/3)
BUS 233	Management & Supervisory Leadership (3/3)
BUS 255	Business Application Software (3/4)
BUS 257	Computerized Accounting Systems (1/5/2)
BUS 262	Project Management (3/4)
CIS 140	Introduction to Microsoft Client OS (3/4)
CIS 150	Word Processing (3/4)
CIS 171, 172, 173	Spreadsheets I, II, III (3/3.75)
CIS 240	Multimedia Presentations (3/4)
CIS 241	Introduction to Web Design & Mgt (3/4)
CIS 250	Desktop Publishing (3/4)
ECN 232	Economics (Macro) (3/3)

Minimum 61 Credit Hours / 62.0 Contact Hours

Notes:

[A] Included in occupational specialty.
GPA of 2.0 or higher must be maintained in occupational specialty courses

[B] Business Electives (total of 6 credits, minimum of 2 courses)

[C] Computer Elective (total of 3 credits)

Small Business Management

Associate in Applied Science (AAS) Degree
Suggested Sequence of Courses

Year 1 (Fall Semester) **Credits: 16**

BUS 121	Introduction to Business (3/3)
BUS 123	Principles of Accounting (4/4)
BUS 125	Business Math (3/3) or higher math
CIS 120	Introduction to Microcomputers (3/4)
ENG 111 *or* ENG 121	English Composition I (3/3) *or* Advanced English Composition I (3/3)

Year 1 (Spring Semester) **Credits: 15**

BUS 127	Principles of Management (3/3)
BUS 241	Principles of Marketing (3/3/)
ENG 112 *or* ENG 122	English Composition II (3/3) *or* Advanced English Composition II (3/3)
PLS 221 *or* PLS 222 *or* HST 221 & HST 222	American Government Requirement (3/3)
	Elective (3/3)

Year 2 (Fall Semester) **Credits: 15**

BUS 122	Personal Selling (3/3)
BUS 221	Business Law (3/3)
ECN 231	Economics (Micro) (3/3)
SPE 121 *or* SPE 123	Speech Communication (3/3) *or* Public Communication (3/3)
	Elective (3/3)

Year 2 (Spring Semester) **Credits: 15**

BUS 128	Small Business management (3/3)
BUS 222	Business Law (3/3)
BUS 235	Human Resources Management (3/3)
BUS 248	Business Communications (3/3)
	Elective (3/3)

Sociology

Associate in Arts (AA) Degree
Sociology Concentration

For students considering a major in SOCIOLOGY upon transferring to a four-year institution, the Associate of Arts degree with a SOCIOLOGY concentration from ACC offers a strong foundation, providing essential courses that serve as building blocks for advanced study.

A concentration in SOCIOLOGY can lead to diverse career opportunities, including teaching, research, social services, and public policy, as well as interdisciplinary fields that integrate sociology with business, law, healthcare, education, technology, community development, social work, criminal justice, public health, and government agencies focused on social policy and advocacy.

Program Objectives

Upon graduating from ACC with an Associate of Arts degree with a concentration in SOCIOLOGY, students will:

1. **Gain** a broad understanding of sociological principles and theories within a global and cultural context.
2. **Develop** a comprehensive understanding of social structures, institutions, key historical and contemporary sociological perspectives, and their impacts on individuals, communities, and societies.
3. **Strengthen** critical thinking, research, ethical reasoning, and communication skills essential for analyzing social behavior, inequalities, and patterns in diverse personal, academic, and professional settings.

It is strongly recommended that students consult with an ACC Academic Advisor in SOCIOLOGY to ensure they meet specific program requirements, objectives, and transfer goals.

Program Requirements (PR)

SOC 123	**Introduction to Sociology (3/3)**
PSY 101	**General Psychology (3/3)**
PSY 241	**Social Psychology (3/3)**

At least one (1) of the following courses:

PSY 226	**Developmental Psychology (3/3)**
PSY 230	**Human Sexuality (3/3)**
PSY 242	**Abnormal Psychology (3/3)**

General Education
Degree Distribution Requirements

Group 1 (G1) – English Composition

Six (6) semester credits are required, including ENG 111 or 121 and 112, 122 or 123

Group 2 (G2) – Sciences/Mathematics

Eight (8) semester credits are required, including at least one laboratory science course. Courses will be taken in more than one academic discipline (course abbreviation/prefix). Note: Two (2) courses in Natural Sciences, including one with laboratory experience (from two disciplines), in addition to MTH 118 or MTH 121 or higher, are required to achieve the Michigan Transfer Agreement (MTA).

Group 3 (G3) – Social Sciences

Eight (8) semester credits are required, including the Political Science or U.S. History courses used to satisfy the American Government requirement. Courses will be taken in more than one academic discipline (course abbreviation/prefix).

Group 4 (G4) – Humanities/Fine Arts

Eight (8) semester credits are required, and they must include either: a.) A combination of courses taken in more than one academic discipline (course abbreviation/prefix) or b.) HUM 241 and 242 — Humanities I and II. Note: Two (2) courses in Humanities and Fine Arts (from two disciplines and excluding studio and performance classes) are required for the Michigan Transfer Agreement (MTA).

Elective Credits (EC)

The remainder of credits for an AA degree with this concentration should be oriented toward additional courses in SOCIOLOGY and PSYCHOLOGY such as **SOC 123 or PSY 101, 226, 230, 241, and 242** when available, or selected from **ANP, ART, ECN, EDU, ENG, GEO, HST, HUM, MUS, PFA, PHL, PLS, PSY, SOC, SPE**, and/or foreign language courses in consultation with an ACC Academic Advisor in SOCIOLOGY. It is strongly recommended that foreign language preparation begin as soon as possible, if pursued.

Recommended Courses - Sequence
Group 1-4 Requirements + Elective Credits

Meets ACC degree distribution and MTA requirements
60 Credits - 62 Contact Hours

Year 1 Fall	16 Credits	
G1	ENG 111	English Composition I (3/3)
G2	MTH 223	Statistical Methods (4/4)
G3 PR	**SOC 123**	**Introduction to Sociology (3/3)**
G4 PR	**PSY 101**	**General Psychology (3/3)**
G4	HST 121	Early Western World (3/3)

Year 1 Spring	15 Credits	
G1	ENG 112	English Composition II (3/3)
G3	PLS 221	American Government & Politics (3/3)
G3 PR	**PSY 230**	**Human Sexuality (3/3)**
G4	HST 122	Modern Western World (3/3)
G4	SPE 121	Speech Communication (3/3) *or* SPE 123 Public Communication (3/3)

Year 2 Fall	16 Credits	
G2	GEO 127	Physical Geography (4/5)
G3 PR	**PSY 226**	**Developmental Psychology (3/3)**
G3 PR	**PSY 242**	**Abnormal Psychology (3/3)**
G3	ECN 231	Economics (MICRO) (3/3)
EC	Elective	General Elective (3/3)

Year 2 Spring	13 Credits	
G2	BIO 110	Anatomy & Physiology (4/5)
G3 PR	**PSY 241**	**Social Psychology (3/3)**
G3	ANP 121	Cultural Anthropology (3/3)
EC	Elective	General Elective (3/3)

Utility Arborist Line Clearance
Certificate (C)

Description: This program provides the opportunity for students to obtain foundational knowledge of the arboriculture industry with a focus on safety, gaining familiarity with equipment used in the field & developing skills in climbing, tree felling, electrical hazard awareness & working around energized conductors.

General Education Requirements		Credits: 11
BIO 210	Introduction to Botany (4/6)	
MTH 110	Technical Math I (3/4) [B]	
PEH 263	Workplace First Aid/CPR/AED (1/1)	
SPE 121	Speech Communication (3/3)	

Basic Certificate Requirements		Credits: 34
APP 100E	Electrical Studies for Trades (3/4) [A]	
APP 106M	Industrial Safety (1/1) [A]	
UAR 110	Climbing (3/5) [A]	
UAR 115	Tools & Equipment (3/4) [A]	
UAR 120	Tree Felling (3/4) [A]	
UAR 125	Pesticide Application (2.5/3) [A]	
UTT 102	Climbing Elevated Worksites (1/1) [A]	
UTT 204	System Design & Operation (4/4) [A]	
UTT 206	Equipment Vehicle Operation (2/3) [A]	

Minimum 33.5 Credit Hours / 43.0 Contact Hours

Notes:
[A] Included in occupational specialty.
GPA of 2.0 or higher must be maintained in occupational specialty course.

[B] or other MTH course applicable per program advisor.

Utility Arborist Line Clearance
Certificate (C)
Suggested Sequence of Courses

Year 1 (Fall Semester)		Credits: 16
APP 106M	Industrial Safety (1/1)	
BIO 210	Introduction to Botany (4/6)	
PEH 263	Workplace First Aid/CPR/AED (1/1)	
SPE 121	Speech Communication (3/3)	
UAR 110	Climbing (3/5)	
UAR 115	Tools & Equipment (3/4)	
UTT 102	Climbing Elevated Work Sites (1/1)	

Year 1 (Spring Semester)		Credits: 17.5
APP 100E	Electrical Studies for Trades (3/4)	
MTH 110	Technical Math I (3/4)	
UAR 120	Tree Felling (3/4)	
UAR 125	Pesticide Application (2.5/3)	
UTT 204	System Design & Operation (4/4)	
UTT 206	Equipment Vehicle Operation (2/3)	

UTILITY TECHNICIAN
CERTIFICATE (C)

DESCRIPTION: This two-semester program has been developed to meet the utility industry's need for trained, entry-level employees. Students complete practical theory and hands-on training using actual equipment and materials in classroom, laboratory, and field settings.

GENERAL EDUCATION REQUIREMENTS **CREDITS: 5**

MTH 110	TECHNICAL MATH I (3/4)
PEH 263	WORKPLACE FIRST AID/CPR/AED (1/1)
SDE 201	JOB SEARCH STRATEGIES (1/1)

BASIC CERTIFICATE REQUIREMENTS **CREDITS: 34**

APP 100E	ELECTRICAL STUDIES FOR TRADES (3/4) [A]
APP 106M	INDUSTRIAL SAFETY (1/1) [A]
UTT 101	INTRODUCTION TO THE UTILITY INDUSTRY (1/1) [A]
UTT 102	CLIMBING ELEVATED WORK SITES (1/1) [A]
UTT 103	OVERHEAD CONSTRUCTION (1/1) [A]
UTT 110	LINE MECHANICS LAB I (6/10.5) [A]
UTT 111	LINE WORKER PHYSICAL FITNESS I (2/3)
UTT 202	TRANSFORMER FUNDAMENTALS (2/3) [A]
UTT 203	UNDERGROUND CONSTRUCTION (2/2) [A]
UTT 204	SYSTEM DESIGN & OPERATIONS (4/4) [A]
UTT 206	EQUIPMENT/VEHICLE OPERATIONS (2/3) [A]
UTT 208	CLIMBING & WORKING IN ELEVATED WORK SITES (2/2) [A]
UTT 210	UTILITY/LINE MECHANIC LAB (5/9) [A]
UTT 211	LINE WORKER PHYSICAL FITNESS II (2/3)

MINIMUM 39 CREDIT HOURS / 53.5 CONTACT HOURS

NOTES:
[A] Included in occupational specialty.
A grade of 2.0 or higher must be maintained in occupational specialty courses

Students must be able to climb 40-foot power poles to successfully complete the first semester. Each student is expected to have: hard hat, lineman belt, safety strap and climbers, rain wear, safety glasses, various hand tools required by the trade, and work shoes for an approximate cost of $1,800.

UTILITY TECHNICIAN
CERTIFICATE (C)
SUGGESTED SEQUENCE OF COURSES

YEAR 1 (FALL SEMESTER) **CREDITS: 21**

APP 106M	INDUSTRIAL SAFETY (1/1)
APP 100E	ELECTRICAL STUDIES FOR TRADES (3/4)
MTH 110	TECHNICAL MATH I (3/4)
SDE 201	JOB SEARCH STRATEGIES (1/1)
UTT 101	INTRODUCTION TO THE UTILITY INDUSTRY (1/1)
UTT 102	CLIMBING ELEVATED WORK SITES (1/1)
UTT 103	OVERHEAD CONSTRUCTION (1/1)
UTT 110	LINE MECHANICS LAB I (6/10.5)
UTT 111	LINE WORKER PHYSICAL FITNESS I (2/3)
UTT 203	UNDERGROUND CONSTRUCTION (2/2)

YEAR 1 (SPRING SEMESTER) **CREDITS: 18**

PEH 263	WORKPLACE FIRST AID/CPR/AED (1/1)
UTT 202	TRANSFORMER FUNDAMENTALS (2/3)
UTT 204	SYSTEM DESIGN & OPERATIONS (4/4)
UTT 206	EQUIPMENT/VEHICLE OPERATIONS (2/3)
UTT 208	CLIMBING & WORKING IN ELEVATED WORK SITES (2/2)
UTT 210	UTILITY/LINE MECHANIC LAB (5/9)
UTT 211	LINE WORKER PHYSICAL FITNESS II (2/3)

UTILITY TECHNICIAN
ADVANCED CERTIFICATE (C)

DESCRIPTION: This two-semester program has been developed to meet the utility industry's need for trained, entry-level employees. Students complete practical theory and hands-on training using actual equipment and materials in classroom, laboratory, and field settings.

GENERAL EDUCATION REQUIREMENTS **CREDITS: 5**

MTH 110	TECHNICAL MATH I (3/4)
PEH 263	WORKPLACE FIRST AID/CPR/AED (1/1)
SDE 201	JOB SEARCH STRATEGIES (1/1)

CORE PROGRAM COURSES **CREDITS: 48**

APP 100E	ELECTRICAL STUDIES FOR TRADES (3/4) [A]
APP 106M	INDUSTRIAL SAFETY (1/1) [A]
UTT 101	INTRODUCTION TO THE UTILITY INDUSTRY (1/1) [A]
UTT 102	CLIMBING ELEVATED WORK SITES (1/1) [A]
UTT 103	OVERHEAD CONSTRUCTION (1/1) [A]
UTT 110	LINE MECHANICS LAB I (6/10.5) [A]
UTT 111	LINE WORKER PHYSICAL FITNESS I (2/3)
UTT 202	TRANSFORMER FUNDAMENTALS (2/3) [A]
UTT 203	UNDERGROUND CONSTRUCTION (2/2) [A]
UTT 204	SYSTEM DESIGN & OPERATIONS (4/4) [A]
UTT 206	EQUIPMENT/VEHICLE OPERATIONS (2/3) [A]
UTT 208	CLIMBING & WORKING IN ELEVATED WORK SITES (2/2) [A]
UTT 210	UTILITY/LINE MECHANIC LAB (5/9) [A]
UTT 211	LINE WORKER PHYSICAL FITNESS II (2/3)
UTT 222	ELECTRIC BASIC LINE CLIMBING (4/6) [B]
UTT 223	GROUND/UTILITY WORKER (5/8) [B]
UTT 224	ENERGIZED SECONDARY WORKER (5/8) [B]

MINIMUM 53.0 CREDIT HOURS / 75.5 CONTACT HOURS

NOTES:

[A] Included in occupational specialty.
A grade of 2.0 or higher must be maintained in occupational specialty courses

[B] Course must be taken as part of Advanced Certificate based on availability

Students must be able to climb 40-foot power poles to successfully complete the first semester. Each student is expected to have: hard hat, lineman belt, safety strap and climbers, rain wear, safety glasses, various hand tools required by the trade, and work shoes for an approximate cost of $1,800.

UTILITY TECHNICIAN
ADVANCED CERTIFICATE (C)
SUGGESTED SEQUENCE OF COURSES

YEAR 1 (FALL SEMESTER) **CREDITS: 21**

APP 100E	ELECTRICAL STUDIES FOR TRADES (3/4)
APP 106M	INDUSTRIAL SAFETY (1/1)
MTH 110	TECHNICAL MATH I (3/4)
SDE 201	JOB SEARCH STRATEGIES (1/1)
UTT 101	INTRODUCTION TO THE UTILITY INDUSTRY (1/1)
UTT 102	CLIMBING ELEVATED WORK SITES (1/1)
UTT 103	OVERHEAD CONSTRUCTION (1/1)
UTT 110	LINE MECHANICS LAB I (6/10.5)
UTT 111	LINE WORKER PHYSICAL FITNESS I (2/3)
UTT 203	UNDERGROUND CONSTRUCTION (2/2)

YEAR 1 (SPRING SEMESTER) **CREDITS: 18**

PEH 263	WORKPLACE FIRST AID/CPR/AED (1/1)
UTT 202	TRANSFORMER FUNDAMENTALS (2/3)
UTT 204	SYSTEM DESIGN & OPERATIONS (4/4)
UTT 206	EQUIPMENT/VEHICLE OPERATIONS (2/3)
UTT 208	CLIMBING & WORKING IN ELEVATED WORK SITES (2/2)
UTT 210	UTILITY/LINE MECHANIC LAB (5/9)
UTT 211	LINE WORKER PHYSICAL FITNESS II (2/3)

YEAR 2 (FALL SEMESTER) **CREDITS: 14**

UTT 222	ELECTRIC BASIC LINE CLIMBING (4/6) [B]
UTT 223	GROUND/UTILITY WORKER (5/8) [B]
UTT 224	ENERGIZED SECONDARY WORKER (5/8) [B]

UTILITY TECHNOLOGY

ASSOCIATE IN APPLIED SCIENCE (AAS) DEGREE

DESCRIPTION: This Associate Degree program familiarizes students with utility industry tools, construction techniques, electrical theory, and equipment. Graduates meet the utility industry's need for trained, entry-level employees. It is the only Associate Degree program offered in Michigan designed specifically to prepare men and women to install and repair business and residential electrical, telephone, and CATV transmission systems.

GENERAL EDUCATION REQUIREMENTS **CREDITS: 15**

ENG 120 *or* APPLIED COMMUNICATION (3/3) *or*
ENG 111 ENGLISH COMPOSITION I (3/3)

ENG 123 *or* TECHNICAL COMMUNICATION (3/3) *or*
ENG 112 ENGLISH COMPOSITION II (3/3)

MTH 110 *or higher* TECHNICAL MATH I (3/4)

PLS 221 *or* AMERICAN GOVERNMENT REQUIREMENT (3/3)
PLS 222 *or*
HST 221 & HST 222

SPE 123 *or* PUBLIC COMMUNICATION (3/3) *or*
SPE 121 SPEECH COMMUNICATION (3/3)

CORE PROGRAM REQUIREMENTS **CREDITS: 47**

APP 100E ELECTRICAL STUDIES FOR TRADES (3/4) [A]
APP 104E AC/DC FUNDAMENTALS (3/4) [A]

APP 107E *or* SPECIALTY WIRING (3/4) [A] *or*
CNS 151 NETWORK COMMUNICATION CABLING (3/4)

APP 106M INDUSTRIAL SAFETY (1/1) [A]
EPT 230 POLY-PHASE METERING (2/3) [A]
PEH 263 WORKPLACE FIRST AID/CPR/AED (1/1)

IND 120 *or* INDUSTRIAL COMPUTERS & NETWORKING (3/4) *or*
CIS 120 INTRODUCTION TO MICROCOMPUTERS (3/4)

SDE 201 JOB SEARCH STRATEGIES (1/1)
UTT 101 INTRODUCTION TO THE UTILITY INDUSTRY (1/1) [A]
UTT 102 CLIMBING ELEVATED WORK SITES (1/1) [A]
UTT 103 OVERHEAD CONSTRUCTION (1/1) [A]
UTT 110 LINE MECHANICS LAB I (6/10.5)
UTT 111 LINE WORKER PHYSICAL FITNESS I (2/3)
UTT 202 TRANSFORMER FUNDAMENTALS (2/3) [A]
UTT 203 UNDERGROUND CONSTRUCTION (2/2) [A]
UTT 204 SYSTEM DESIGN & OPERATIONS (4/4) [A]
UTT 206 EQUIPMENT/VEHICLE OPERATIONS (2/3) [A]
UTT 208 CLIMBING & WORKING IN ELEVATED WORK SITES (2/2) [A]
UTT 210 UTILITY/LINE MECHANIC LAB (5/9) [A]
UTT 211 LINE WORKER PHYSICAL FITNESS II (2/3)

MINIMUM 62 CREDIT HOURS / 80.5 CONTACT HOURS

NOTES:
[A] Included in occupational specialty.
A grade of 2.0 or higher must be maintained in occupational specialty courses

Students must be able to climb 40-foot power poles to successfully complete the first semester. Each student is expected to have: hard hat, lineman belt, safety strap and climbers, rain wear, safety glasses, various hand tools required by the trade, and work shoes for an approximate cost of $1,800.

UTILITY TECHNOLOGY

ASSOCIATE IN APPLIED SCIENCE (AAS) DEGREE
SUGGESTED SEQUENCE OF COURSES

YEAR 1 (FALL SEMESTER) **CREDITS: 17**

APP 100E ELECTRICAL STUDIES FOR TRADES (3/4)

APP 107E *or* SPECIALTY WIRING (3/4) *or*
CNS 151 NETWORK COMMUNICATION CABLING (3/4)

ENG 120 *or* APPLIED COMMUNICATION (3/3) *or*
ENG 111 ENGLISH COMPOSITION I (3/3)

IND 120 *or* INDUSTRIAL COMPUTERS & NETWORKING (3/4) *or*
CIS 120 INTRODUCTION TO MICROCOMPUTERS (3/4)

MTH 110 *or higher* TECHNICAL MATH I (3/4)

UTT 206 EQUIPMENT/VEHICLE OPERATIONS (2/3)

YEAR 1 (SPRING SEMESTER) **CREDITS: 15**

APP 104E AC/DC FUNDAMENTALS (3/4)

ENG 123 *or* TECHNICAL COMMUNICATION (3/3) *or*
ENG 112 ENGLISH COMPOSITION II (3/3)

EPT 230 POLY-PHASE METERING (2/3)
PEH 263 WORKPLACE FIRST AID/CPR/AED (1/1)

PLS 221 *or* AMERICAN GOVERNMENT REQUIREMENT (3-6/3-6)
PLS 222 *or*
HST 221 & HST 222

SPE 123 *or* PUBLIC COMMUNICATION (3/3) *or*
SPE 121 SPEECH COMMUNICATION (3/3)

YEAR 2 (FALL SEMESTER) **CREDITS: 15**

APP 106M INDUSTRIAL SAFETY (1/1)
SDE 201 JOB SEARCH STRATEGIES (1/1)
UTT 101 INTRODUCTION TO THE UTILITY INDUSTRY (1/1)
UTT 102 CLIMBING ELEVATED WORK SITES (1/1)
UTT 103 OVERHEAD CONSTRUCTION (1/1)
UTT 110 LINE MECHANICS LAB I (6/10.5)
UTT 111 LINE WORKER PHYSICAL FITNESS I (2/3)
UTT 203 UNDERGROUND CONSTRUCTION (2/2)

YEAR 2 (SPRING SEMESTER) **CREDITS: 15**

UTT 202 TRANSFORMER FUNDAMENTALS (2/3)
UTT 204 SYSTEM DESIGN & OPERATIONS (4/4)
UTT 208 CLIMBING & WORKING IN ELEVATED WORK SITES (2/2)
UTT 210 UTILITY/LINE MECHANIC LAB (5/9)
UTT 211 LINE WORKER PHYSICAL FITNESS II (2/3)

Welding Fabrication

Certificate (C)

Description: This one-year certificate program prepares the successful graduate for entry level employment as a general-purpose welder, structural steel welder, or welding fabricator. Skills taught in the program include cutting techniques, plate and structural steel fabrication, pipe welding, non-ferrous welding, aluminum and stainless steel, fixture design, CNC plasma cutting, and arc welding procedures. Students are required to complete a welding fabrication project job in which they design, estimate costs, fabricate, and weld project assembles. Students enrolled in this certificate program will be prepared to take the American Welding Society (AWS) Level I and Level II welding certification tests.

Basic Program Requirements		**Credits: 31**
CAD 150	3D Modeling (3/4) [A]	
MET 200	Material Science (3/4) [A]	
MFG 101	Machining Processes I (4/6) [A]	
MFG 120	Print Interpretation & Processes (3/4) [A]	
MTH 110	Technical Math I (3/4)	
WLD 123	SMAW Welding Processes (4/6) [A]	
WLD 124	GMAW & FCAW Welding Processes (4/6) [A]	
WLD 240	Gas Tungsten Arc & Pipe Welding (4/6) [A]	
WLD 242	Welding Fabrication (3/5) [A]	

Minimum 31 Credit Hours / 45 Contact Hours

Notes:
[A] Included in occupational specialty.
A grade of 2.0 or higher must be maintained in occupational specialty courses

Students with current American Welding Society (AWS) Entry Level Welder (Level I) and/or AWS Advanced Welder (Level II) certification, or students with a current AWS D1.1/2015 Structural Welding certification will receive credit for the applicable welding course(s). See program advisor for details.

Welding Fabrication

Certificate (C)

Suggested Sequence of Courses

Year 1 (Fall Semester)		**Credits: 17**
WLD 123	SMAW Welding Processes (4/6)	
MET 200	Material Science (3/4)	
MFG 101	Machining Processes I (4/6)	
MFG 120	Print Interpretation & Processes (3/4)	
MTH 110	Technical Math I (3/4)	

Year 1 (Spring Semester)		**Credits: 14**
CAD 150	3D Modeling (3/4)	
WLD 124	GMAW & FCAW Welding Processes (4/6)	
WLD 240	Gas Tungsten Arc & Pipe Welding (4/6)	
WLD 242	Welding Fabrication (3/5)	

WELDING TECHNOLOGY

ASSOCIATE IN APPLIED SCIENCE (AAS) DEGREE

DESCRIPTION: This associate degree program is a continuation of the Welding Fabrication certificate program. The degree introduces the student to more specialized structural and pipe welding skill training with related technical and general education courses. Graduates in this program could work in the aerospace, boiler and petroleum piping, construction, mining, manufacturing and fabrication, and maintenance welding industries. This degree is also transferrable to Ferris State University's Welding Engineering Technology baccalaureate program. Students have the option of concurrently working toward completing their AWS Sense Level I and II welding certificates.

GENERAL EDUCATION REQUIREMENTS **CREDITS: 12**

ENG 120 *or*	APPLIED COMMUNICATION (3/3) *or*
ENG 111	ENGLISH COMPOSITION I (3/3)
ENG 123 *or*	TECHNICAL COMMUNICATION (3/3) *or*
ENG 112	ENGLISH COMPOSITION II (3/3)
PHY 111	APPLIED PHYSICS (3/4)
PLS 221	AMERICAN GOVERNMENT & POLITICS (3/3)

CORE PROGRAM REQUIREMENTS **CREDITS: 50**

CAD 150	3D MODELING (3/4) [A]
MET 200	MATERIAL SCIENCE (3/4) [A]
MFG 101	MACHINING PROCESSES I (4/6) [A]
MFG 120	PRINT INTERPRETATION & PROCESSES (3/4) [A]
MTH 110 *or*	TECHNICAL MATH I (3/4) *or*
MTH 113	INTERMEDIATE ALGEBRA (4/4)
MTH 112 *or*	TECHNICAL MATH II (3/4) *or*
MTH 122	PLANE TRIGONOMETRY (3/3)
WLD 123	SMAW WELDING PROCESSES (4/6) [A]
WLD 124	GMAW & FCAW WELDING PROCESSES (4/6) [A]
WLD 240	GAS TUNGSTEN ARC & PIPE WELDING (4/6) [A]
WLD 242	WELDING FABRICATION (3/5) [A]
WLD 250	ADVANCED PIPE WELDING (5/8) [A]
WLD 252	SPECIALTY WELDING & TESTING PROCEDURES (5/8) [A]
WLD 254	CNC THERMAL CUTTING SYSTEMS (3/4) [A]
WLD 260	WELDING AUTOMATION (3/4) [A]

MINIMUM 62 CREDIT HOURS / 85 CONTACT HOURS

NOTES:
[A] Included in occupational specialty.
GPA of 2.0 or higher must be maintained in occupational specialty courses

Students should meet with welding program advisor when registering for courses or planning to transfer for additional information and course recommendations.

WELDING TECHNOLOGY

ASSOCIATE IN APPLIED SCIENCE (AAS) DEGREE
SUGGESTED SEQUENCE OF COURSES

YEAR 1 (FALL SEMESTER) **CREDITS: 17**

MET 200	MATERIAL SCIENCE (3/4)
MFG 101	MACHINING PROCESSES I (4/6) [A]
MFG 120	PRINT INTERPRETATION & PROCESSES (3/4) [A]
MTH 110 *or*	TECHNICAL MATH I (3/4) *or*
MTH 113	INTERMEDIATE ALGEBRA (4/4)
WLD 123	SMAW WELDING PROCESSES (4/6)

YEAR 1 (SPRING SEMESTER) **CREDITS: 17**

CAD 150	3D MODELING (3/4)
MTH 112 *or*	TECHNICAL MATH II (3/4) *or*
MTH 122	PLANE TRIGONOMETRY (3/3)
WLD 124	GMAW & FCAW WELDING PROCESSES (4/6)
WLD 240	GAS TUNGSTEN ARC & PIPE WELDING (4/6)
WLD 242	WELDING FABRICATION (3/5)

YEAR 2 (FALL SEMESTER) **CREDITS: 14**

ENG 120 *or*	APPLIED COMMUNICATION (3/3) *or*
ENG 111	ENGLISH COMPOSITION I (3/3)
PLS 221	AMERICAN GOVERNMENT & POLITICS (3/3)
WLD 250	ADVANCED PIPE WELDING (5/8)
WLD 254	CNC THERMAL CUTTING SYSTEMS (3/4)

YEAR 2 (SPRING SEMESTER) **CREDITS: 14**

ENG 123 *or*	TECHNICAL COMMUNICATION (3/3) *or*
ENG 112	ENGLISH COMPOSITION II (3/3)
PHY 111	APPLIED PHYSICS (3/4)
WLD 252	SPECIALTY WELDING & TESTING PROCEDURES (5/8)
WLD 260	WELDING AUTOMATION (3/4)

Cooperative Program with

Bay De Noc Community College

Water Resource Management

Associate in Applied Science (AAS) Degree

Description: Alpena Community College and Bay de Noc Community College at Escanaba offer a 1+1 transfer program that allows students to complete the first year of the Associate in Applied Science degree in Water Resource Management at ACC before transferring to Bay de Noc for the second year of the program. During the second year, a four-week co-op internship is required and students may be able to complete this work experience in the Alpena area.

Students interested in this program should contact the ACC Science Department at 989.358.7362 before registering for classes.

General Education Requirements **Credits: 17**

ENG 111 *or*	English Composition I (3/3) *or*
ENG 121	Advanced English Composition I (3/3)
MTH 121 *or higher*	College algebra (4/4) *or higher*
PLS 221 *or*	American Government & Politics (3/3) *or*
PLS 222	State & Local Government (3/3)
SPE 121 *or*	Speech Communication (3/3) *or*
SPE 123	Public Communication (3/3)
CEM 111 *or*	General Chemistry (4/7) *or*
CEM 121	Inorganic Chemistry (4/7)

Core Program Requirements **Credits: 7**

CEM 112 *or*	Organic & Biochemistry (4/7) *or*
CEM 122	Inorganic Chem & Qualitative Analysis (4/7)
ENG 123	Technical Communication (3/3)

Suggested Electives **Credits: 2**

Any PEH	Physical Education Elective (2/3)

Minimum 26 Credit Hours / 33 Contact Hours

Notes:

Cooperative Program with

Bay De Noc Community College

Water Resource Management

Associate in Applied Science (AAS) Degree

Suggested Sequence of Courses

Year 1 (Fall Semester) **Credits: 14**

CEM 111 *or*	General Chemistry (4/7) *or*
CEM 121	Inorganic Chemistry (4/7)
ENG 111 *or*	English Composition I (3/3) *or*
ENG 121	Advanced English Composition I (3/3)
MTH 121 *or higher*	College algebra (4/4) *or higher*
PLS 221 *or*	American Government & Politics (3/3) *or*
PLS 222	State & Local Government (3/3)

Year 1 (Spring Semester) **Credits: 12**

CEM 112 *or*	Organic & Biochemistry (4/7) *or*
CEM 122	Inorganic Chem & Qualitative Analysis (4/7)
ENG 123	Technical Communication (3/3)
PEH	Physical Education Elective (2/3)
SPE 121 *or*	Speech Communication (3/3) *or*
SPE 123	Public Communication (3/3)

COOPERATIVE PROGRAM WITH
DELTA COLLEGE
DENTAL HYGIENE
ASSOCIATE IN APPLIED SCIENCE (AAS) DEGREE

DESCRIPTION: See Delta's website at www.delta.edu.

GENERAL EDUCATION REQUIREMENTS

TO BE TAKEN AT ALPENA COMMUNITY COLLEGE	CREDITS: 30
BIO 201	HUMAN ANATOMY (4/5)
BIO 203	HUMAN PHYSIOLOGY (4/5)
BIO 227	MICROBIOLOGY (4/6)
ENG 111	ENGLISH COMPOSITION I (3/3)
ENG 112	ENGLISH COMPOSITION II (3/3)
PLS 221	American Government & Politics (3/3)
PSY 101	General Psychology (3/3)
SOC 123	Introduction to Sociology (3/3)
SPE 121	Speech Communication (3/3)

TO BE TAKEN AT DELTA COLLEGE	CREDITS: 3
DH 100	Dental Hygiene Professional (1)
DH 101	Dental Anatomy (2)

NOTES:
All Dental Hygiene classes must be taken in sequence. All courses require a minimum of a "C" (2.0) grade or better.

COOPERATIVE PROGRAM WITH
DELTA COLLEGE
DENTAL HYGIENE
ASSOCIATE IN APPLIED SCIENCE (AAS) DEGREE

SUGGESTED SEQUENCE OF COURSES

TO BE TAKEN AT DELTA COLLEGE

YEAR 1 (FALL SEMESTER)	CREDITS: 18
DH 110	DENTAL INFECTION CONTROL (2)
DH 111	ORAL EXAMINATIONS (1)
DH 112	MEDICAL ASSESSMENT/EMERGENCIES (2)
DH 114	ORAL HEALTH (2)
DH 115	CLINICAL TECHNIQUES (5)
DH 116	PREVENTATIVE NUTRITION (3)
DH 118	HEAD & NECK ANATOMY (3)

YEAR 1 (WINTER SEMESTER)	CREDITS: 16
DG 120	PERIODONTICS I (3)
DH 121	DENTAL HYGIENE SEMINAR I (2)
DH 122	ORAL HISTOLOGY & EMBRYOLOGY (3)
DH 123	DENTAL RADIOGRAPHY (2)
DH 123 L	DENTAL RADIOGRAPHY LAB (1)
DH 124	PHARMACOLOGY FOR DENTAL HYGIENE (2)
DH 125	CLINICAL DENTAL HYGIENE I (4)
LW 206A	OCCUPATIONAL WELLNESS I (1)

YEAR 1 (SPRING SEMESTER)	CREDITS: 7.5
DG 130	MANAGEMENT OF DENTAL PAIN (3)
DH 131	DENTAL HYGIENE SEMINAR II (1)
DH 135	CLINICAL DENTAL HYGIENE II (3)
LW 206B	OCCUPATIONAL WELLNESS II (0.5)

YEAR 2 (FALL SEMESTER)	CREDITS: 17.5
DH 210	PERIODONTICS II (2)
DH 213	ORAL PATHOLOGY (3)
DH 214	DENTAL MATERIALS (4)
DH 215	CLINICAL DENTAL HYGIENE
DH 216	COMMUNITY DENTISTRY (2)
LW 206C	

YEAR 2 (WINTER SEMESTER)	CREDITS: 11
DH 222	CASE STUDY DOCUMENTS (1)
DH 225	CLINICAL DENTAL HYGIENE IV (6)
DH 227	COMMUNITY DENTISTRY II (1)
DH 228	DENTAL HYGIENE SEMINAR III (1)
DH 229	SEMINAR OF PRACTICAL EXAM II (2)

DELTA COLLEGE BASIC POLICE TRAINING ACADEMY

Alpena Community College students who are eligible may enroll in the Delta Basic Police Training Academy and transfer credits from Delta to ACC to be applied to ACC's Associate in Applied Science Law Enforcement degree program.

To enter the Police Academy, you must meet the Standards established by the Michigan Commission on Law Enforcement Standards (MCOLES). MCOLES is the state agency that sets employment standards for persons entering law enforcement in Michigan. Pursuant to its authority and responsibilities, the Commission has adopted a Pre-Enrollment Reading and Writing Test and Physical Fitness Test. All persons entering law enforcement in Michigan must demonstrate proficiency in reading, writing and physical fitness as tested through the MCOLES Pre-Enrollment Testing Program. Qualified police officers from other states desiring to enter law enforcement in Michigan should read the information regarding the Recognition of Prior Training and Experience Program.

Once enrolled in a basic training academy, all trainees must successfully complete the MCOLES Physical Fitness Program in order to graduate. Successfully completing this program is determined by a passing score on the MCOLES Exit Test.

The educational prerequisites are as follows:

- A minimum of an associate degree from an accredited college or university must have been completed; or
- Completing degree requisites through Delta College's Criminal Justice Law Enforcement Program with Basic Police Training Option; or
- Criminal justice students from Saginaw Valley State University, Mid-Michigan Community College, and Alpena Community College may also attend Delta College's police academy as part of their law enforcement degree; or
- MCOLES may issue an educational waiver upon completion of a military police academy and one year service as a military police officer.

All applicants must pass the MCOLES Pre-employment Test.

For more information on the Delta College Basic Police Training Academy, please contact the ACC Criminal Justice Program at 989.358.7208.

FERRIS STATE UNIVERSITY

For more information on any of these cooperative programs, please contact your academic advisor.

Associate Degrees

(Generally, one year at ACC, one to two years at FSU depending on program.)

- Dental Hygiene (A.A.S.)
- Medical Lab Technology (A.A.S.)
- Nuclear Medicine Technology (A.A.S.)
- Nursing (A.S.)
- Radiography (A.A.S.)
- Respiratory Care (A.A.S.)

2+2 Bachelor Degree Programs

(Usually two years at ACC and two years at FSU, depending on program.)

- Environmental Health and Safety Management
- Health Care Systems Administration
- Medical Record Administration
- Medical Record Technology
- Medical Technology
- Manufacturing Engineering Technology
- Nursing
- Product Design Engineering Technology

CONSTRUCTION MANAGEMENT CONCRETE TECHNOLOGY

BACHELOR OF SCIENCE DEGREE

To be admitted to this degree, students must enter with a minimum of 48 credits and complete the course prerequisites with a “C” or better (2.0 on 4.0 scale). It is required PHYS 211 (PHY 121) be completed with a “C” or better prior to entry into the program. A minimum 2.5 grade point average is required, and students will need to submit all official college transcripts with their application. Ferris only accepts transfer grades of “C” or above unless a MACRAO agreement exists.

This degree and the Ferris courses are offered at the following locations:

- Ferris State University, Big Rapids Campus, Big Rapids MI
- Select courses may be delivered online and/or in a mixed delivery format (i.e. a mix of online and face-to-face instruction at the Ferris Main Campus or at an off-campus location)

Orientation is required for students who register for an online course. They must first demonstrate competency in FerrisConnect skills. This may be done by taking a tutorial and quiz or by submitting a waiver request (for those who have already taken and passed online courses). First check with the department that offers the class to determine their particular needs regarding registration for online course work and/or your Ferris advisor.

It is recommended that potential applicants meet with an advisor to review the degree, course schedule, and have any questions answered prior to completing an application. Students who are completing the MACRAO Stamp may have different general education course requirements for the particular degree selected. Meeting with a Ferris advisor prior to the selection of any electives or general education classes shown above could reduce the chance of completing a course that will not apply toward the selected degree. Once admitted, students must continue to meet with an advisor as they work towards graduation.

LAKE SUPERIOR STATE UNIVERSITY

Alpena Community College and Lake Superior State University have a longstanding partnership to meet degree completion needs of ACC students through transfer programs. These are programs specifically designed so that ACC credits are guaranteed to transfer to LSSU. Transfer programs require additional course work to be completed on the LSSU main campus in Sault Ste. Marie, Michigan (a three-hour drive from Alpena). Students interested in these programs should work closely with their ACC academic advisor.

2+2 Programs

(Usually two years at ACC, two years at LSSU main campus.)

- Biology
- Computer Engineering
- Computer/Math Science
- Criminal Justice — Generalist
- Criminal Justice — Law Enforcement Certification
- Electrical Engineering
- Environmental Chemistry
- Environmental Science
- Finance and Economics
- Fisheries and Wildlife
- Legal Assistant Studies
- Mechanical Engineering (Robotics, Mechanical Design and Chemistry options)

3+1 Programs

(Three years at ACC, one year at LSSU main campus)

- Accounting
- Business Administration/International Business
- Business Administration/Management
- Business Administration/Marketing

COOPERATIVE PROGRAM WITH
MID-MICHIGAN COLLEGE
RADIOGRAPHY
ASSOCIATE IN APPLIED SCIENCE (AAS) DEGREE

PREREQUISITE COURSES AT ACC **CREDITS: 19**

BIS 160	MEDICAL TERMINOLOGY (4/4)
BIO 201	HUMAN ANATOMY (4/5)
BIO 203	HUMAN PHYSIOLOGY (4/5)
ENG 111 *or*	ENGLISH COMPOSITION I (3/3) *or*
ENG 121	ADVANCED ENGLISH COMPOSITION I (3/3)
MTH 102 *or higher*	ELEMENTARY ALGEBRA (4/4) *or higher*

GENERAL EDUCATION REQUIREMENTS AT ACC **CREDITS: 6**

PSY 101	GENERAL PSYCHOLOGY (3/3)
SPE 121	SPEECH COMMUNICATION (3/3)

MINIMUM 25 CREDIT HOURS/27 CONTACT HOURS AT ACC

NOTES:
General Education courses included in the shared Radiograph curriculum are offered at Alpena Community College (ACC). It is recommended that they be completed prior to beginning the program.

Additionally, SSC 200 (The Social Sciences & Contemporary America) is to be taken at MMC or equivalent credit earned.

For Anatomy and Physiology courses, a grade of "B-" or higher must be earned. Science courses must have been completed within five years of the date the student formally begins the program.

Students who have earned an Associate's Degree from an accredited college have met the MMC General Education Level I requirements for English Composition, Fundamentals of Communication, and Algebra. Students who have earned a Bachelor's Degree from an accredited college also have met General Education Level requirements as well as the Level II Humanities & Social Science requirements.

COOPERATIVE PROGRAM WITH
MID-MICHIGAN COLLEGE
PHYSICAL THERAPY ASSISTANT
ASSOCIATE IN APPLIED SCIENCE (AAS) DEGREE

PREREQUISITE COURSES AT ACC **CREDITS: 18**

BIS 160	MEDICAL TERMINOLOGY (4/4)
BIO 201	HUMAN ANATOMY (4/5)
BIO 203	HUMAN PHYSIOLOGY (4/5)
ENG 111 *or*	ENGLISH COMPOSITION I (3/3) *or*
ENG 121	ADVANCED ENGLISH COMPOSITION I (3/3)
SPE 121 *or*	SPEECH COMMUNICATION (3/3) *or*
SPE 123	PUBLIC COMMUNICATION (3/3)

GENERAL EDUCATION REQUIREMENTS AT ACC **CREDITS: 7**

MTH 113	INTERMEDIATE ALGEBRA (4/4)
PSY 101	GENERAL PSYCHOLOGY (3/3)

NOTES:
BIO 201 & BIO 203 both need to be taken at ACC to transfer to MMC as BIO 141 & BIO 142.

PTA 101, which is a prerequisite (Orientation to Physical Therapy, 1 credit) is to be taking at MMC or equivalent earned.

The following General Education courses included in the shared PTA curriculum are offered at ACC. It is recommended that they be completed prior to beginning the program.

MTH 113	4	Intermediate Algebra
PSY 101	3	General Psychology

PHY 101 (Introductory Physics, 3 credits) is to be taken at MMC or equivalent earned.

For all prerequisite courses, a grade of a "B-" or higher must be earned unless an institution uses a non-standard scale. Then, a grade of a BC (2.5) must be earned.

Anatomy & Physiology courses must have been completed within five years of the date the student formally begins the program.

Students who have earned a bachelor's degree will be exempt from both the 100 & 200 level general education requirements with the exception of math.

NORTHWOOD UNIVERSITY

All Alpena Community College associate degrees are eligible to earn a Bachelor of Business Administration degree through Northwood University. For Management and Accounting majors, students may take third-year classes at ACC or Northwood. The student's fourth year is completed through Northwood, on ACC's campus or online. Other majors may be completed locally as well.

Northwood University Bachelor Degrees

- **Bachelor of Business Administration Degree — Management**

  Northwood University's Management curriculum is one of the most relevant of its kind. Created by our executive faculty, with advice from the professional business community, the program prepares students to thrive in a global economy by teaching 50 percent more of the business basics, as compared to other four-year colleges. Our unique approach to education teaches students about the free enterprise system and the importance of personal responsibility in a free market economy. Management is our largest curriculum and combines business courses with traditional academic courses.

  A BBA in Management is a perfect fit for any industry or department. This versatile degree is for all business careers: administrative role, office or personnel manager, product manager, shift supervisor, finance manager, store or business manager, owner of an enterprise, etc.

- **Bachelor of Business Administration Degree — Accounting**

  An understanding of accounting is central to managing any financial-related enterprise, and those who aspire to a successful business career must be well-grounded in accounting principles. Accounting is a worthwhile and challenging area of study for students who are concerned with managerial decision making. Accounting is so much more than the mechanical manipulation of financial data to produce balance sheets and profit and loss statements.

  This degree helps prepare a student to sit for the CPA examination and is a perfect fit for any industry or a career in: public accounting, corporate accounting, finance management, store management, business management, etc.

- **Bachelor of Business Administration Degree — Computer Information Management**

  Computer Information Management curriculum provides students with the required knowledge to understand and develop the interrelations of computers, networking, telecommunications, business, and technology management.

- **Bachelor of Business Administration Degree — Health Care Management**

  The HCM program combines the excellent business and management courses Northwood University is known for, with a solid core of courses providing knowledge and understanding of the health care industry. Graduates of the HCM program are prepared for challenging management positions in a variety of health care organizations.

- **Bachelor of Business Administration Degrees — Marketing**

  Marketing covers a range of job opportunities in a number of industries, including retail, manufacturing, financial and public services, leisure and tourism, and advertising.

- **Bachelor of Business Administration Degree — Automotive Marketing & Management**

  The Automotive Marketing & Management major prepares students to perform market research, analyze data, communicate with and manage inventory, customers, sales force, distributors, vendors and management, as well as create strategic plans to drive revenue. Understand the automotive marketing function, including finance and insurance, budgeting and forecasting, parts and service, dealership advertising and used car management.

- **Bachelor of Business Administration Degree — Aftermarket Management**

  The Aftermarket Management program enables students to understand all aspects of the automotive aftermarket industry, from supply chain to marketing and finance. Careers in the aftermarket industry usually fall into the manufacturing, wholesale, retail, distribution, and sale of parts, tools, equipment, accessories, services and supplies for the replacement repair, appearance and performance of vehicles.

- **Bachelor of Business Administration Degree — Entrepreneurship**

  Successful entrepreneurs realize that even the best ideas will go nowhere without research, financial analysis, and a business plan—and that the best plans will go nowhere without the will and skill to execute. Learn to integrate entrepreneurial thinking with cutting-edge leadership, creativity, innovation and strategic development to create successful business models.

- **Bachelor of Science in Applied Management**

  The Bachelor of Science in Applied Management degree is designed for students who have completed a minimum of 30 transferrable credits in a single specialized/technical area or an associate degree in an area of specialization other than business or management and who aspire to assume management-level positions in such fields. This degree allows students in a technical/professional area to obtain a baccalaureate degree with the remaining coursework having an emphasis in the development of business/management skills for their chosen field. This degree may be a good fit for students who have earned an AS, AAS, or certificate in a technical field such as Concrete Technology, Utility Technology, Nursing, Criminal Justice, Automotive Service and Repair, Welding Technology, etc.

For more information contact:

Emmirsyn Stacy
Admissions Representative
989.824.7422
stacye@northwood.edu

SPRING ARBOR UNIVERSITY

Spring Arbor University School of Education:

- **Bachelor of Arts with Elementary Certification**

  Majors in Social Studies and Language Arts; minors in Social Studies, Language Arts and Integrated Science. These minors can be met primarily through Alpena Community College courses. For major areas of study, a minimum of nine hours must be taken through Spring Arbor University.

- **Bachelor of Arts with Secondary Certification**

  Majors are offered in English, Social Studies and Biology; a minor is offered in English.

Spring Arbor offers the entire Education curriculum and core course requirements at ACC. Degree-seeking students are advised to complete MACRAO and have 58 credit hours for admission to the Teacher Education Program. Candidates for teacher certification need to be aware that changing requirements from the Michigan Department of Education or NCATE may dictate changes in the requirements for Teacher Certification at Spring Arbor University, which in turn may affect the individual student's program. It is required that the student who intends to enroll with SAU contact the SAU office in Gaylord and complete the Verification of Intent form so that program requirements at the time of signing may apply. Students not actively enrolled in courses at the partner institution or Spring Arbor University for a period of one year will be held to the course requirements in effect at the time of re-enrollment. If the student does not enroll with Spring Arbor University within three years of the date the intent form is signed, the student will be subject to any changes in requirements.

- **Post BA Elementary and Secondary Teacher Certification**
- **Master of Arts in Education, Curriculum and Instruction**

Due to the continuous changes in education, Spring Arbor University regularly assesses subject areas in order to offer up-to-date qualifications to its prospective and current students.

After August 16, 2008, SAU coursework will need to be completed at SAU sites in Gaylord, Petoskey, Lansing, the main campus or through SAU online.

Contact Deanna Couture at 800.522.6775 at Spring Arbor's Gaylord site office for complete information.

Spring Arbor University School of Adult Studies:

- Bachelor of Arts — Social Studies Major (non-teaching major)
- Bachelor of Arts — English Writing Major (non-teaching major)
- Bachelor of Arts in Family Life Education (68 weeks)
- Bachelor of Arts in Management and Organizational Development (61 weeks)
- Bachelor of Science in Nursing (73 weeks)

These programs in accelerated format provide options for the student who wants to complete a bachelor's degree but is unable to do it by traditional means. Classes are one night a week for four hours. The student completes an Independent Study Project during the second and third semesters to gain actual professional experience while earning a degree. Spring Arbor University will assess and award credit for experiential learning and military experience. Students should have 58 credit hours for admission into the bachelor's completion programs.

- **Endorsements/Minors**

  The enrolled student may choose to minor in criminal justice, family life education or management and organizational development. The enrolled student may also choose to work toward an endorsement in criminal justice or management of health care systems.

- **Masters of Arts in Organizational Management (22 months)**

Contact Deanna Couture at 800.522.6775 at the Spring Arbor University — Gaylord Site office for complete information on any of these accelerated completion programs.

COOPERATIVE PROGRAM WITH

UNIVERSITY OF DETROIT MERCY

Bachelor of Science in Engineering

Alpena Community College and the University of Detroit Mercy Engineering Transfer Program is a jointly developed program operated by both institutions. The program enables students to begin their education at ACC and complete their studies in a designated Bachelor of Engineering degree at U. of D. Mercy in Detroit, Michigan.

- Civil and Environmental Engineering
- Electrical and Computer Engineering
- Mechanical Engineering

Unique concentrations are available in the following areas:

- Automotive
- Computers
- Environmental
- Manufacturing Processes and Systems
- Engineering Mechanics
- Geotechnical
- Structural
- Signals and Systems

For more information on this cooperative program please contact your academic advisor.

COOPERATIVE PROGRAM WITH

UNIVERSITY OF MICHIGAN – FLINT

Bachelor of Science in Nursing

UM-Flint and Alpena Community College have collaborated to offer select UM-Flint courses leading to a BSN degree in a distance learning format combining online and on-site classes in Alpena. The program can alternatively be completed entirely online with the clinical work completed in the area where the student lives and/or works.

Current ACC Students may enroll as a UM-Flint Guest Student while completing coursework at ACC. A Financial Aid Consortium Agreement is in place for students who wish to utilize financial aid between ACC and UM-Flint. Mid-Michigan Medical Center (Alpena) RNs may enroll as a UM-Flint Transfer Student.
New ACC Students can apply online or contact the ACC Admissions Office at 989.358.7339 for more information about becoming a student.

Apply for UM-Flint BSN Program at: https://www.umflint.edu/admissions/apply-now

For more information contact:

Jennifer Spenny
UM-Flint Recruitment Coordinator
866.762.2177
spennyje@umflint.edu

COOPERATIVE PROGRAM WITH

WESTERN MICHIGAN UNIVERSITY

For more information on any of these cooperative programs, please contact your academic advisor.

Bachelor of Science in Occupational Education Studies

(Generally, two years at ACC and two years at WMU depending on program.)

- Automotive Service and Repair
- Computer-Aided Drafting
- Manufacturing Technology

MADELINE BRIGGS UNIVERSITY CENTER

The Madeline Briggs University Center at Alpena Community College houses offices of accredited four-year institutions who are cooperating with ACC to make completion programs for selected bachelor's and master's degrees available in Northeast Michigan. It is a concept Alpena Community College is actively pursuing to bring staff, classes and services from partner colleges to existing facilities at the main campus in Alpena and at the Oscoda Campus for the purpose of offering a variety of advanced degree programs in their entirety.

The University Center houses offices of Northwood University. Other schools that can deliver programs to meet identified needs of undergraduate and graduate degree-seeking students in Northeast Michigan are being sought.

Questions or comments about the University Center concept can be directed to the Academic Office at 989.358.7212.

The Madeline Briggs University Center is located west of Van Lare Hall. It contains offices, a classroom and conference room.

Programs currently offered are briefly described on the following pages.

ACC University Center Degree Programs

ACC Graduates and Northwood University

All Alpena Community College associate degrees are eligible to earn a Bachelor of Business Administration degree through Northwood University. Students can take third-year classes at ACC or Northwood. The student's fourth year is completed through Northwood, on ACC's campus.

Northwood University Bachelor Degrees

- **Bachelor of Business Administration Degree — Management**

  Northwood University's Management curriculum is one of the most relevant of its kind. Created by our executive faculty, with advice from the professional business community, the program prepares students to thrive in a global economy by teaching 50 percent more of the business basics, as compared to other four-year colleges. Our unique approach to education teaches students about the free enterprise system and the importance of personal responsibility in a free market economy. Management is our largest curriculum and combines business courses with traditional academic courses.

  A BBA in Management is a perfect fit for any industry or department. This versatile degree is for all business careers: administrative role, office or personnel manager, product manager, shift supervisor, finance manager, store or business manager, owner of an enterprise, etc.

- **Bachelor of Business Administration Degree — Accounting**

  An understanding of accounting is central to managing any financial-related enterprise, and those who aspire to a successful business career must be well-grounded in accounting principles. Accounting is a worthwhile and challenging area of study for students who are concerned with managerial decision making. Accounting is so much more than the mechanical manipulation of financial data to produce balance sheets and profit and loss statements.

  This degree helps prepare a student to sit for the CPA examination and is a perfect fit for any industry or a career in: public accounting, corporate accounting, finance management, store management, business management, etc.

- **Bachelor of Business Administration Degree — Computer Information Management**

  Computer Information Management curriculum provides students with the required knowledge to understand and develop the interrelations of computers, networking, telecommunications, business, and technology management.

- **Bachelor of Business Administration Degree — Health Care Management**

  The HCM program combines the excellent business and management courses Northwood University is known for, with a solid core of courses providing knowledge and understanding of the health care industry. Graduates of the HCM program are prepared for challenging management positions in a variety of health care organizations.

- **Bachelor of Business Administration Degrees — Marketing**

  Marketing covers a range of job opportunities in a number of industries, including retail, manufacturing, financial and public services, leisure and tourism, and advertising.

- **Bachelor of Business Administration Degree — Automotive Marketing & Management**

  The Automotive Marketing & Management major prepares students to perform market research, analyze data, communicate with and manage inventory, customers, sales force, distributors, vendors and management, as well as create strategic plans to drive revenue. Understand the automotive marketing function, including finance and insurance, budgeting and forecasting, parts and service, dealership advertising and used car management.

- **BACHELOR OF BUSINESS ADMINISTRATION DEGREE — AFTERMARKET MANAGEMENT**

  The Aftermarket Management program enables students to understand all aspects of the automotive aftermarket industry, from supply chain to marketing and finance. Careers in the aftermarket industry usually fall into the manufacturing, wholesale, retail, distribution, and sale of parts, tools, equipment, accessories, services and supplies for the replacement repair, appearance and performance of vehicles.

- **BACHELOR OF BUSINESS ADMINISTRATION DEGREE — ENTREPRENEURSHIP**

  Successful entrepreneurs realize that even the best ideas will go nowhere without research, financial analysis, and a business plan—and that the best plans will go nowhere without the will and skill to execute. Learn to integrate entrepreneurial thinking with cutting-edge leadership, creativity, innovation and strategic development to create successful business models.

- **BACHELOR OF SCIENCE IN APPLIED MANAGEMENT DEGREE**

  The Bachelor of Science in Applied Management degree is designed for students who have completed a minimum of 30 transferrable credits in a single specialized/technical area or an associate degree in an area of specialization other than business or management and who aspire to assume management-level positions in such fields. This degree allows students in a technical/professional area to obtain a baccalaureate degree with the remaining coursework having an emphasis in the development of business/management skills for their chosen field. This degree may be a good fit for students who have earned an AS, AAS, or certificate in a technical field such as Concrete Technology, Utility Technology, Nursing, Criminal Justice, Automotive Service and Repair, Welding Technology, etc.

For more information contact:

Emmirsyn Stacy
Admissions Representative
989.824.7422
stacye@northwood.edu

FERRIS STATE UNIVERSITY

- **Construction Management Concrete Technology Bachelor of Science Degree**

To be admitted to this degree, students must enter with a minimum of 48 credits and complete the course prerequisites with a "C" or better (2.0 on 4.0 scale). It is required PHYS 211 (PHY 121) be completed with a "C" or better prior to entry into the program. A minimum 2.5 grade point average is required, and students will need to submit all official college transcripts with their application. Ferris only accepts transfer grades of "C" or above unless a MACRAO agreement exists.

- **Computer Information Technology Systems Administration & Security Bachelor of Science Degree**

The Computer Information Technology – Systems Administration & Security program is designed for students who want to work in the business world and give technical assistance to computer systems and users. Individual business departments, corporations, or multinational enterprises need professionals who can relate their technical skills by problem-solving computer systems issues within the business environment. The CIT-SAS curriculum provides you with a broad understanding of core business functions, computer support specialists skills, certifications such as CompTIA's A+, Network+, Linux+, and Security+, as well as Microsoft's MCSA certification. Entry-level positions include such jobs as: Computer Support Specialist, Help-desk Technicians, Network Administrators, Computer System Administrators, and Computer Security Specialists. Students must pass the CompTIA A+ certification and two of the following industry certifications — MCSA, MCTS, Network+, Linus+, Security+, CNA or CCNA — to graduate from the CIT program. Additional certifications are encouraged.

UNIVERSITY OF MICHIGAN-FLINT

Bachelors of Science in Nursing

UM-Flint and Alpena Community College have collaborated to offer select UM-Flint courses leading to a BSN degree, through a combination of classes on-site in Alpena, Flint, and online.

Current ACC Students may enroll as a UM-Flint Guest Student while completing coursework at ACC. A Financial Aid Consortium Agreement is in place for students who wish to utilize financial aid between ACC and UM-Flint. Alpena Regional Medical Center RNs may enroll as a UM-Flint Transfer Student.

New ACC Students can apply online or contact the ACC Admissions Office at 989.358.7339 for more information about becoming a student.
Apply for UM-Flint BSN Program at: https://www.umflint.edu/admissions/apply-now

For more information contact:

Jennifer Spenny
UM-Flint Recruitment Coordinator
866.762.2177
spennyje@umflint.edu

Course Descriptions

Understanding Course Descriptions

The course descriptions on the following pages are in alphabetical order by subject and each course appears in numerical order. The following diagram will help you understand each part of a course description.

1 CNS 215 2 Introduction to Virtualization & Cloud Computing..... 3 3(2-2)
4 Normally Offered: F
5 Students will develop a working understanding of virtualization technologies and current virtualization software packages, as well as cloud terminologies and methodologies to implement, maintain, and support cloud technologies and infrastructures. The goal of the course is to provide students with the knowledge and skills necessary to develop and manage virtual systems and virtual networks within a business/cloud environment.
6 **Prerequisite:** CNS 150 and CNS 180.

1. Subject abbreviation & course number — This is a Network Administration course, sophomore level. Freshman courses are numbered 101-199; they may be elected by sophomores. Courses numbered 200-298 are sophomore courses; they may be elected by freshmen with the necessary prerequisites. Courses numbered under 100 may count toward the Associate in General Studies, but not toward any other degree.
2. Course Title
3. Credit & Contact Hours — Course credit hours are listed first, followed by the total contact hours in parentheses. These are the hours the class meets each week for lecture, laboratory work, and recitation. This example shows a four-credit course that meets two hours a week in lecture, with two lab hours, so it has 4 contact hours. A course showing 4(3-1-3) is a four-credit course that meets three hours a week in lecture, one hour a week in lab and three hours a week in recitation, for a total of 7 contact hours. Tuition is charged on contact hours.
4. Normally Offered — Tells when the course is scheduled. There are two semesters and a summer session: Fall Semester (F), Spring Semester (SP), or Summer Session (SU).
5. Course Description — This describes the content of the course.
6. Prerequisite/Co-requisite — To enroll, you must have successfully completed any course(s) or meet other requirements listed as prerequisite(s). This assures your ability to work at the level required in the course. Co-requisites are courses you must take during the same semester.

Course numbers, titles, credit hours, contact hours, and descriptions are subject to change. Use this catalog along with the semester schedule.

COURSE DESCRIPTIONS LISTINGS

ANTHROPOLOGY

ANP 121 CULTURAL ANTHROPOLOGY ....3(3-0)
Normally Offered: F, SP
This course is a comparative study of human adaptation over time and space. Emphasis is given to the dynamic nature of culture by using the record of prehistory, history, and contemporary societies.

ANP 239 RELIGIONS OF THE WORLD ..... 3(3-0)
Normally Offered: F (odd years)
Introduces the major religions of the world on a comparative basis. Original sacred documents will be read and underlying cultural assumptions studied. Objective is to develop an appreciation for the wide variety of religious experience and organization that exists in the world today. Student will come into contact with a wide variety of traditions ranging from the indigenous religious traditions of the United States to those of Buddhism, Hinduism and the world of Islam.

ANP 240 ARCHAEOLOGY ..... 3(3-1)
Normally Offered: F, SP
This course is an introduction to the modern practice of archaeology around the world. It will investigate archaeological field methods, theory, and applications that archaeologists apply to reconstruct the past from the material culture that humans leave behind. The course will analyze artifacts, data, and maps spanning time frames from ancient to the recent past.

ANP 257 UNDERWATER ARCHAEOLOGY ..... 3(3-0)
Normally Offered: On Demand
This course will provide students with an introduction to theory, method, technologies, and practice in underwater archaeology, with a focus on prehistoric and historical sites, worldwide and in the Great Lakes, inland lakes, and streams of the State of Michigan. Course content will draw primarily from anthropology and the applied social or behavioral sciences.
Prerequisite: ANP 121 or permission of instructor.

APPRENTICE – ELECTRICAL

APP 100E ELECTRICAL STUDIES FOR TRADES ..... 3(2-2)
Normally Offered: F, SP
An introductory course covering the fundamentals of electricity. Lecture topics include magnetism, Ohm's Law, capacitance, inductance, three-phase power, transformers, and motors. Students work in a lab environment to measure voltage, current, resistance, and power using both DC and AC circuits.
Prerequisite: One year of high school algebra.

APP 102E RESIDENTIAL WIRING & BLUEPRINT READING..... 3(2-2)
Normally Offered: SP
Course content includes residential wiring and blueprint reading in an organized manner.
Prerequisite: APP 100E, MTH 110.

APP 103E COMMERCIAL & INDUSTRIAL WIRING..... 3(2-2)
Normally Offered: F
Course content includes commercial and industrial applications of alternating current with applicable blueprint reading.
Prerequisite: APP 100E.

APP 104E AC & DC FUNDAMENTALS ..... 3(2-2)
Normally Offered: SP
Course content includes commercial and industrial applications of alternating current, DC motors, generators and direct current as applied to resistive networks in series, parallel and combination circuits.
Prerequisite: APP 100E, MTH 110.

APPRENTICE – ELECTRICAL

APP 107E SPECIALTY WIRING ..... 3(2-2)
Normally Offered: F
Course content includes low-voltage wiring methods, structured cabling for computer network and telephone systems, fiber optic wiring, CCTV security systems, fire alarm system operation and troubleshooting, medium-voltage and high-voltage wiring methods and terminations.
Prerequisite: APP 100E, MTH 110.

APP 111E ELECTRIC MOTOR CONTROL ..... 3(2-2)
Normally Offered: F
Course content includes motor control circuit layout theory and advanced motor control applications.
Prerequisite: APP 100E, MTH 110, or permission of instructor.

APP 114E PROGRAMMABLE CONTROLLERS ..... 3(2-2)
Normally Offered: SP
Course content includes programmable controller operations, programming, and their applications in industry.
Prerequisite: APP 100E, MTH 110, or permission of instructor.

APP 115E NATIONAL ELECTRIC CODE APPLICATION ..... 4(4-0)
Normally Offered: SP
A comprehensive study of the National Electric Code and its application to ensure a safe and adequate electrical installation. Specific Michigan code requirements and contractor requirements will be covered as well. Capstone course of apprentice electrical program and excellent preparation for State Journeyman or Master Electrician exam.
Prerequisite: APP 102E, APP 100E, APP 103E, or permission of instructor.

APP 122E DIGITAL ELECTRONICS FOR ELECTRICIANS ..... 3(2-2)
Normally Offered: F
Familiarizes the student with the basics of digital electronics. Topics covered will be numbering systems (binary, octal, hexadecimal), converting from and to base 10, binary arithmetic, Gate, AND, OR, NOR, NAND, and XOR, and the Boolean Algebra equivalent computer addressing: Adder and Subtractor counter, registers, and converters. The laboratory will use TTL and CMOS devices and troubleshooting will be stressed in the laboratory.
Co-requisite: APP 100E

APP 123E LINEAR ELECTRONICS FOR ELECTRICIANS ..... 3(2-2)
Normally Offered: SP
Stresses, in the laboratory, troubleshooting techniques of electronic circuits. Topics covered will be diode theory and uses in rectification; zener diodes and voltage regulation; bipolar transistors in the three configurations; suspended power supplies; field-effect transistors; operational amplifiers; soldering techniques; and component identification.
Co-requisite: APP 100E.

APPRENTICE – MILLWRIGHT

APP 104M PERSONAL PROTECTIVE EQUIPMENT (PPE) IN THE WORKPLACE ..... 1(1-0)
Normally Offered: F, SP
This course covers the basic PPE fundamentals of worker health and safety awareness in the key areas of respiratory, hearing, head, eye, and face hazard protection. Students can receive up to three different 3M / NC3 PPE certificates if they complete and pass the required criteria for each topic.

APP 106M INDUSTRIAL SAFETY ..... 1(1-0)
Normally Offered: F, SP
Orients students to items related to safety in the work place. Topics will include accident statistics and costs, personal safety, proper and safe selection and use of tools and material handling, equipment, and fire safety.

APPRENTICE – MILLWRIGHT

APP 121M APPRENTICE BLUEPRINT READING..... 3(2-2)
Normally Offered: F (odd years)
This course provides the student with a basic working knowledge of the alphabet of lines, three-view drawings, arrangement of views, and orthographic projection. Provides the student with a basic working knowledge of section views, dimensions, tolerances, and shop sketching.

APP 122M MACHINE REPAIR..... 3(2-2)
Normally Offered: F
This course provides the student with a basic working knowledge of principles of mechanical power transmission, belt drives, bearings, couplings, packing and seals, mechanical fasteners, pipe fittings, and pipe valves.

APP 124M APPRENTICE HYDRAULICS ..... 3(2-2)
Normally Offered: F (even years)
This course introduces the student to the principles and maintenance practices of power hydraulics and provides the student with a basic working knowledge of hydraulic fluids, piping, seals, reservoirs, actuators, directional controls, volume controls, pumps circuits, and graphical schematics.

APP 125M APPRENTICE MACHINE SHOP ..... 3(2-2)
Normally Offered: SP (even years)
Students will receive instructions on shop safety, measuring instruments, layout tools, lathes, milling machines, grinders, saws, the physics of metal cutting (speeds and feeds), and cutting tool materials.

APP 128M RIGGING & WEIGHT ESTIMATING ..... 1.5(1-1)
Normally Offered: F (odd years)
Provides the student with the basic working knowledge of rigging and weight estimating.

APP 129M APPRENTICE PNEUMATICS..... 1.5(1-1)
Normally Offered: F (odd years)
This course provides the student with a basic working knowledge of pumps, air compressors, and pneumatics.

APP 210M METAL FORMING & SHEETMETAL..... 3(2-2)
Normally Offered: F
This course provides the student with a basic knowledge of metal forming and how to manipulate metal into a finished product. There will be a specific focus on the selection, design, and manufacture of industrial safety equipment and guard design. Upon successful completion, the student will be able to identify the need for a guard, select an appropriate guarding method, design a guard, and manufacture a completed guard to industry standard.

APP 220M MECHATRONIC SYSTEM INTEGRATION AND REPAIR ..... 3(2-2)
Normally Offered: F
This course introduces students to the basic mechatronic system integration in modern manufacturing including products, machinery, and transportation. The course will include new construction and print reading, but will primarily focus on the troubleshooting, reprogramming, and repair of modern systems. This course will also prepare students for third-party credentialing exams.
Prerequisite: APP 114E, APP 122M, APP 129M.

APP 223M PREDICTIVE & PREVENTATIVE MAINTENANCE ..... 3(2-2)
Normally Offered: SP (even years)
A proactive approach to maintenance practice stressing the importance of Total Predictive Maintenance (TPM) Management, which increases productivity and quality, reducing failure and downtime.

ART

ART 101 ART HISTORY I ..... 3(3-0)
Normally Offered: F
Surveys Western art and architecture from Prehistoric through Early Renaissance periods. Focuses on architecture, sculpture, and painting from Prehistoric, Ancient Egyptian, Greek and Roman, Early Christian, Middle Ages, and Early Renaissance periods.

ART 102 ART HISTORY II ..... 3(3-0)
Normally Offered: SP
Surveys Western art and architecture from Late Renaissance, Mannerism, Baroque, Rococo, Neoclassicism, Romanticism, Realism, Art Nouveau, Impressionism, Post-Impressionism, Modern Art, Post-Modern Art, and Contemporary Art.

ART 103 2-D DESIGN ..... 3(2-2)
Normally Offered: F
Explores basic two-dimensional design elements and principles such as line, shape, space, color, balance, texture, and unity. Employs a variety of media to develop a basic design vocabulary.

ART 104 3-D DESIGN ..... 3(2-2)
Normally Offered: SP
Explores basic three-dimensional design elements and principles such as line, space, mass, plane, color, balance, emphasis, and unity. Employs a variety of media to develop a basic design vocabulary.
Prerequisite: ART 103.

ART 105 DRAWING I ..... 3(2-2)
Normally Offered: F
Introduces techniques in various drawing media and concepts in visual art with an emphasis on drawing from observation.

ART 106 2-D DIGITAL ART ..... 3(2-2)
Normally Offered: F
Introduces digital, 2-D image manipulation software using pixel, vector-based, and page layout applications. Identifies and applies basic to advanced image manipulation techniques through a variety of projects. Explores and develops the creative use of digital technology as a form of personal and/or commercial communication.

ART 107 PHOTOGRAPHY I ..... 3(2-2)
Normally Offered: F
Identifies, demonstrates, and discusses photographic concepts and techniques. Interprets and analyzes various processes from traditional to contemporary photographic styles. Employs digital photographic technologies as a creative medium for personal expression.

ART 108 PAINTING I ..... 3(2-2)
Normally Offered: F
Identifies, demonstrates, and discusses painting concepts, materials, and techniques. Various artistic processes will be explored from traditional to contemporary painting styles.

ART 109 CERAMICS I ..... 3(2-2)
Normally Offered: F
Identifies, demonstrates, and discusses basic clay hand-building techniques and surface design. Interprets and analyzes various processes of traditional and contemporary ceramic styles. Employs a variety of methods to produce ceramic vessels and objects.

ART

ART 110 SCULPTURE I ..... 3(2-2)
Normally Offered: F
Identifies, demonstrates, and discusses sculptural concepts and techniques. Interprets and analyzes various processes from traditional to contemporary sculptural styles. Employs a variety of methods using a variety of materials to produce sculpture.

ART 201 GRAPHIC DESIGN HISTORY ..... 3(3-0)
Normally Offered: F
Explores the history of graphic design from the earliest communication technologies to the present, with a focus on the Modern era. Examines changes in style and technology within the field and considers the relationship between graphic design and its cultural, political, and social contexts.

ART 202 GRAPHIC DESIGN I: TYPE ..... 3(2-2)
Normally Offered: F
Introduces the fundamental aspects of typography. Identifies and applies the history of typography, vocabulary terms, and foundational typographic techniques through a variety of design assignments.

ART 203 GRAPHIC DESIGN II: LAYOUT ..... 3(2-2)
Normally Offered: SP
Introduces typographic layout within complex informational structures. Identifies and applies appropriate typographic systems and imagery through a variety of projects.
Prerequisite: ART 202.

ART 204 DESIGN III: IDENTITY ..... 3(2-2)
Normally Offered: F
Define and apply the theories and practices of identity systems. Research, develop, and design a complete brand identity system along with its associated products.
Prerequisite: ART 203.

ART 205 DRAWING II ..... 3(2-2)
Normally Offered: SP
Continues the exploration of formal aspects of visual art with emphasis placed on articulating a personal response to various drawing problems. Practices drawing techniques and processes at the intermediate level using a variety of drawing media.
Prerequisite: ART 105.

ART 206 3-D DIGITAL ART ..... 3(2-2)
Normally Offered: SP
Introduces digital, 3-D imaging software and the forms generated from printing, CNC routing, and laser cutting. Identifies and applies basic to advanced imaging techniques through a variety of projects and materials. Explores and develops the creative use of digital technology as a form of personal and/or commercial communication.

ART 207 PHOTOGRAPHY II ..... 3(2-2)
Normally Offered: SP
Expands artistic and professional tools. Adds advance technical skills in camera and lighting to develop an individual photographic style. Uses digital photography assignments emphasizing experimentation in multiple areas including compositing, studio lighting, scanning, and color management techniques.

ART

ART 208 PAINTING II ..... 3(2-2)
Normally Offered: SP
Discusses relevant classical, modern, and contemporary painting concepts and techniques. Constructs paintings based on self-devised painting styles and methods. Analyzes critically and defends individual painting portfolio.
Prerequisite: ART 108.

ART 209 CERAMICS II ..... 3(2-2)
Normally Offered: SP
Identifies, demonstrates, and discusses wheel throwing and clay mold-making techniques. Generates complex ceramic surface design. Interprets and analyzes various traditional and contemporary ceramic processes. Employs a variety of methods to produce a portfolio of ceramic vessels and objects.
Prerequisite: ART 109.

ART 210 SCULPTURE II ..... 3(2-2)
Normally Offered: SP
Explores complex sculptural tools, processes, and materials. Manipulates materials and processes while also considering context, concept, and craft. Refines understanding of additive, subtractive, and constructive processes, as well as more complex mold-making and casting techniques.
Prerequisite: ART 110.

ART 280 FINE ART PORTFOLIO ..... 3(2-2)
Normally Offered: SP
Completes a fine art portfolio package for both school applications and job application.

ART 281 GRAPHIC DESIGN PORTFOLIO ..... 3(2-2)
Normally Offered: SP
Completes a graphic design portfolio package for both school applications and job applications.
processes, as well as more complex mold-making and casting techniques.
Prerequisite: Advisor's recommendation.

ART 290 FINE ART INTERNSHIP ..... 3(0-3)
Normally Offered: SP
Provides hands-on work experience in an off-site professional art business, gallery, museum, or art organization
Prerequisite: Advisor's recommendation.

ART 291 GRAPHIC DESIGN INTERNSHIP ..... 3(0-3)
Normally Offered: SP
Provides hands-on work experience in an off-site professional design business, company, or organization.
Prerequisite: Advisor's recommendation.

AMERICAN SIGN LANGUAGE

ASL 121 AMERICAN SIGN LANGUAGE ..... 4.0(4-0)
Normally Offered: F
This course introduces the basics of American Sign Language (ASL) and is designed for students who have little or no previous knowledge of ASL. The focus of the class will be on vocabulary, fingerspelling, numbers and grammatical non-manual signals. Students will also be exposed to Deaf Culture, and hot topics within the Deaf Community.

AMERICAN SIGN LANGUAGE

ASL 122 AMERICAN SIGN LANGUAGE II ..... 4.0(4-0)
Normally Offered: SP
This course continues to introduce the basics of American Sign Language (ASL) and is designed for students who have completed ASL 121, or similar course work. The focus of the class will be on vocabulary, fingerspelling, sentence structure and grammatical non-manual signals. Students will also be exposed to Deaf Culture, and hot topics within the Deaf Community.
Prerequisite: ASL 121 or instructor approval

AUTOMOTIVE

AUT 118 AUTOMOTIVE FUNDAMENTALS ..... 4(2-4)
Normally Offered: F
Provides the student with fundamental knowledge of the automotive repair industry from business concerns t government considerations, and from basic auto repair skills to understanding the integration of modern vehicle systems. Lecture is combined with lab exercises and work on live vehicles.

AUT 119 AUTOMOTIVE BRAKE SYSTEMS ..... 5(2-6)
Normally Offered: F
Provides the student with knowledge and skills to maintain, diagnose, and repair automobile and light truck braking systems. Brake operating principles, construction, maintenance, machining, and overhaul procedures will be covered. Antilock brakes and the related systems of traction control and stability control and the liability one undertakes in servicing these systems will be covered as well. Practical knowledge will be gained by working on live vehicles in the lab.
Prerequisite: Placement in ENG 111 and MTH 110 or instructor permission.

AUT 122 AUTOMOTIVE AIR, FUEL & EMISSIONS SYSTEMS ..... 4(2-4)
Normally Offered: SU
This course is designed to provide the student with an understanding of the theory, construction, operation, diagnosis, and repair of automotive fuel and emission systems. Environmental, safety, and legal concerns will be emphasized. Alternative fuel concepts will also be explored.
Prerequisite: AUT 124 with a grade of 2.0 or higher or instructor approval.

AUT 123 AUTOMOTIVE SUSPENSION, STEERING & ALIGNMENT ..... 5(2-6)
Normally Offered: F
Acquaints the student with operating principles and nomenclature of the various suspension and steering components. Both manual and power steering components will be studied. Alignment geometry and suspension dynamics and wheel/tire balance will be studied. Emphasis will be placed on the diagnosis and repair of suspension, steering, and alignment problems.
Prerequisite: Placement in ENG 111 and MTH 110 or instructor permission.

AUT 124 AUTOMOTIVE ELECTRICAL & ELECTRONICS SYSTEMS I ..... 5(2-6)
Normally Offered: F
Provides the student with the essential technical knowledge and manual skills to diagnose, repair, and maintain automotive electrical and electronic systems. Electrical theory, circuit types, wiring repair, reading electrical schematics and diagrams, electrical measurements, magnetism, electromagnetism, and use of diagnostic equipment will be covered.
Prerequisite: Placement in ENG 111 and MTH 110 or instructor permission.

AUT 125 AUTOMOTIVE ELECTRICAL & ELECTRONICS SYSTEMS II ..... 5(2-6)
Normally Offered: SP
Takes the student who has a basic automotive electrical background into a deeper understanding of automotive electrical systems. Lighting systems, horns, warning devices, instruments, accessories and body electrical, including air bags, anti-lock brakes, power windows, locks and keyless entries, are studied. Much time is spent on diagnosis, repair and installation of these systems.
Prerequisite: AUT 124 or instructor permission.

AUTOMOTIVE

AUT 201 COMPUTERIZED ENGINE CONTROLS ..... 4(2-4)
Normally Offered: SP
Provides the student in lecture and lab with the theory and operating principles of computerized engines. Reviews electrical and electronic principles, computer operation, and common computer components, followed by more in-depth studies of GM, Ford and Chrysler systems. The course concludes with an update as to what has been done during the last two years, along with a look at what is coming in the future.
Prerequisite: AUT 124 or instructor permission.

AUT 202 ENGINE PERFORMANCE DIAGNOSIS & TUNE-UP ..... 5(2-6)
Normally Offered: SP
Provides the student with information that integrates the understanding of mechanical automotive systems with the myriad electrical systems that current automobiles employ. Study will also include gaining an understanding of operation, service, diagnosis, and repair of automobile ignition systems.
Prerequisite: AUT 124 with a grade of 2.0 or higher or instructor permission.

AUT 205 AUTOMOTIVE CLIMATE CONTROL ..... 3(2-2)
Normally Offered: SU
Provides the student with theory operating principles of various automotive climate control systems. Problem diagnosis and repair of compressors, refrigerant controls, and electric circuit controls will be covered. Safety will be stressed and charging and servicing units of live vehicles will be practiced.

AUT 207 HYBRID & ELECTRIC VEHICLES ..... 4(2-4)
Normally Offered: SU
This course is designed to provide the student with an understanding of the theory, construction, operation, diagnosis, and repair of automotive hybrid and alternative fuel systems. Environmental, safety, and legal concerns will be emphasized.

AUT 209 AUTOMOTIVE TRANSMISSIONS & DRIVE TRAINS ..... 5(2-6)
Normally Offered: SP
Provides the student with instruction and practice in maintenance, diagnosis, and repair of automatic and manual transmission, clutch systems, transfer cases, and general drive trains. Operating principles and concepts of power flow will be emphasized.
Prerequisite: Successful completion of AUT 124 or instructor permission.

AUT 221 ENGINE REPAIR & OVERHAUL ..... 5(2-6)
Normally Offered: F
Introduces the design and construction of the various automotive power plants. Engine mechanical system diagnosis and service procedures, with emphasis on spark ignition engines, are studied. Disassembly, inspection, measurement, reconditioning, and reassembly of the various engine components are practiced. Use of proper service procedures are stressed both in the classroom and lab. Students are expected to complete at least one engine overhaul assignment.

AVIATION

AVI 135 UAS PILOT EXAM PREP ..... 1(.75-.5)
Normally Offered: SP
FAA regulations require all commercial UAS operators to pass an aeronautical knowledge certification exam. Unmanned Aerial Systems (Drone) Pilot Exam Prep is open to anyone interested in becoming a commercial UAS Pilot, regardless of industry application, and will prepare students to sit for the FAA Exam (offered at testing sites throughout the state). This course will cover National Airspace, maps, weather, operations and inspections, and professional and ethical behavior in the aviation industry. This is not a hands-on operations course, but will provide minimal instruction on operating systems.

AVIATION

AVI 136 UAS OPERATIONS AND SAFETY ..... 1(.5-1)
Normally Offered: SP
Unmanned Aerial Systems (Drone) Operations and Safety is open to anyone interested in a hands-on experience with UASs. Students will learn using a hands-on approach to conduct preflight inspections, program the platforms, and complete successful missions.

AVI 137 UAS PAYLOADS AND PROCESSING ..... 1(.5-.75)
Normally Offered: SP
Unmanned Aerial Systems (Drone) Payloads and Processing introduces students to different types of payloads designed for drone platforms and how to process data collected during a mission. Students will examine FLIR data and process collected data using Datumate® software.

BIOLOGY

Biology Placement Guidelines and Course Equivalences — One year of high school biology with a "C" or higher grade within the last five years is equal to BIO 114 Introduction to Biology. Advanced Placement (AP): test score of 3 = BIO 114 Introduction to Biology; test score of 4 or 5 (see biology faculty for placement).

BIO 110 ESSENTIALS OF ANATOMY AND PHYSIOLOGY ..... 4(3-2)
Normally Offered: F, SP
This course addresses the principles of human anatomy and physiology as related to various health care fields. It incorporates three unifying themes: the relationship between physiology and anatomy, the interrelations among the organ systems, and the relationship of each organ system to homeostasis.
Prerequisite: High school biology or equivalent.

BIO 114 INTRODUCTION TO BIOLOGICAL SCIENCE ..... 4(3-2)
Normally Offered: F, SP, SU
A basic course for non-science majors on the principles of biology, including a survey of life forms, coverage of classification, cytology, comparative anatomy and physiology, classical and molecular genetics, evolution, and ecology.

BIO 129 INTRODUCTION TO FIELD BIOLOGY ..... 3(2-2)
Normally Offered: F, SU
Gives the beginning student an introduction to the disciplines of field study and natural history in biology. Course emphasis will be on learning to recognize common plants and animals of Eastern United States and knowledge of the habitats where one would expect to find these organisms. Numerous field trips will be taken and a portion of the instruction time will be spent outdoors.

BIO 140 MICROBIOLOGY FOR THE HEALTH SCIENCES ..... 3(3-2)
Normally Offered: F, SP
This course is targeted for students pursuing associate degree level programs in the allied health sciences. Emphasis will be placed on the microorganisms that cause disease. Content includes the diagnosis and pathogenesis of infectious diseases, host defense mechanisms, epidemiology, public health, healthcare-associated infections, and infection control. Students majoring/minoring in biology or other pre-professional programs are advised to take BIO 227.
Prerequisite: BIO 110 or BIO 114 or equivalent; CEM 100 or CEM 111 or equivalent recommended.

BIO 161 GENERAL COLLEGE BIOLOGY I ..... 4(3-2)
Normally Offered: F
First installment of a year-long introductory course in biology for science majors. Topics include macromolecules, energy metabolism, cytology cellular reproduction, genetics, evolution, phylogeny, viruses, bacteria and protists.
Prerequisite: BIO 114 or equivalent; eligibility placement in ENG 111 and CEM 111 or CEM 100 (as a co-requisite).

BIOLOGY

BIO 162 GENERAL COLLEGE BIOLOGY II ..... 4(3-2)
Normally Offered: SP
Second semester of a year-long introductory course in biology for science majors. Topics include biological diversity and evolution of plants, fungi, and animals; form and function of plants and animals; development; ecology and behavior.
Prerequisite: BIO 114, or BIO 161, or equivalent; eligibility for placement in ENG 111.

BIO 200 ANATOMY & PHYSIOLOGY FOR ALLIED HEALTH ..... 6(4.5-3)
Normally Offered: SU (odd years)
This course is designed for students in allied health programs. It is an intensive lecture/laboratory course emphasizing the basic concepts and principles of human anatomy and physiology.
Prerequisite: BIO 110 or BIO 114 and CEM 100 or equivalent or permission of instructor.

BIO 201 HUMAN ANATOMY ..... 4(3-2)
Normally Offered: F, SP
This course is a comprehensive study of the microscopic and macroscopic structure of all the human body systems. In lecture, gross anatomy is incorporated with functional anatomy and clinically-related topics. Laboratory work includes the study of slides, human skeletons, anatomical models, and a prosected cadaver. Some animal organs are dissected and compared with those of humans.
Prerequisite: BIO 110 or BIO 114 or BIO 161.

BIO 203 HUMAN PHYSIOLOGY ..... 4(3-2)
Normally Offered: F, SP
Covers for the most part the normal functions of the human body. Topics that are stressed include cell physiology, movement, circulation, respiration, regulation of water and electrolyte balance, digestion and absorption of food, endocrinology, reproduction, and sensory processing. The lab considers clinical applications of physiology.
Prerequisite: BIO 201 and CEM 111 or equivalent.

BIO 207 WILDLIFE & FISHERIES ECOLOGY & MANAGEMENT ..... 3(2-2)
Normally Offered: SP
This course will give an overview of the management and conservation of natural resources. The topics will include careers and professional development; ecology; population dynamics and genetics; management of natural resources; legislation of natural resources; and human interactions and attitudes.
Prerequisite: high school algebra or equivalent.

BIO 210 INTRODUCTION TO BOTANY ..... 4(3-3)
Normally Offered: F
A basic survey course covering the major divisions of plants from algae through the flowering plants. Two weeks are spent on local flora, as well as traditional aspects of plant anatomy, physiology, paleontology, genetics, and ecology.
Prerequisite: BIO 114 or equivalent.

BIO 211 GENERAL ZOOLOGY ..... 4(3-2)
Normally Offered: SP
A survey course on the major phyla of animals. Includes evolutionary relationships, structure, function, behavior, adaptations, and economic importance of major groups of phyla of animals.
Prerequisite: BIO 114 with a 2.0 or better or equivalent.

BIO 215 FIELD BOTANY ..... 3(2-2)
Normally Offered: SU
This course will introduce students to the principles and rationale of classification, life histories, morphology and environmental relationships of plants. Emphasis will be placed on plant taxa of Michigan and the Great Lakes region. Students will be able to recognize common families, genera and species.
Prerequisite: BIO 114.

BIOLOGY

BIO 217 CELL BIOLOGY ..... 3(3-0)
Normally Offered: On Demand
A basic course in cytology. Approximately one-half of the course deals with cells of higher organisms, their numerous included organelles, and how cells organize and function as tissues. One-half of the course will deal with cellular physiology, cellular genetics, the cytology of abnormal cells such as cancer, cytology and medical applications and pathology. Recommended for biology majors.
Prerequisite: BIO 161.

BIO 227 MICROBIOLOGY ..... 4(3-3)
Normally Offered: SP
Involves identification, anatomy, physiology and genetics of microorganisms. Special emphasis is given to infectious diseases and the organisms that cause these diseases.
Prerequisite: BIO 161 or the following combinations: BIO 110 or BIO 114 and CEM 111.

BIO 228 PATHOPHYSIOLOGY ..... 4(4-0)
Normally Offered: On Demand
Mechanisms of disease will be examined at the cellular, organ, and organ system levels as background for understanding clinical interventions. Alterations in structure and function will be correlated with adaptive responses. Capacity to cope with disease will be presented as a product of factors including heredity, age, and lifestyle.
Prerequisite: BIO 201 and BIO 203 with a 2.0 grade or higher.

BUSINESS ADMINISTRATION

BUS 115 FOUNDATIONS IN PERSONAL FINANCES (MASTERING THE BASICS) ..... 1(1-0)
Normally Offered: F, SP
The Foundations in Personal Finance (Mastering the Basics) course provides students with strategies for managing money. The financial strategies are divided into five areas of study including savings, budget, debt, college student essentials, and philanthropy. This course will challenge the way students view money and empower them to graduate on a solid financial foundation.

BUS 116 FOUNDATIONS IN PERSONAL FINANCES (DEVELOPING YOUR SKILLS) ..... 1(1-0)
Normally Offered: F, SP
The Foundations in Personal Finance (Developing Your Skills) course will assist students in becoming educated consumers. It will show students how companies compete for their money, identify financing strategies that encourage college students to go into debt, teach five basic rules for making large purchases, summarize the three keys to getting bargains, and describe the seven basic rules of negotiating and summarizing laws that protect consumers from illegal collection practices. Students will learn actions to take when their identity has been compromised and how to communicate effectively with credit bureaus and other agencies about collections issues.

BUS 117 FOUNDATIONS IN PERSONAL FINANCES (CONSIDERING THE FUTURE) ..... 1(1-0)
Normally Offered: F, SP
The Foundations in Personal Finance (Considering the Future) explores the three basic principles of financial planning for the future, including investments, retirement and savings plans, and real estate. Students will examine the relationship between diversification and risk, and compare and contrast different types of investments. Various retirement account tax treatments will be classified and summarized. Students will learn why a home is a great investment, how to determine what to look for when purchasing a home, and how to maximize the sale of a home. Students will compare and contrast the various types of home mortgages and identify the pros and cons of renting versus owning a home.

BUSINESS ADMINISTRATION

BUS 121 INTRODUCTION TO BUSINESS ..... 3(3-0)
Normally Offered: F, SP, SU
This course examines an overall view of today's business world. Topics discussed include the American economic system, the organization and management of businesses, financing, marketing, international trade, human resources management, and other business-related topics.

BUS 122 PERSONAL SELLING ..... 3(3-0)
Normally Offered: F
This course covers selling, covering the selling process, buy motivation, careers in selling, and ethical problems in selling. Both oral and written presentations are used. Use is made of video technology in oral presentations. Sales demonstrations in class are evaluated by both the students in the class and the instructor.

BUS 123 PRINCIPLES OF ACCOUNTING I ..... 4(4-0)
Normally Offered: F
Stresses the basic concept of accounting and financial reporting. The accounting cycle is presented, followed by discussion of current assets and liabilities, fixed assets and related depreciation methods, and systems of internal control and electronic data processing. Practice in accounting skill is obtained through the recording of transactions and preparation of financial statements.
Co-requisite: BUS 125 or MTH 113 or MTH 121 or MTH 122 or MTH 123 or MTH 130 or MTH 131 or MTH 132 or MTH 223 or MTH 231 or MTH 232.

BUS 124 PRINCIPLES OF ACCOUNTING II ..... 4(4-0)
Normally Offered: SP
Continues the coverage of financial accounting from BUS 123, including corporations, stock issuance, long term assets and liabilities, investments, cash flows, and financial statement analysis. Provides the fundamentals of managerial accounting.
Prerequisite: BUS 123.

BUS 125 BUSINESS MATHEMATICS ..... 3(3-0)
Normally Offered: F
This course applies fundamental arithmetic processes to the solution of problems arising in a business office. It includes material covering fractions, decimals, percentages, trade and cash discounts, markup and markdown, payroll, simple and compound interest, annuities, present and future value, sinking funds, consumer and business credit, mortgage amortization, and depreciation.

BUS 127 PRINCIPLES OF MANAGEMENT ..... 3(3-0)
Normally Offered: F, SP
This course studies the basic concepts and considerations affecting the scope of management. Emphasis is upon the planning, organizing, actuating, and controlling functions of management. Case studies are used to delineate the problems of all units of management.

BUS 128 SMALL BUSINESS MANAGEMENT ..... 3(3-0)
Normally Offered: SP
Examines the significant problems encountered by those who wish to manage their own small business. Solutions are offered to general, financial and personnel management problems, capital needs and sources, advertising and markets, credit and inventory contracts, pricing and accounting problems.

BUS 221 BUSINESS LAW I ..... 3(3-0)
Normally Offered: F
Introduces the student to the basic principles of law that are applicable to business. The law is studied in the following areas: legal and constitutional foundations, court system, ethics, torts, contracts and UCC sales, personal property and bailments, and real property and landlord-tenant.

BUS 222 BUSINESS LAW II ..... 3(3-0)
Normally Offered: SP
Studies the law relating to intellectual property, business crimes, negotiable instruments, banking, creditor rights and bankruptcy, business organizations, employment, agency, and antitrust.

BUS 223 INTERMEDIATE ACCOUNTING I ..... 4(4-0)
Normally Offered: F
This course covers principles applicable to the corporate balance sheet and income statement following a review of accounting procedures developed in Accounting Principles. Accounting for assets, liabilities and stockholders' equity of corporations, as well as income statement reporting will be covered. Financial statement presentation and disclosures will be emphasized, taking into account international financial accounting standards.
Prerequisite: BUS 124 with 2.0 or higher

BUS 224 INTERMEDIATE ACCOUNTING II ..... 4(4-0)
Normally Offered: SP
This course continues the study of valuation principles applicable to the liability and equity sections of the balance sheet. Interpretation of financial statements is emphasized. A Statement of Cash Flows will be prepared. Procedures for correcting prior years' statements are evaluated and the problems of income tax allocation are studied. Students are encouraged to develop a philosophy of accounting which includes global accounting standards.
Prerequisite: BUS 223 with 2.0 or higher.

BUS 225 TAX OF INDIVIDUALS ..... 3(3-0)
Normally Offered: F
This course covers the principles of federal taxation relative to individuals and sole proprietorships. A focus on tax research is emphasized in response to ongoing revisions in federal tax laws. Concepts covered include the purpose of taxes and the impact of federal tax laws on society; reporting requirements, tax compliance, the IRS, and tax authorities; tax planning strategies and related limitations; gross income and exclusions; deductions for AGI and from AGI; tax computation and tax credits; the alternative minimum tax for individuals; investments, compensation, retirement savings and deferred compensation; and home ownership. Additionally, concepts are covered related to sole proprietorships, including business income, deductions, and accounting methods; and property acquisition, cost recovery, and property dispositions.
Prerequisite: BUS 123 or consent of instructor.

BUS 226 TAXATION OF BUSINESS ENTITIES ..... 3(3-0)
Normally Offered: SP
This course covers the principles of federal taxation relative to business entities, including corporations, S corporations, limited liability companies (LLC), limited partnerships, and general partnerships. Also addressed are business tax concepts related to the sole proprietorship business entity, although this entity type is covered extensively in BUS 225. A focus on tax research is emphasized in response to ongoing revisions in federal tax laws. Concepts covered include reporting requirements, tax compliance, tax planning strategies and related limitations; accounting methods, gross income and exclusions; business deductions; tax computation and tax credits, and the alternative minimum tax. Also covered are concepts related to property acquisition, cost recovery, and property dispositions. An overview of state and local taxes and multinational transactions related to business transactions is also included.
Prerequisite: BUS 123 and BUS 225 or consent of instructor.

BUS 228 COST ACCOUNTING ..... 3(3-0)
Normally Offered: F
Presents methods of determining materials, labor and manufacturing costs used to value inventory and to determine net income. Job order, process, and standard cost systems will be reviewed. Budgets and the relevance of costs to managers' decisions will be discussed.
Prerequisite: BUS 124 or consent of instructor.

BUSINESS ADMINISTRATION

BUS 229 ADVERTISING ..... 3(3-0)
Normally Offered: SP
This course covers the basic principles and practices of advertising including media, advertisement creation, copy and layout design, advertising planning and management, and the integration of advertising and the marketing system.

BUS 233 MANAGEMENT AND SUPERVISORY LEADERSHIP ..... 3(3-0)
Normally Offered: SU
This course presents the modern supervisory job in its proper perspective. Topics covered include most effective supervisory approaches; the role of the supervisor in the organization; the basis for good motivation, group member and team development, and sound team effort. The supervisor is discussed in relation to the total managerial environment, to self-management, and to the individual employee in the work group.

BUS 235 HUMAN RESOURCES MANAGEMENT ..... 3(3-0)
Normally Offered: SP
This course provides the foundation for contemporary theory and practices relating to the management of human resources activities. Attention is devoted to the personnel processes that are involved in the procurement, development, and maintenance of human resources. Emphasis is placed on the role of the departmental supervisor, manager, and their superiors in the management of subordinate personnel.

BUS 241 PRINCIPLES OF MARKETING ..... 3(3-0)
Normally Offered: F, SP
This course covers the marketing aspects of the firm including classification of goods, retailing, wholesaling, physical distribution, personal selling, advertising, pricing, market forecasting and research, and the economic/legal environment in which the business enterprise functions.

BUS 248 BUSINESS COMMUNICATIONS ..... 3(3-0)
Normally Offered: SP
This course is designed to improve upon all forms of business communications. This course focuses on developing the ability to compose effective business letters, memoranda, reports, and resumes. The principles of written and oral communication and the underlying psychology are studied. Additional topics include intercultural communication, non-verbal communication, how technology in changing communication, job applications, integrity and ethics, and legal aspects of communication. Students are required to write many business letters. Research will be conducted for the business report and a summary of the report will be presented in class using presentation software.
Prerequisite: Ability to keyboard or permission of instructor & placement in ENG 111 or 121.

BUS 255 BUSINESS APPLICATION SOFTWARE ..... 3(2-2)
Normally Offered: SP
A continuation of CIS 120, this second course teaches advanced skills using word processing, spreadsheet, database, and multimedia presentation software. Students will manage multiple worksheets and work with complex spreadsheet functions, as well as PivotTables and PivotCharts. Templates, styles, mail merge, advanced formatting of objects, and innovative presentation animations will be taught. Students will learn how to create advanced database queries and custom database reports. Solutions to business problems will be developed, integrating data between applications.
Prerequisite: CIS 120 or permission of instructor.

BUS 257 COMPUTERIZED ACCOUNTING SYSTEMS ..... 1.5(2-0)
Normally Offered: SP
Utilizes commercially available software for the small business accounting functions of accounts receivable, accounts payable, payroll, general ledger, inventory, accounting cycle completion, and financial statement reporting.
Prerequisite: BUS 123 and CIS 120, or instructor permission.

BUSINESS ADMINISTRATION

BUS 262 PROJECT MANAGEMENT ..... 3(2-2)
Normally Offered: F
Students will be presented a number of techniques and tools used in guiding a project from concept through lifecycle completion. Topics include defining a project scope, the project charter, work breakdown structure, creating a budget, defining objectives, evaluation, risk management, understanding triple constraints, and the usage of project management software. Instruction will include standards from ANSI, ISO, and the Project Management Institute (PMI).
Prerequisite or Co-requisite: ENG 111 or ENG 121, and CIS 120, or instructor permission.

BUS 390 UTILITY FINANCING & ACCOUNTING..... 3(3-0)
Normally Offered: F
This course introduces students to electric utility company financing and accounting. The unique characteristics of these regulated utilities, resulting from federal and state agency requirements, will be explored using the perspectives of the three types of utility company ownership, including investor-owned; cooperatives; and municipalities. Revenue rate-setting policies, operations and capital budgets, annual financial statements, and other financial and accounting aspects of electric utilities will be analyzed and evaluated. This course is designed to equip entry-level and middle managers in the electric utility profession with knowledge and skills to relate utility financing and accounting fundamentals to their job responsibilities.
Prerequisite: MTH 113 or higher.

BUS 391 UTILITY REGULATIONS..... 3(3-0)
Normally Offered: SP
This course focuses on public service commissions and the role of government in the modern utility, Federal Energy Regulatory Commission (FERC) and North American Electric Reliability Corporation (NERC) operations and how they affect the utilities and governing bodies for different types of utilities.
Prerequisite: ENG 111 or ENG 120.

BUSINESS INFORMATION SYSTEMS

BIS 101 KEYBOARD SKILLBUILDING ..... 1(0-2)
Normally Offered: SP
Allows students to develop individual keyboarding skills. Emphasis is on learning correct techniques and improving accuracy by identifying error patterns, with a resulting improvement in speed.

BIS 140 PROOFREADING & EDITING FOR BUSINESS PROFESSIONALS ..... 3(2-2)
Normally Offered: SP
Teaches students to apply the principles of English grammar, style, and usage to business correspondence. Topics include capitalization, numbers, abbreviations, word division, forms of address, and proofreading, particularly as applied to electronic documents.
Prerequisite: ENG 111 or qualifying placement score.

BIS 160 MEDICAL TERMINOLOGY ..... 4(4-0)
Normally Offered: F, SP
Presents the fundamentals of medical language for all allied health professionals and interested lay people. Includes definitions, pronunciations, spellings, and abbreviations of anatomical, symptomatic, diagnostic, and operative terms pertaining to each anatomical system of the body. Lecture, discussion, and workbook exercises bring the language alive by making the study interesting and logical.

BIS 167 MEDICAL ETHICS & LAW FOR HEALTH PROFESSIONALS..... 3(3-0)
Normally Offered: F, SP
Introduces allied health professionals to common, everyday medical law and medical ethical issues in the health professions. The student will learn to distinguish between morality and ethical issues and the reasoning of their importance. Through discussion the student will employ background information and case-driven approaches to the prototypes of ethical theories and problems. Major attention is devoted to basic personnel processes that include the proclamation, development, and maintenance of working ethically within different departments and organizations of Health Care.

CADD Technology

CAD 132 AUTOCAD Fundamentals ..... 1.5(1-1)
Normally Offered: SP
Introduces principles of CAD in an AutoCAD software environment, providing the student with fundamental knowledge of CAD system components and how to utilize AutoCAD software in the creation of technical drawings.
Prerequisite: Basic computer proficiency recommended or permission of instructor.

CAD 135 Intermediate AUTOCAD..... 1.5(1-1)
Normally Offered: SP
Continues utilization of CAD technology in an AutoCAD software environment for both mechanical and architectural applications. Previously learned principles are reviewed and their use expanded. More advanced concepts and methods are introduced.
Prerequisite: CAD 132.

CAD 150 3D Modeling..... 3(2-2)
Normally Offered: F, SP
This course introduces 3D parametric modeling and design techniques. Students will learn skills needed to create parametric models and designs of basic to moderately complex parts and assemblies. Students will learn how to then generate technical drawings from these models.
Prerequisite: Basic computer proficiency recommended or permission of instructor.

CAD 220 Machine Design ..... 3(2-2)
Normally Offered: F
This course acquaints the student with advanced mechanical drawings and machine design problems. Topics covered include assembly and detail drawings, revisions, fits, finishes, geometric dimensioning and tolerancing, fasteners, bearings, and manufacturability. Calculations made in sizing components with emphasis on commercially available elements.
Prerequisite: CAD 150, MTH 110 or higher, and MFG 101.

CAD 250 Advanced 3D Modeling..... 3(2-2)
Normally Offered: SP
This course enhances students' knowledge of parametric design with advanced 3D modeling techniques and design intent. Emphasis is placed on design intent while learning advanced skills such as: top down assembly modeling, configurations, design tables, weldments, advanced shapes, model analysis, advanced templates, and an overview of different 3D modeling software in the market place.
Prerequisite: CAD 150.

Chemistry

Chemistry Placement Guidelines and Course Equivalencies — One year of high school chemistry with a "C" or higher grade within the last five years is equal to CEM 100 Introductory Chemistry. Two years of high school chemistry with a "C" or higher grade within the last five years is equal to CEM 111 General Chemistry. Advanced Placement (AP): test score of 3 = CEM 121 General and Inorganic Chemistry; test score of 4 = CEM 121 General and Inorganic Chemistry and CEM 122 Inorganic Chemistry & Qualitative Analysis.

CEM 100 Introductory Chemistry ..... 5(4-3)
Normally Offered: F, SP, SU
Surveys inorganic chemistry, providing an introductory chemical background for students who do not have experience in chemistry. Course involves a parallel laboratory experience, as well as basic mathematical concepts necessary for Chemistry 111 or 121.

CHEMISTRY

CEM 111 GENERAL CHEMISTRY ..... 4(4-3)
Normally Offered: F, SP, SU
Introduces the study of atomic structure, periodic systems, chemical bonds, stoichiometry, gas laws, liquids, solids, solutions, and nuclear chemistry. Theory is illustrated and applied through selected laboratory experiences. Prepares chemistry majors having limited backgrounds in high school chemistry for CEM 121 and non-majors for CEM 112.
Prerequisite: One unit of high school algebra and chemistry or CEM 100.

CEM 112 ORGANIC & BIOCHEMISTRY ..... 4(4-3)
Normally Offered: SP
A continuation of CEM 111 with emphasis on organic and biochemistry. This is a survey course covering organic structure, synthesis, reactions, mechanism, and nomenclature. The biochemistry of proteins, carbohydrates, lipids, cells, genetics, etc. are covered. Laboratory experiments in biochemical and organic identification, synthesis, separation and purification with use of instrumentation are emphasized. Fulfills the basic science requirement for non-science majors and several health science categories.
Prerequisite: CEM 111 or 121 or its equivalent and one year of algebra or consent of instructor.

CEM 121 GENERAL & INORGANIC CHEMISTRY ..... 4(4-3)
Normally Offered: F, SP, SU
Includes atomic structure, periodic systems, bonding, descriptive chemistry, stoichiometry, gas laws, liquids and solids, solutions, etc. Theory is illustrated and applied through selected laboratory experiences. Designed as basic course for students in scientific programs dealing with fundamental chemical principles.
Prerequisite: One unit of high school algebra, geometry, and chemistry.

CEM 122 INORGANIC CHEMISTRY & QUALITATIVE ANALYSIS ..... 4(4-3)
Normally Offered: F, SP, SU
Continues CEM 121, with emphasis on the study of chemical kinetics, equilibrium, electrochemistry, chemical thermodynamics, and organic chemistry. The principles of these topics are applied in laboratory experiments.
Prerequisite: CEM 121 or consent of instructor.

CEM 221 ORGANIC CHEMISTRY ..... 5(4-3)
Normally Offered: F
Emphasizes fundamental principles of organic chemistry in the study of aliphatic and aromatic compounds. Laboratory work is selected to provide experience with common apparatus and techniques and illustrate preparations and reactions discussed in class.
Prerequisite: CEM 122 or equivalent.

CEM 222 ORGANIC CHEMISTRY ..... 5(4-3)
Normally Offered: SP
Continues CEM 221. The functional group compounds are studied in the areas of structure, organic synthesis and reaction mechanisms. Laboratory work includes organic qualitative analysis.
Prerequisite: CEM 221 or equivalent.

COLLEGE SUCCESS SKILLS

CSS 100 BECOMING A MASTER STUDENT ..... 2(2-0)
Normally Offered: F, SP
A student success course covering academic skills, life management skills, and an introduction to resources of the school and community.

CSS 120 FIRST YEAR STUDENT SEMINAR ..... 1(1-0)
Normally Offered: F, SP
A gateway or foundational course that introduces new students to the meaning, purpose, and value of post-secondary education and the college curriculum. This course will also address non-cognitive issues and the challenges they present to successful completion of a college degree and focuses on the development of skills, strategies, habits, and attitudes to deal with life issues.

COMPUTER INFORMATION SYSTEMS

CIS 120 INTRODUCTION TO MICROCOMPUTERS ..... 3(2-2)
Normally Offered: F, SP, SUM
Introduces the student to operating system and software applications of word processing, spreadsheets, databases, and multimedia presentations. Covers file management; using Help and Support; creating and editing flyers, letters, research papers, and resumes; creating spreadsheets and charts; using formulas and functions; performing what-if analysis; creating, maintaining, and querying a database; and creating and editing a presentation using illustrations, shapes, and transitions.

CIS 125 INTRODUCTION TO COMPUTER & TECHNOLOGY CAREERS ..... 3(2-2)
Normally Offered: F, SP
This course is designed for students who are considering a career in Information Technology (IT), or students who are considering careers working in fields that require a broad understanding of IT. Successful completion will demonstrate students have the ability to identify and explain basic computer components, set up a basic workstation, conduct basic software installation, establish basic network connectivity, identify compatibility issues, and identify / prevent basic security risks. Further, this course will assess the candidate's knowledge in the areas of safety and preventative maintenance of computers.

CIS 140 INTRODUCTION TO MICROSOFT CLIENT OS ..... 3(2-2)
Normally Offered: F
Using both a "hands-on" and theoretical approach, this course teaches students to manage system resources through the Microsoft client operating system (OS) environment. In addition to basic system commands, students will learn how to install and customize the operating system environment for deployment in an office or networked environment.

CIS 150 WORD PROCESSING ..... 3(2-2)
Normally Offered: F
This course presents fundamental through advanced word processing skill development. The areas of creating, editing, and formatting documents used personally and in business, including memos, letters, reports, newsletters, templates, forms, and large documents are covered. Extensive formatting skill development in documents using tables, graphics, shapes, styles, themes, headers, footers, footnotes, endnotes, citations, sources, captions, bibliographies, sections, bookmarks, equations, graphic layering, watermarks, and page borders will be covered. Mail merge, data sources, merged letters and envelopes, collaboration, tracking changes, and integrating with other software are also covered, as well as automating documents and forms with controls and macros, and large document management including master documents, subdocuments, and encryption.

CIS 170 SPREADSHEET SOFTWARE ..... 3(2-2)
Normally Offered: SP
This course presents fundamental through advanced spreadsheet software development. Students will learn formatting, formulas, functions, advanced charting, macros, pivot tables, pivot charts, tracking changes, merging, analysis tools, data tables, financial tools, solver, scenario manager, object linking and embedding, integration with databases, queries, filters, and developing a spreadsheet application.

CIS 206 OBJECT-ORIENTED PROGRAMMING ..... 3(2-2)
Normally Offered: F
Students will develop a basic understanding of arrays, pointers, structures, and object-oriented programming. The goal of the course is to provide students with the knowledge and skills they need to develop object-oriented applications (including mobile applications) using best programming practices. The course focuses on program structure, language syntax and implementation details.
Prerequisite: CIS 120 or instructor permission.

COMPUTER INFORMATION SYSTEMS

CIS 207 ADVANCED OBJECT-ORIENTED PROGRAMMING..... 3(2-2)
Normally Offered: SP
Students will build upon their knowledge of object-oriented programming by learning to work with inheritance, interfaces, subclasses and threads, as well as arrays, collections, strings, and how to interact with databases. Students will also develop extensive graphical user interfaces.
Prerequisite: CIS 206 with a grade of 2.0 or higher.

CIS 240* MULTIMEDIA PRESENTATIONS..... 3(2-2)
Normally Offered: SP
Covers the fundamentals of modern usage of multimedia in presentations. Design techniques will be taught, along with using clip art, graphics and audio-visual files to enhance presentations. Using computer software designed for this purpose, students produce overheads, interactive slide shows, handouts and speaker notes. Skills learned are demonstrated by doing a multimedia project.
* Course prepares students for the Microsoft Office Specialist (MOS) exam to become certified at the core level using PowerPoint.
Reading Level Recommendation: College Level

CIS 241 INTRODUCTION TO WEB DESIGN & MANAGEMENT..... 3(2-2)
Normally Offered: SP
This course teaches students how to design, create, implement, and maintain a web site. Web page design principles are covered along with using hypertext markup and web-authoring software to create and manage web pages/sites. Students learn integration techniques for web-based databases, how to use multimedia in a web site, how to create and enhance images for web sites, and how to ensure security for a private Intranet for a target audience.

CIS 250 DESKTOP PUBLISHING..... 3(2-2)
Normally Offered: F
This course introduces the principles, equipment, and skills used in the publishing process using desktop publishing software. Students will create and modify a wide range of publications, using judgment related to fonts, spacing, text, layouts, colors, graphics, and media.

CIS 258 INTRODUCTION TO ENTERPRISE DATABASE..... 3(2-2)
Normally Offered: SP
Students will learn about the history of SQL, database options deployed in the marketplace today, and will be introduced to the fundamentals of enterprise database technology. Topics covered include database concepts, database design theory, entity-relationship models, SQL language, security, and database security and maintenance.

COMPUTER NETWORK SYSTEMS

CNS 101 INTRODUCTION TO CAREERS IN COMPUTER TECHNOLOGY..... 1(1-0)
Normally Offered: F, SP
This course introduces students to occupations in the technology field. Topics include job opportunities, duties, and qualifications for career paths such as cybersecurity, software development, and information technology.

CNS 150 NETWORKING FUNDAMENTALS..... 3(2-2)
Normally Offered: F
This course will introduce hardware and software technologies utilized to build computer networks and communicate data among devices. Students will build a working Local Area Network (LAN) utilizing multiple protocols and operating systems.
Co-requisite: CIS 140 and CNS 151 or instructor permission.

CNS 151 NETWORK COMMUNICATION CABLING..... 3(2-2)
Normally Offered: F
This course is designed to provide the learner with the knowledge to install and support the physical layer of computer and telecommunications networks. Students will learn proper installation and certification techniques based on TIA/EIA standards for copper and fiber optic cabling.

COMPUTER NETWORK SYSTEMS

CNS 155 INTRODUCTION TO ROUTING & SWITCHING..... 3(2-2)
Normally Offered: SP
Using a basic knowledge of computer networks, students will learn how to link multiple networks together using routing, switching, VPN or WAN technologies. Using CISCO standards, students will simulate a working Internet environment and explore a variety of techniques and routing protocols.
Prerequisite: CNS 150 or instructor permission.

CNS 170 PC REPAIR & MAINTENANCE ..... 4(3-2)
Normally Offered: F
Students will be introduced to techniques and tools utilized in repairing desktop and laptop computer systems and peripherals. In a lab environment, students will practice the diagnosis, identification, and replacement of computer components using industry recognized processes and technical documentation.

CNS 180 INTRODUCTION TO MICROSOFT SERVER..... 3(2-2)
Normally Offered: SP
This course will introduce students to the Microsoft Server solution. Students in a lab experience will practice the deployment and administration of a Microsoft Server utilizing Active Directory to audit and manage user and computer accounts.
Prerequisite: CIS 140 or instructor permission.

CNS 215 INTRODUCTION TO VIRTUALIZATION & CLOUD COMPUTING ..... 3(2-2)
Normally Offered: F
Students will develop a working understanding of virtualization technologies and current virtualization software packages, as well as cloud terminologies and methodologies to implement, maintain, and support cloud technologies and infrastructures. The goal of the course is to provide students with the knowledge and skills necessary to develop and manage virtual systems and virtual networks within a business/cloud environment.
Prerequisite: CNS 150 and CNS 180.

CNS 220 ADVANCED MICROSOFT SERVER ..... 3(2-2)
Normally Offered: F
This course focuses on the different application tools available in a Microsoft Server and how they are used to help manage, share, and secure network resources. Specifically, students will learn about virtualization technologies, software deployment tools, Terminal Services, and deploying web sites through IIS and SharePoint.
Prerequisite: CNS 180 or instructor permission.

CNS 230 INFORMATION SECURITY ..... 3(2-2)
Normally Offered: F
This course will introduce techniques to reduce or mitigate risks to information technology assets. Specifically, desktop, network, and server applications will be discussed. A variety of case studies, ethical considerations, and penetration tools will be explored.
Co-requisite: CNS 150 or instructor permission.

CNS 235 ADVANCED INFORMATION SECURITY ..... 3(2-2)
Normally Offered: On Demand
Students will continue exploring Information Security concepts introduced in CNS 230. This course will also review a number of new objects including physical security or equipment, secure software design, business continuity and business recovery. The materials for this course are based upon the Certified Information Systems Security Professional-Common Body of Knowledge (CISSP-CBK).
Prerequisite: CNS 230 or instructor permission.

COMPUTER NETWORK SYSTEMS

CNS 240 OPEN-SOURCE NETWORKING ..... 3(2-2)
Normally Offered: F
Students will learn the foundational differences between open source and commercially purchased software. By utilizing LINUX in a lab setting, a comparison to and contrast with Microsoft Server products will be drawn. The class will help participants become familiar with freely available software using command line and graphical user interface options.
Prerequisite: CIS 140 or instructor permission.

CNS 245 ETHICAL HACKING & PENETRATION TESTING ..... 3(2-2)
Normally Offered: SP
This course will assess current penetration testing, vulnerability assessment, and vulnerability management skills with a focus on network resiliency testing. Successful students will demonstrate their ability to plan and scope assessments, handle legal and compliance requirements, and perform vulnerability scanning and penetration testing activities using a variety of tools and techniques, then analyze the results of those activities.
Prerequisite: CNS 230.

CNS 252 POWERSHELL AND SCRIPTING ..... 3(2-2)
Normally Offered: SP
In this course students will learn to use Windows PowerShell to administer operating systems, automate and customize features, processes, and the day-to-day functions needed to maintain and optimize a network and server infrastructure all from a command line interface.

CNS 260 AMAZON WEB SERVICES (AWS) CLOUD PRACTITIONER ..... 3(2-2)
Normally Offered: SP
This course is designed for individuals who want to develop a fundamental understanding of the Amazon Web Services (AWS) Cloud, independent of any specific technical role. Students will learn about AWS Cloud concepts, core AWS services, security, architecture, pricing, and support to build your AWS Cloud knowledge. Students will learn from both a hands-on and theoretical perspective.
Prerequisite: CNS 230, CNS 215.

CNS 295 NETWORK ADMINISTRATION/CYBER SECURITY CAPSTONE ..... 3(1-4)
Normally Offered: SP
This course is designed to enable students to assimilate the broad educational themes embedded in the major. As such, the course is constructed to require students to interact as teams and individuals to design, plan, and defend appropriate projects approved by the instructor that will enable them to demonstrate individual and group mastery of skills and competencies learned across the entire curriculum. The course helps students develop knowledge and skill sets that may facilitate their career growth.
Prerequisite: CNS 150, CNS 155, CNS 180, CNS 215, CNS 220, CNS 230.

CONCRETE TECHNOLOGY

CON 110 INTRODUCTION TO CONCRETE TECHNOLOGY ..... 1(1-0)
Normally Offered: F
Introduces the various divisions of the concrete industry. Course reviews each division (Ready Mixed Concrete, Concrete Masonry, Prestress/Precast, Engineering, etc.), and shows the types and needs of employment in each division.

CON 121 AGGREGATES .....3.5(2.1-2.8)
Normally Offered: F
Studies the entire aggregate industry. The purpose and function of fine aggregates (sand) and coarse aggregates (gravels, crushed stone, etc.) and their relationship in the construction industry are examined. Both natural and manufactured lightweight aggregates are studied. Industrial standards for testing evaluation are covered in lecture and in a hands-on laboratory.

CONCRETE TECHNOLOGY

CON 122 CONCRETE ADMIXTURES ..... 1(1-0)
Normally Offered: SP
Examines the nature of concrete and how its characteristics can be altered through the use of admixtures. The effects of both chemical and mineral admixtures to Portland Cement are studied. Industrial standards for these materials will be covered.

CON 123 CEMENTITIOUS MATERIALS ..... 1.5(.9-1.2)
Normally Offered: F
Examines the chemical and physical components of various cementitious materials such as Portland Cement, slag cement, fly ash, silica fume, etc. Also included are the production methods and standard tests of cement performance.

CON 124 CONCRETE MIX PROPORTIONING ..... 4(2-4)
Normally Offered: SP
Covers several theories of proportioning concrete mixes, including normal weight, lightweight, high strength, and others. Emphasis is given to the effect of altering mix ingredients and proportions on the properties of plastic and hardened concrete. Lab exercises intended to assist in developing a better understanding of equipment and procedures standard to the industry.
Prerequisite: CON 121 and CON 123 or permission of instructor.

CON 221 PLACED CONCRETE I ..... 4(3-3)
Normally Offered: F
Studies the placed concrete industry from surveying for form layout to the final finishing of placed concrete. Mixing, placing, forming, finishing, curing, and jointing are covered. Mix proportioning to solve placing problems is examined.
Prerequisite: CON 124 or permission of instructor.

CON 222 PLACED CONCRETE II ..... 4(3-3)
Normally Offered: SP
Continues Placed Concrete I in studying industrial standards including American Society of Testing and Materials (ASTM) and American Concrete Institute (ACI) using standard deviation methods. The course covers the use of fibers, pozzolans, pumping, engineering properties of placed concrete, high performance mixes, soils, and roller-compacted concrete.
Prerequisite: CON 124 and CON 221.

CON 223 CONCRETE MASONRY PRODUCTION ..... 4(3-3)
Normally Offered: F
Covers the manufacturing of concrete masonry products including sieve analysis, aggregate blending, mix designs and proportioning, manufacturing techniques on full scale block equipment, and curing methods. Testing methods of masonry products and architectural specifications as they pertain to the masonry producer are studied.
Prerequisite: CON 121 and CON 123 or permission of instructor.

CON 224 PRESTRESS/PRECAST CONCRETE ..... 3(2-3)
Normally Offered: SP
Covers the final use of various precast concrete masonry, prestress concrete, roofing tile, pavers, pipe, panels, and other precast units. Special attention is given to the layout and manufacturing of prestress units according to industrial standards, engineering properties, testing methods and product specifications.
Prerequisite: CON 223.

CONCRETE TECHNOLOGY

CON 226 CONCRETE TROUBLESHOOTING & REPAIR ..... 2(2-0)
Normally Offered: SP
Examines the basics of concrete inspection including equipment, materials, and procedures. Covers the process of determining problems with concrete and deals with repair of problems. Studies the ways that problems can be reduced by using proper construction procedures.
Prerequisite: CON 221.
Co-requisite: CON 222.

CON 227 CONSTRUCTION INSPECTION ..... 2(2-0)
Normally Offered: F
Covers inspection procedures required in the construction industry with main emphasis on concrete related materials and procedures. Building codes, specifications, reporting procedures, and contract requirements will be covered in detail.
Prerequisite: CON 124 or permission of instructor.

CON 231 CONCRETE PROJECT LAB I ..... 1(0-1)
Normally Offered: F
Provides the opportunity for individual research and experimentation. Students are encouraged to pursue research in areas of interest that are not included in regular classes. Results of project labs are shared with other students, thereby increasing their value. The course is taken during the sophomore year with hours arranged. Each student is assigned an instructor in the field of his/her technical specialty.
Prerequisite: CON 121, CON 123, CON 124, or permission of instructor.

CON 232 CONCRETE PROJECT LAB II ..... 2(0-2)
Normally Offered: SP
Provides continued opportunity for individual research and experimentation. Students are encouraged to pursue research in areas of interest that are not included in regular classes. Results of project labs are shared with other students, thereby increasing their value. The course is taken during the sophomore year with hours by arrangement. Each student is assigned an instructor in the field of his/her technical specialty.
Prerequisite: CON 231 or permission of instructor.

CONSTRUCTION

CST 112 BUILDING CONSTRUCTION ANALYSIS ..... 3(3-0)
Normally Offered: SP
Studies construction designs and methods. Materials and methods of construction in the categories of wood, steel, and concrete are covered individually to show the capabilities of each.

CST 151 CONSTRUCTION SUMMER CO-OP ..... 6(0-6)
Normally Offered: SU
Gives the student opportunity to gain on-the-job experience with summer employment with a construction firm or related business during the interval between the freshman and sophomore years.

CRIMINAL JUSTICE

CRJ 101 CRIMINAL JUSTICE PHYSICAL EDUCATION ..... 3(1-2)
Normally Offered: SP
Designed for the Criminal Justice student that needs to improve his or her fitness level and lose weight. This is a low impact fitness course (i.e. walk/run, use of resistance bands, building endurance, introduction to weight training) with lectures on benefits of exercise and guidelines, fitness and wellness, coronary risk factors and physical fitness, stress, motivation, and behavior change, issues in weight control, and nutrition.
Prerequisite: Criminal Justice student or instructor permission. Participants with physical restrictions or other medical health problems must have a written permission statement from their physician prior to active participation in this program.

CRIMINAL JUSTICE

CRJ 102 INTRODUCTION TO CAREERS IN CRIMINAL JUSTICE ..... 1(1-0)
Normally Offered: F, SP
Introduces the various divisions of criminal justice at federal, state, and local levels of government including law enforcement, courts, corrections, and forensics highlighting job opportunities in each area.

CRJ 110 CRIMINAL JUSTICE PHYSICAL EDUCATION ..... 2(1-2-0)
Normally Offered: F
Physically prepares student to meet entry-level physical agility testing requirements for police officer and corrections officer and introduced military style discipline. Includes advanced development of exercise skills to increase and maintain levels of flexibility, muscle strength, body composition and cardiovascular endurance. Instruction will be a military style workout, including running, upper body strength workouts, push-ups, sit-ups, leg lifts and jumping jacks.
Prerequisite: Criminal Justice student or instructor permission. Participants with physical restrictions or other medical health problems must have a written permission statement from their physician prior to active participation in this program.

CRJ 119 INTRODUCTION TO HOMELAND SECURITY ..... 3(3-0)
Normally Offered: SP
The Introduction to Homeland Security course will define the role of the Federal, State and Local Governments when dealing with a terrorist attack from an emergency management and first responder perspective. The topic of what prompts people to engage in a terrorist attack will be explored. The student will learn how to prepare and recover from a terrorist attack. Finally, what future challenges emergency managers and first responders can expect to face when dealing with homeland security issues will be discussed.

CRJ 121 INTRODUCTION TO CRIMINAL JUSTICE ..... 3(3-0)
Normally Offered: F
Surveys the field of law enforcement, including the role of police officers in society, the history of law enforcement and the organization of law enforcement agencies.

CRJ 131 INTRODUCTION TO CORRECTIONS ..... 3(3-0)
Normally Offered: F
Covers the history and development of penology, treatment of convicted law violators of all ages, appraisal of correctional treatment on post correctional behavior and an evaluation of rehabilitative efforts in modern penology.

CRJ 132 INTRODUCTION TO COMPUTER FORENSICS & CYBERCRIME ..... 3(2-2)
Normally Offered: SP
This course instructs the foundational skills necessary for the collection, evaluation, and investigation of computer crimes and electronic evidence. Lecture and lab sessions will explain how information is stored and retrieved from different types of devices.
Prerequisite: CRJ 121 and CIS 120; or CRJ 121 and CNS 230; or instructor consent

CRJ 211 ETHICS IN CRIMINAL JUSTICE ..... 3(3-0)
Normally Offered: F
Introduces students and practitioners to the fundamentals of ethical theory, doctrines and controversies, and rules of moral judgment. Covers ways and means of making moral judgment. Addresses the state of ethics in police, corrections, probation and parole.

CRJ 220 JUVENILE DELINQUENCY ..... 3(3-0)
Normally Offered: F
Analyzes the causes and control of crime, including juvenile delinquency, statistics of crime, problems of juvenile offenders, juvenile court procedures, and the work of youth agencies.

CRIMINAL JUSTICE

CRJ 221 CRIMINAL LAW ..... 3(3-0)
Normally Offered: F
Consists of the study of the origin, nature, and purpose of substantive law with particular emphasis on the basic elements of the crimes, both statutory and common law. Criminal law topics covered are: Crime defined, sources of, legal limits, elements of, scope, defenses, crimes against people, habitation and property; offenses against government and justice.

CRJ 222 CRIMINAL PROCEDURES ..... 3(3-0)
Normally Offered: SP
A basic survey of criminal procedure and constitutional rights as they apply to the criminal process from apprehension through the appellate process. Topics covered: Arrest, search and seizure, self-incrimination, pre-trial proceedings, trial, punishment, appeal, juvenile offenders, prisoner's rights, double jeopardy, confessions.
Prerequisite: Consent of instructor or CRJ 221.

CRJ 223 POLICE ADMINISTRATION ..... 3(3-0)
Normally Offered: SP
Deals with staff functions, management, budgeting, training, public relations, record keeping and other areas of the administration of a law enforcement agency.

CRJ 224 POLICE OPERATIONS ..... 3(3-0)
Normally Offered: SP
Deals with line functions: patrol operations, investigative divisions, traffic divisions, non-crime functions and basic organization of modern law enforcement agencies.

CRJ 229 CRIMINAL INVESTIGATION ..... 4(3-1)
Normally Offered: SP
Introduces criminal investigation procedures, including conduct at crime scenes, collecting evidence, methods used in police laboratories and presentation of evidence in court.

CRJ 230 FIELD SERVICE PRACTICUM ..... 3(3-0)
Normally Offered: F
Presents structured practical training with the student obtaining experiences which fit particular interests in law enforcement. Experiences are on campus or at local law enforcement agencies.
Prerequisite: CRJ 121, and all students must be at least 18 years of age and have completed the Hepatitis B shot series.

CRJ 233 COMMUNITY POLICING ..... 3(3-0)
Normally Offered: F
Surveys the relationships between policing agencies and the communities which they serve. The emphasis is placed on communications and orientation toward common goals, with an examination of current problems in community tensions and conflict involving the police.

CRJ 234 MULTICULTURAL LAW ENFORCEMENT ..... 3(3-0)
Normally Offered: SP
Multicultural Law Enforcement will provide practical guidelines on how the police can work with cultural groups in the community. This course will examine the historical context of police relationships and identify the key issues that must be addressed. This course will focus on the cross-cultural contact that police officers have with citizens, victims, and suspects from diverse backgrounds. Multicultural Law Enforcement will stress the need for awareness, understanding of cultural differences, and respect toward those of different backgrounds.

CRIMINAL JUSTICE

CRJ 235 CLIENT RELATIONS IN CORRECTIONS ..... 3(3-0)
Normally Offered: SP
This course will examine the dynamics of human interaction within correctional facilities. Human relations in general will be presented to establish a basis for more specific examination of the unique and complex situation found in corrections. The meaning and impact of culture will be explored, as well as the causes and influence of prejudice on clients and corrections staff. Considerable discussion time will focus on values, ethics, and professional responsiveness.

CRJ 236 CORRECTIONAL CLIENT GROWTH & DEVELOPMENT ..... 3(3- 0)
Normally Offered: F
The purpose of this course is to give the student an understanding of and sensitivity to the motivations and behaviors of correctional clients. The course begins by reviewing general factors believed to be influential in human development, then analyzes specific problems of prisoners. The course examines prevention theories, as well as intervention and treatment strategies.

CRJ 237 CORRECTIONAL INSTITUTIONS & FACILITIES ..... 3(3-0)
Normally Offered: SP
Provides the student with a concentrated overview of correctional institutions and facilities. Designed primarily for students intending to pursue a career in the criminal justice system or for those already employed within the system, this course has relevance to other students pursuing a social sciences orientation. The course explores federal, state, county, and local facilities, including maximum, close, medium, and minimum custody facilities. It addresses community facilities, co-educational facilities, and the safety and security requirements and considerations related to each. Constitutional and managerial issues are stressed. The course includes historical developments and philosophy.

CRJ 238 LEGAL ISSUES IN CORRECTIONS ..... 3(3-0)
Normally Offered: F
This course studies state and federal law related to corrections. Particular emphasis is placed on constitutional issues and remedies for violations of rights. Students will gain insights into a wide range of policy considerations behind corrections law and administrative procedures. Leading cases and court decisions will be discussed at length and their impact on corrections explored.

CRJ 239 CRIMINOLOGY ..... 3(3-0)
Normally Offered: F
This course provides a broad survey of criminal behavior and attempts to explain it. Topics include definitions and measurements of crime, theories of crime causation, and crime types. It prompts students to think critically about the causes of crime and the link between crime theories and policies.

CRJ 248 LOCAL CORRECTIONS OFFICER ACADEMY ..... 10(6.5-5)
Normally Offered: SU
This course is certified by the Michigan Sheriff's Coordinating and Training Council. The Michigan Sheriff's Coordinating and Training Council has approved a 160-hour Local Corrections Officer Academy for correctional personnel supervising inmates in county jails. The Academy consists of 14 modules: Booking and Intake, Correctional Law, Cultural Diversity, Custody and Security, Defensive Tactics, Ethics, Fire Safety, First Aid/CPR/AED, Interpersonal Communications, Prisoner Behavior, Report Writing, Workplace Harassment, Stress Management, and Suicide Awareness. After the student has successfully completed the Academy and met all Michigan Sheriff's Coordinating and Training Council requirements, he/she will be certified by the Training Council as having completed the required 160-hour Academy.

DIRECTED STUDIES

251 DIRECTED STUDIES 1-5
Aids advanced students or those who have exhausted regular offerings in their area of interest. The average student pursuing an associate degree will not find room in their program for this type of credit. The concept does not apply to remedial work. A directed study must be planned in advance of registration and cannot be used at the end of a semester to fill requirements. Careful attention must be given to the description of the work proposed because this constitutes the record of a course outline which is filed with the instructor, the Vice President of Instruction, and the Registrar's Office. The student is responsible for securing proper forms with all required signatures.

ECONOMICS

ECN 225 MONEY AND BANKING ..... 3(3-0)
Normally Offered: F, SP, SU
This course will introduce the student to the basic terms and concepts which are central to understanding the role of money, financial intermediaries, and financial markets in the national economy. Among the terms and ideas discussed are: money and the money supply, financial instruments, interest rates, the varied structures and roles of financial intermediaries, the Federal Reserve, and monetary policy.
Prerequisite: BUS 125, MTH 113, MTH 118, MTH 121, MTH 122, MTH 123, MTH 130, MTH 131, MTH 132, MTH 223, MTH 231 or MTH 232

ECN 231 ECONOMICS (MICRO) ..... 3(3-0)
Normally Offered: F, SP
This course focuses on the analysis of individual consumer and supplier behavior. Students will learn the basics of consumer demand theory, labor supply theory, price theory, and various production decisions in different types of competitive markets. Upon completion, students should have a fundamental appreciation and comprehension for the motivation of individual firms and consumers.
Prerequisite: BUS 125, MTH 113, MTH 118, MTH 121, MTH 122, MTH 123, MTH 130, MTH 131, MTH 132, MTH 223, MTH 231 or MTH 232

ECN 232 ECONOMICS (MACRO) ..... 3(3-0)
Normally Offered: F, SP
This course is a study of the behavior of the economy as a whole. It introduces aggregate economics and examines macroeconomic issues of aggregate output and price stability, the study of choosing the economic role of government, money and banking, national income analysis, employment, and inflation. Students who complete this course will have an improved understanding of our national economy and the critical economic issues of our time, as well as gain a more mature understanding of the role macroeconomics plays in their lives.
Prerequisite: BUS 125, MTH 113, MTH 118, MTH 121, MTH 122, MTH 123, MTH 130, MTH 131, MTH 132, MTH 223, MTH 231 or MTH 232

ELECTRICAL POWER TECHNOLOGY

EPT 230 POLY-PHASE METERING ..... 2(1-2)
Normally Offered: SP
In this course, students learn about single-phase metering and poly-phase metering, including meter design, adjustments, compensations, and applications. They also learn about power factor analyzers, meter demand theory, high amperage CT cabinets and primary metering. Students will construct and test single-phase and poly-phase transformer rated meter installations.
Prerequisite: APP 100E.
Co-requisite: APP 104E.

ELECTRICAL SYSTEMS TECHNOLOGY

EST 301 POWER SYSTEMS ..... 3(3-0)
Normally Offered: SP
This course applies electrical theory accompanied with physics to electrical systems including power flows, system design, and load management of different types of electrical power systems.
Prerequisite: PHY 221, EST 302, EST 304.
Co-requisite: PHY 222.

EST 302 CIRCUITS ..... 4(4-0)
Normally Offered: F
Course covers circuit analysis of DC circuits (resistance, capacitance, inductance) and AC circuits; DC power and energy calculations; DC power consuming devices and harmonies; conversion of AC to DC and brief introduction of DC power electronics; defines phasors complex power and impedance; mathematical calculations showing AC power and energy; apply metering theories to determine system qualities such as electricity power and energy; and using basic calculus to show how energy is power integrated over time.
Prerequisite: APP 104E.
Co-requisite: PHY 221.

EST 304 PHASOR ANALYSIS/THREE PHASE POWER ..... 3(3-0)
Normally Offered: F
Course uses trigonometric functions showing sinusoids; why three phase and not two or four? Compare the different types of three-phase systems (Wye, Delta, grounded, ungrounded). Course covers transforming the AC time domain into phasors for analysis of steady state systems. Vector quantities and vector math.
Prerequisite: APP 104E.
Co-requisite: PHY 221.

EST 306 ELECTRIC POWER GENERATION ..... 3(3-0)
Normally Offered: F
Course covers DC, AC, single-phase, and three-phase rotating machines; synchronous and asynchronous motors and generators; types of generators and turbines; DC vs AC generation; conservation of energy during generation, i.e. losses of mechanical energy to electrical energy.
Prerequisite: APP 104E.
Co-requisite: PHY 221, EST 302, EST 304.

EST 307 INTRODUCTION TO COMPUTER MODELING OF POWER SYSTEMS ..... 3(2-2)
Normally Offered: SP
Course covers power system parameters and what they mean in the model; how power system components' and lines' impedances determine how energy flows. Uses computer models of electric systems to accurately control and predict the electric grid.
Prerequisite: EST 301.

EST 308 DISTRIBUTION/TRANSFORMER POWER ..... 3(3-0)
Normally Offered: F
Course is designed to provide a broad overview of the transmission of electricity versus the distribution of electricity.
Prerequisite: EST 306.
Co-requisite: EST 301.

EST 401 RENEWABLES ..... 3(3-0)
Normally Offered: F
Course provides an overview of modern types of renewable generation sources. Included are photovoltaics (solar), wind, wave, and geothermal.
Prerequisite: EST 306.

ELECTRICAL SYSTEMS TECHNOLOGY

EST 402 SCADA ..... 3(2-2)
Normally Offered: F
Course covers Supervisory Control and Data Acquisition (SCADA) Systems and what they do; implementing and operating existing SCADA systems; SCADA components such as PLC's, relays, contracts, and communication schemes.
Prerequisite: IND 120, APP 114E.

EST 403 PROTECTION ..... 3(3-0)
Normally Offered: SP
Course covers the protection of the system from anomalies; general protection rules and why the system needs such protection; protection devices such as fuses, sectionalizers, reclosures, circuit switchers, and breakers; and coordination of protection devices.
Prerequisite: EST 301.

EST 404 POWER LINE PARAMETERS ..... 3(3-0)
Normally Offered: SP
Course is a basic introduction to power line and system parameter calculations; finding X/R ratios for short, medium, and long lines; wire and cable properties, resistivity/conductivity; and power line construction efforts.
Prerequisite: EST 301
Co-requisite: EST 406

EST 405 RELAYING ..... 3(2-2)
Normally Offered: SP
Course covers the three generations of relaying, electromechanical, solid-state, and microprocessor; relay functions and operations i.e. 50/51 Instantaneous/Time overcurrent; testing relays; general relaying principles such as protection zones, and proper relay connections.
Prerequisite: EST 301.

EST 406 THE GRID ..... 3(3-0)
Normally Offered: F
Course covers the history of the grid; why AC dominated over DC; the elements of the electric grid i.e. Generation, Transmission, Distribution, and Consumption; and Independent System Operators.
Prerequisite: EST 301, EST 306.
Co-requisite: EST 404.

EST 408 ELECTRICAL SYSTEMS CAPSTONE PROJECT ..... 3(2-2)
Normally Offered: SP
Course covers safety practices in the electric utility industry, print reading, and assigns a capstone project that will require students to use knowledge gained in prior courses to complete.
Prerequisite: EST 308, EST 404.
Co-requisite: EST 307, EST 403, EST 405.

ELECTRONICS

ELE 220 PC BASE DATA ACQUISITION & CONTROL ..... 3(2-2)
Normally Offered: SP
An introduction to Data Acquisition (DAQ), signal conditioning, sensors, digital and analog inputs and outputs, instrumentation communications, and basic controls. Through projects, students will learn how to setup, program, build, and troubleshoot PC-based DAQ and control systems.
Prerequisite: APP100E and basic computer proficiency recommended.

ENGINEERING

EGR 122 INTRODUCTION TO ENGINEERING..... 1(1-0)
Normally Offered: F
This course introduces students to the profession of engineering and related fields. Topics include degrees and careers in engineering, engineering modeling and analysis, engineering cost estimation, engineering ethics, and other topics related to engineering.

EGR 130 TEAM DESIGN PROJECT..... 2(1-2)
Normally Offered: SP
This project-based course utilizes each student's diverse skills in a semester long development of a project or projects selected by the class. The course is structured as a company with multiple projects and objectives designed to give students real world project experience. Students will work in teams. Each team will progress through all stages of a project – conception, design, build, redesign, and formal presentation. Each student is assigned a part of the project with a required written report that is in line with their skills and interests. This course is open to all students; however, priority is given to Marine Technology, Mechanical Design Technology, and Pre-Engineering students.
Prerequisite: Permission of Instructor.

EGR 221 STATICS..... 3(3-0)
Normally Offered: SP
Covers the fundamental principles of statics, focusing on the analysis of forces and moments acting on particles and rigid bodies in equilibrium.
Prerequisite: PHY 221, MTH 231 (may be taken concurrently).

ENGLISH

ENG 111 ENGLISH COMPOSITION I..... 3(3-0)
Normally Offered: F, SP, SU
Provides basic instruction for the college freshman in communication skills. Reading skills are developed through the analysis of essays. Writing skills are developed through a study of expository writing, language usage, structure, and mechanics.
Prerequisite: A minimum of a 12th grade reading level is required for placement in this course.

ENG 112 ENGLISH COMPOSITION II..... 3(3-0)
Normally Offered: F, SP, SU
Non-fiction and short fiction materials are used to further develop written communication skills introduced and practiced in ENG 111. Special emphasis is placed on critical thinking, critical analysis, and research leading to academic writing.
Prerequisite: Grade of 2.0 or better in ENG 111 or ENG 121.

ENG 120 APPLIED COMMUNICATIONS..... 3(3-0)
Normally Offered: F
Coordinates education in the technical and the academic fields. The course demonstrates the application of academic concepts by relating these concepts to technical subjects. Students review the types of communication skills needed in the workplace. This course is not intended for transfer students.
Co-requisite: Enrollment in one of the following programs: Automotive Service & Repair, Computer-Aided Drafting & Design, Concrete Technology, Machine Tool Technology.

ENG 121 ADVANCED ENGLISH COMPOSITION I..... 3(3-0)
Normally Offered: F
Provides instruction for the college freshman who has demonstrated above-average ability in communication skills. The instructor uses essays to teach a variety of expository writing forms.
Prerequisite: Above-average competence in grammatical/writing skills as determined by the English Dept. and placement tests.

ENGLISH

ENG 122 ADVANCED ENGLISH COMPOSITION II ..... 3(3-0)
Normally Offered: SP
Non-fiction and short fiction materials are used to develop further the written communication skills introduced and practiced in ENG 121. Special emphasis is placed on critical thinking, critical analysis and research leading to academic writing.
Prerequisite: Grade of 2.0 or better in ENG 111 or ENG 121.

ENG 123 TECHNICAL COMMUNICATION ..... 3(3-0)
Normally Offered: SP
Develops practical written communication skills for the workplace. Students design and prepare a variety of conventional technical and business documents, including business letters, memoranda, job application materials, short reports, empirical and comparative studies, instructional manuals and proposals. Topics include purpose and audience analysis, text production, page layout and document design.
Prerequisite: ENG 111 or ENG 120 or ENG 121 or consent of instructor.

ENG 203 INTRODUCTION TO MYTHOLOGY ..... 3(3-0)
Normally Offered: F
Studies myths from several cultures. They are examined from the perspective of their common themes and capacity to be transformed through time while maintaining their universal motifs. Attention is also focused on the functions of mythology, including a primary one of providing guidance for the individual through important passages of life. Several works of literature are examined to demonstrate the mythic process at work and the fundamental part that myth plays in literary expression.
Prerequisite: Sophomore standing or permission of instructor.

ENG 204 INTRODUCTION TO LITERATURE ..... 3(3-0)
Normally Offered: SP (odd years), SU
Introduces students to three basic forms of imaginative literature: short fiction, poetry, and drama. Instructs students in the skills to appreciate, enjoy, and critically analyze such literary texts. Components of the course include themes, formal elements, and critical approaches.
Prerequisite: ENG 111 or 121 and sophomore standing, or permission of instructor.

ENG 221 BRITISH LITERATURE I ..... 3(3-0)
Normally Offered: On Demand
Helps the student read literature with understanding and appreciation. The course consists of the study of representative English fiction, poetry and drama.
Prerequisite: ENG 112 or ENG 122.

ENG 222 BRITISH LITERATURE II ..... 3(3-0)
Normally Offered: Spring
This is the second course in a two-semester survey of British Literature, covering Romanticism, the Victorian Age, and Twentieth Century Literature to the present day. Readings will include poetry, fiction, non-fiction, and drama.
Prerequisite: ENG 112 or ENG 122.

ENG 223 AMERICAN LITERATURE I ..... 3(3-0)
Normally Offered: On Demand
This is the first semester of a two-semester survey of American literature, beginning with readings from the colonial conquest period, covering the Puritan writings of the 17th century, the Deist and Rationalistic writings of the American Revolution, early Romanticism, and ending with works of the abolitionists and Transcendentalists at approximately the time of the Civil War. Readings will consist of classic American works, as well as those of lesser-known writers, and will sample several genres to provide variety and a broader insight into American thought.
Prerequisite: ENG 111 or ENG 121 and ENG 112 or ENG 122.

ENGLISH

ENG 224 AMERICAN LITERATURE II..... 3(3-0)
Normally Offered: F (odd years)
This second semester of a two-semester survey of American literature, begins approximately at the time of the Civil War and leads into a study of contemporary literature. Emphasis will be placed on the historical development of American thought and literature, with an effort to include culturally diverse writings that may have been previously excluded from American literature. The course will also sample various genres and diverse regions of the country, as well as represent different schools of writing, such as Naturalism, Realism and Modernism.
Prerequisite: ENG 111 or ENG 121 and ENG 112 or ENG 122.

ENG 229 CREATIVE WRITING..... 3(3-0)
Normally Offered: F
Develops skills in writing one or more of the following forms: the short story, the play, the poem and the essay. The students meet individually with the instructor for criticism of their manuscripts. The class meets regularly to discuss common problems and successes.
Prerequisite: Grade of 2.0 or better in ENG 111 or 121.

ENG 242 CHILDREN'S LITERATURE..... 3(3-0)
Normally Offered: F, SP
Provides the second semester freshman and sophomore student with a general understanding of the development and uses of children's literature from its beginning to the present. Methods of analysis of both fiction and non-fiction prose as well as poetry are emphasized.
Prerequisite: Grade of 2.0 or better in ENG 111 or ENG 121

ENG 243 THE SHORT STORY..... 3(3-0)
Normally Offered: SP
This course presents an intensive study of the short story as a literary form. In addition to its primary focus on formal elements, the course considers historical context/development, author biography, and critical theory. Readings are drawn from a variety of international, as well as American literary sources.
Prerequisite: ENG 111, ENG 121, or Instructor permission

ENG 244 THE NOVEL..... 3(3-0)
Normally Offered: F, SP
Presents an intensive study of the novel as a literary genre. Concentration on how the formal elements of the novel (such as narrative technique, point of view, tone, plot, character development, style and the structure of time and place) define the theme the novelist is presenting. The readings for the course are selected from representative novels. Some written work is a partial requirement for the course.

ENVIRONMENTAL SCIENCE

ENV 101 ENVIRONMENTAL SCIENCE..... 4(3-2)
Normally Offered: F
This course analyzes environmental issues, including ecology, natural cycles, populations, energy, and human impact on the environment. Politics, public policy, and sustainability will be discussed. The lab portion will include outdoor experiences.

FRENCH

FRN 121 FRENCH I ..... 4(4-0)
Normally Offered: F
This is a basic French course designed to introduce the French language to students, giving them a rudimentary knowledge of written and spoken French. Six skills will be addressed: reading, writing, listening, speaking, pronunciation, and translation. These skills will be developed throughout the course through instruction, drill, choral response, readings, music, and class interaction. Systemic grammar instruction as well as whole-language techniques will be incorporated to enhance learning. Students will also be introduced to French culture, literature, geography, famous persons, and history through a variety of media. Students who already have a strong background in French, e.g., having had more than two years in high school or other institutions, should refrain from taking this elementary class since it is intended for beginners. FRN 122 French II, which is offered in the spring semester, will be a better course for stronger students.

FRN 122 FRENCH II ..... 4(4-0)
Normally Offered: SP
This second semester of college French corresponds roughly to one to two semesters of high school French. This basic French course will focus on the continued development of linguistic skills, i.e., reading, listening, speaking, and pronunciation, with emphasis on the written language.
Prerequisite: FRN 121 or two semesters of high school French.

GEOGRAPHY

GEO 125 GEOGRAPHY ..... 3(3-0)
Normally Offered: On Demand
Analysis of characteristics and significance of world land form, climate, soils, vegetation, mineral and water resources, as well as tectonic and glaciation forces.

GEO 126 HUMAN GEOGRAPHY ..... 3(3-0)
Normally Offered: F, SP
This course is a systematic study of spatial patterns and processes that have shaped human use and alteration around the world. Students will analyze how people perceive space, interact spatially, as well as the meaningfulness of space. The course will touch on topics of economics, history, politics, demographics, the environment, culture, agriculture, and planning.

GEO 127 PHYSICAL GEOGRAPHY ..... 4(3-2)
Normally Offered: F, SP
This course analyzes and examines the characteristics and significance of world land forms, climate, soils, vegetation, minerals, and water resources, as well as tectonic and glaciation. Additionally, it considers the relationships between the environment and humans.

GEO 151 INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEM ..... 1.5(2-0)
Normally Offered: F, SP
Introduces principles of geographical information systems (GIS) in an ArcGIS software environment, providing the student with fundamental knowledge of GIS system components and how to utilize ArcGIS software in the creation of maps and analysis of spatial data. Students will also gain basic experience with the use of global positioning system (GPS). Applications will be cross disciplinary in nature, including such fields as the environmental sciences, oceanography, business, marketing, demographics, history, tourism, and real estate management.

GEO 152 ADVANCED GEOGRAPHIC INFORMATION SYSTEM ..... 1.5(2-0)
Normally Offered: F, SP
Continues utilization of GIS technology in a spatial software environment. Previously learned principles are reviewed and expanded. Advanced spatial data analysis, editing, and geocoding concepts and methods are introduced. Students collect GPS data and create a formal GIS map for presentation. Applications will be cross disciplinary in nature, including such fields as the environmental sciences, oceanography, business, marketing, demographics, history, tourism, and real estate management.
Prerequisite: GEO 151.

GERMAN

GER 123 GERMAN ..... 4(4-0)
Normally Offered: F
An introductory course for anyone interested in developing basic speaking, reading, listening and writing skills in the German language. No previous experience with German is required.

GER 124 GERMAN ..... 4(4-0)
Normally Offered: SP
A second semester level course for anyone interested in developing and improving their basic speaking, reading, listening and writing skills in the German language.
Prerequisite: GER 123 or other previous experience with German is required

HEALTH

HEA 100 INTRODUCTION TO NURSING ..... 1(1-0)
Normally Offered: F, SP
Introduces students to the profession of nursing. Topics include degrees and careers in nursing, medical ethics, medical terminology, infection control, nursing salary and cost information, and other topics related to nursing.

HEA 102 NUTRITION ..... 3(3-0)
Normally Offered: F
This course offers information about human nutrition and how it influences personal health. Emphasis is placed on current nutritional research; U.S. Government guidelines and goals; U.S. RDA's human nutritional needs of foods; human energy needs of foods; human growth and development; and nutrition and human performance.

HEA 103 INTRODUCTION TO PRE-PROFESSIONAL HEALTH CAREERS ..... 1(1-0)
Normally Offered: F, SP
Introduces students to the pre-professional health careers, including pre-med, pre-dental, pre-pharmacy, and pre-therapy options. Topics include degrees and careers, medical ethics, medical terminology, infection control, salary and cost information, and other related topics.

HEA 106 FUNDAMENTALS OF SURGICAL CARE ..... 1(1-0)
Normally Offered: F, SP
This course offers LPN students an introduction to surgical services. It is delivered in collaboration with the MyMichigan Health surgical team and includes learning experiences in the MyMich simulated Operating Room. Students interested in this course will follow a surgical services application and selection process. This course is open to two LPN nursing students each semester.

HEA 133 DOSAGE CALCULATION & MEDICAL TERMINOLOGY ..... 2(2-0)
Normally Offered: F, SP
This course introduces the concept of dosage calculation as a means of solving nursing mathematical problems. Abbreviations, conversion factors, simple and advanced calculations are covered. This course will also cover the basics of medical terminology as used by the health care professional. This is a prerequisite course for the LPN and ADN Nursing programs.

HISTORY

HST 121 HISTORY OF THE EARLY WESTERN WORLD TO 1500: FROM MESOPOTAMIA TO MARTIN LUTHER ..... 3(3-0)
Normally Offered: F
This course studies the emergence of Europe from the Ancient Worlds of Mesopotamia, Egypt, Greece, and the Roman Empire. Students analyze the rise of governments, religion, capitalism, war, disease, education, and social structures through primary and secondary sources.

HISTORY

HST 122 HISTORY OF THE MODERN WESTERN WORLD 1500-PRESENT: GALILEO TO GLOBALIZATION ..... 3(3-0)
Normally Offered: SP
This course studies the rise of science and reasoning, the onset of Protestantism, revolutionary destruction of old regimes, the establishment of liberal parliamentary democracies, and the rise of totalitarian movements in the present ear of global conflict.

HST 123 HISTORY & EXPLORATION OF EMBATTLED PROFESSION – INTRO TO EDUCATION ..... 3(3-0)
Normally Offered: SP
This course introduces the history of education in the United State for students intending to pursue a career in education. The focus of the course is the historical evolution of education and educational systems in the United States; comparison of educational systems nationally and internationally, and the role that education has played in fostering a democratic republic in the United States. Through anthropological and ethnographic perspectives, students examine the profession of education through research, methods, praxis, and immersion. Students explore various aspects of the educational system and professional applications while analyzing and comprehending the cultural, social, economic, and pedagogical challenges facing the educational system of the U.S. in the 21st century.

HST 221 UNITED STATES HISTORY I ..... 3(3-0)
Normally Offered: F
This course provides opportunity for extended exploration of U.S. History from the period of pre-colonial America through the establishment of the United States and the evolution of the Civil War. The course fosters breadth of understanding and appreciation of history while emphasizing the responsibilities of citizenship for students with broad occupational, academic, personal, and civic interests. Topics include pre-European society in the Americas, European settlement, colonial development, the development of constitutional government and representative democracy, social and economic development, the western territorial expansion of the United States, sectionalism, and the Civil War and its causes.

HST 222 UNITED STATES HISTORY II ..... 3(3-0)
Normally Offered: SP
This course provides opportunity for extended exploration of U.S. history from the Civil War through the present day. The course fosters breadth of understanding and appreciation of history while emphasizing the responsibilities of citizenship for students with broad occupational, academic, personal, and civic interests. Topics include the Civil War and its repercussions, post-war reconstruction, the expansion of economic industrialization and subsequent implications for the socio-political order, the Gilded Age, Progressive era, Populism, World War I, Great Depression, New Deal, World War II, Cold War, post-Cold War era, and 9/11 and beyond.

HST 225 TWENTIETH CENTURY U.S. HISTORY ..... 3(3-0)
Normally Offered: SP (odd years)
This course provides expanded analysis of 20th century social, cultural, political and economic issues, events, trends, and people within domestic and international context throughout the 20th century since 1900. This course lays a broad foundation for better understanding of the dynamics of 21st century America in a global and historical context. Topics include ideological struggles of foreign and domestic relevance, economic development, globalization, wars and conflicts, social-cultural evolution, challenges of federalism, states' rights, and civil rights movements among the more traditional events, people and chronologies defining the history of the United States and its context. The course fosters breadth of understanding and appreciation of history while emphasizing the responsibilities of citizenship for students with broad occupational, academic, personal, and civic interests.

HISTORY

HST 227 CONTEMPORARY AMERICAN PROBLEMS..... 3(3-0)
Normally Offered: F (even years)
This course surveys current domestic and international problems of significant relevance to the United States and the world around it. Emphasis is placed on the nature and complexity of current issues with exploration of the origins of such problems from historical perspective guiding a deeper understanding of such issues and their implications for present day society within a larger global and historical context. Topics include population and immigration, environmentalism, nationalism, industrial development, workplace standards, urbanization, race relations, socio-economic status and class, globalization, national debt, and technology. The course fosters breadth of understanding and appreciation of history while emphasizing the responsibilities of citizenship for students with broad occupational, academic, personal, and civic interests.

HUMANITIES

HUM 110 INTRODUCTION TO OLD TESTAMENT LITERATURE ..... 3(3-0)
Normally Offered: F
Introduces the student to the Old Testament canon, its historical antecedents and development, cultural setting, literary styles, and subject matter. Attention is given to the importance of the Old Testament's leading ideas in developing Western culture. Critical problems related to the ancient texts will be introduced in the context of Medieval and modern debates.

HUM 114 INTRODUCTION TO NEW TESTAMENT LITERATURE..... 3(3-0)
Normally Offered: SU
Introduces the student to the New Testament canon, its historical antecedents and development, cultural setting, literary styles, and subject matter. Attention is given to the importance of the New Testament's leading ideas to developing Western culture. Critical problems related to the ancient texts will be introduced in the context of Medieval and modern debates.

HUM 210 INTRODUCTION TO CINEMA ..... 3(3-0)
Normally Offered: F, SP
This course provides a broad introduction to the study of film. Emphasis will be placed on a particular genre while exploring certain historical and contemporary pieces of cinematic art for examination, analysis, and evaluation. Filmmakers, important schools of filmmaking, and film production will also be investigated.

HUM 241 HUMANITIES I..... 4(4-0)
Normally Offered: F, SP
Introduces the student to the terminology, concepts, and attitudes that are needed to be able to appreciate, describe, interpret, and evaluate artistic artifacts of humanity, cross-culturally, and throughout history. The course cultivates an international perspective and examines how various art forms can aid in the process of self-discovery.

HUM 242 HUMANITIES II..... 4(4-0)
Normally Offered: SP
Building on the foundational knowledge gained in Humanities I, this course deepens the critical analysis and interpretation of artistic artifacts from diverse cultures and historical periods. Through interdisciplinary analysis, students will gain a deeper understanding of how diverse human experiences and ideologies are reflected in creative works and intellectual traditions. The course promotes a global perspective by exploring the interconnectedness of art, culture, and history.
Prerequisite: HUM 241 or permission of instructor

INDUSTRIAL

IND 110 INDUSTRIAL ORGANIZATIONS..... 3(3-0)
Normally Offered: On Demand
A detailed survey of organizational theories and structures, operational, financial, marketing, and accounting activities; duties of management, planning, control, personnel, safety, wages, policy and human factors necessary for effective management of an industrial organization.

INDUSTRIAL

IND 120 INDUSTRIAL COMPUTERS & NETWORKING ..... 3(2-2)
Normally Offered: F
An introduction to computers and networks as used in an industrial setting. The course will start with the basics of computer usage and file management and work up to hands on building of basic industrial networks between personal computers and instrumentation.

IND 225 STRENGTH OF MATERIALS ..... 4(3-2)
Normally Offered: F
This course employs a practical approach to stress, strain, shear, torsion, and moments found in mechanical and construction design. Bolted and welded constructions, axial tension and compression members, shafts, beams, columns, and trusses will be studied. Shear and moment diagrams will be used to analyze beams. Lab testing of the strengths of materials will be utilized.
Prerequisite: MTH 110 or higher.

IND 229 HYDRAULIC & PNEUMATIC POWER ..... 3(2-2)
Normally Offered: F
An introduction to hydraulic and pneumatic principles and components. Covers primary laws and formulas, calculations, schematics, design considerations, and troubleshooting. Consists of lectures, hands-on labs, and projects.
Co-requisite: MTH 110 or higher.

LAW

LAW 125 INTRODUCTION TO LEGAL PRINCIPLES ..... 3(3-0)
Normally Offered: F, SP
This course provides a broad introduction to the U.S. legal system, including the philosophy of law and the principles on which legal rules and the legal process are based. It introduces the origin and development of law, court structures, types of law and how they are made, enforced, interpreted, and applied in society. The course examines lawmaking institutions and their evolution in the U.S with focus on Michigan courts. It covers the different kinds of substantive law and how one goes about using the law relative to a variety of legal topics and issues facing society. Emphasis is placed on recognition of legal issues and applications to students' personal and professional pursuits.

MANUFACTURING TECHNOLOGY

MFG 101 MACHINING PROCESSES I ..... 4(2-4)
Normally Offered: F
Students will receive instructions on shop safety, measuring instruments, layout, and bench work. They will also receive instructions on lathes, milling machines, drill presses, pedestal grinders, saws, and basic CNC operations.

MFG 102 MACHINING PROCESSES II ..... 4(2-4)
Normally Offered: SP
Continuation of Machining Processes I with more specialization in machine setups. Topics include: precision grinding, lathe inside thread cutting, mill boring, broaching, the use of indexable cutting tools, CNC machining operations, lean manufacturing, and advanced methods of inspection.
Prerequisite: MFG 101.

MFG 120 PRINT INTERPRETATION & PROCESSES ..... 3(2-2)
Normally Offered: F
Introduces blueprint symbols and their meanings as used in a manufacturing operation. Provides instruction and practice to develop skill in spatial visualization, sketching, including auxiliary and sectional views, design standards, detail and assembly drawings, geometric dimensioning rules and tolerances, thread callouts, title blocks, material lists, and notes for use by various manufacturing personnel. Including machining and welding processes also covers examination and testing of welds.

MANUFACTURING TECHNOLOGY

MFG 122 INTRODUCTION TO MANUFACTURING..... 3(2-2)
Normally Offered: F, SP
This course is an introduction to manufacturing and covers the following main topics: history, types, business, and modern challenges. Technical drawings, materials, manufacturing processes, quality assurance, and career opportunities will also be examined.

MFG 150 INTRODUCTION TO INDUSTRIAL ROBOTICS ..... 3(2-2)
Normally Offered: F
This course will cover basic operations of industrial robots focusing on FANUC robots using teach pendants as well as integrated system interfaces. The primary focus of this course is to give students a basic working knowledge of programming and operations of handling tool-type robots. Additionally, this course will discuss other robot systems such as programming using computer based and mobile applications, spray and applicator systems, and welding applications.

MFG 201 CNC I ..... 4(2-4)
Normally Offered: SP
This is an introductory course for CNC machinery. Students will develop safe working habits and calculate machine speeds and feeds of milling machines and lathes. They will study the Cartesian coordinate system, absolute and incremental positioning, and datum and delta dimensioning for CNC machines. Math for CNC programming and calculation of linear and circular interpolation will be covered.
Prerequisite: MFG 101, or instructor permission.

MFG 202 CNC II ..... 4(2-4)
Normally Offered: SP
This is a follow-up course for MFG 201 Introduction to CNC and MFG 204 Computer Aided Manufacturing courses. Students will learn how to set up and run various types of computer numerical control machines and associated tooling, as well as CMM inspection of the finished parts. The student will also use machine conversational controls and CAD/CAM to create CNC programs, master records and inspection sheets.
Prerequisite: MFG 201, and MFG 220, or permission of instructor.

MFG 204 COMPUTER-AIDED MANUFACTURING..... 3(2-2)
Normally Offered: F
Provides the student with the basic knowledge of Computer Aided Manufacturing (CAM) systems and how to manipulate various types of Computer Aided Drafting (CAD) data in the creation of Computer Numerical Control part programs. The student will create CNC programs, tooling set-up sheets, process sheets, and fixture sheets to create a CNC master record. Calculations for proper Speeds and Feeds will also be required. The programs created in this course will run on machines in MFG 202 CNC II.
Prerequisite: MFG 101, basic computer skills, or permission of instructor.

MFG 205 CNC III..... 4(2-4)
Normally Offered: SP
This is a follow-up course for MFG 201 CNC I, MFG 202 CNC II, MFG 204 Computer-Aided Manufacturing, and MFG 220 Jigs and Fixture design Fundamentals. This is a lab only course designed to give the student an experience similar to working in a job or production shop. The student will apply all previous classes by being required to design parts in CAM, apply fixturing using multiple set-ups, inspect the parts using CMM and optical comparators, apply change orders to parts, and produce a master record.
Prerequisite: MFG 202, MFG 204, and MFG 220, or permission of instructor.

MANUFACTURING TECHNOLOGY

MFG 206 ADVANCED CAD / CAM INTEGRATION ..... 3(2-2)
Normally Offered: F
This course is a continuation of MFG 204 Computer-Aided Manufacturing and will examine Computer-Aided Manufacturing (CAM) and Computer-Aided Drafting (CAD) with a specific emphasis on the interaction between the two systems. The student will create CNC programs using both CAD and CAM systems and manipulate both programs to make a completed CNC program. The completed CNC program will be run in MFG 205 CNC III. The class will also prepare students for industry standard third-party credentialing tests.
Prerequisite: MFG 101, MFG 201, MFG 204, or instructor's permission.

MFG 210 GREEN MANUFACTURING AND SUSTAINABILITY ..... 3(3-0)
Normally Offered:
This course covers how environmentally conscious decisions can impact the processes involved in manufacturing and organizational management. Green Revolution, green standards and certifications for manufacturing and business, including global guidelines are core concepts. Students will work through a road map to a green organization and understand ISO programs for sustainability.

MFG 220 JIGS AND FIXTURE DESIGN FUNDAMENTALS ..... 4(2-4)
Normally Offered: F
This is a tool design course using Autodesk® (Fusion 360) software. It covers types and functions of jigs, CNC fixtures, and check gauges. Included in the design process are part nesting, locating, clamping, work holding, and application of commercially available tool components. The complete design includes economic tool budgets, proper application of tolerances and datums, selection of materials, and generation of complete working drawings. Fixture designs in this course will be used in MFG 202, CNC II, and MFG 205, CNC III.
Prerequisite: MFG 201 or instructor's permission.

MFG 230 MANUFACTURING CAPSTONE PROJECT ..... 3(2-2)
Normally Offered: SP
This course will be a semester-long project-based course that will employ the students' skills in CAD, CAM, CNC, Machining, and Jigs and Fixturing. The course will be run as a job shop and involve multiple projects to allow the students experience in customer interaction, group work, project time management, and project deadlines. This course will provide students additional lab time to build skills in manufacturing and completing third-party credentialing exams.
Prerequisite: MFG 202, MFG 204, MFG 220, or instructor's permission.

MARINE TECHNOLOGY

MRT 101 INTRO TO SUBMERSIBLE ROBOTICS WITH BUILD ..... 3(2-2)
Normally Offered: F
An introductory hands-on course for anyone with an interest in submersible technology and/or working with underwater robotics. This course follows International Marine Contractors Association's (IMCA) Guidance for the Safe and Efficient Operations of Remotely Operated Vehicles (ROV) with a heavy emphasis on hands-on operations and working in the field.

MRT 110 INTRODUCTION TO CAREERS ON THE WATER ..... 2(1-2)
Normally Offered: SU
This course is a hands-on introduction to marine technology related careers that perform work on, under, and near the water. Through a partnership with the Thunder Bay National Marine Sanctuary, students will have the opportunity to experience working on the water through the lens of maritime archaeological research. This includes exposure to technology, methodologies, and research vessel operations that apply to a wide range of on-the-water career paths. Topics include: careers on the water, maritime archaeology, remote sensing theory and practice, Great Lakes maritime heritage and culture, ocean and Great Lakes conservation issues, and safety on the water.

MARINE TECHNOLOGY

MRT 210 ROV PILOTING ..... 2(1-2)
Normally Offered: SU
This course is a hands-on introduction course in piloting underwater Remotely Operated Vehicles (ROV). Students will have the opportunity to launch, pilot, navigate, and recover an actual ROV. They will be trained on the basic operations of small observation class ROVs to the large work class ROVs used in deep ocean work.

MATHEMATICS

To enter a new mathematics course or continue a sequence, a grade of 2.0 or higher in any prerequisite course is recommended. SAT or ACCUPLACER scores will also be used as guides in placing new students in mathematics courses.

MTH 103ALP INTERMEDIATE ALGEBRA SUPPORT ..... 2(2-0)
Normally Offered: F, SP
This course is designed to help students review and develop the skills necessary to succeed in the co-requisite course, MTH113ALP. This course will integrate arithmetic, algebraic reasoning, equations, graphing, along with college success content. This is a support course for MTH113 ALP designed for those students who have a deficiency in algebra.

MTH 110 TECHNICAL MATH I ..... 3(2-2)
Normally Offered: F, SP
This course is designed for those who will apply mathematics to various technical fields. Topics covered include a review of basic arithmetic, units of measure, algebra fundamentals, simple equations and formulas, geometric principles, and calculator usage will be introduced. In all areas there is strong emphasis placed on solving industrial applications.

MTH 111 MATHEMATICS FOR ELEMENTARY TEACHERS I ..... 3(3-0)
Normally Offered: F
Includes historical and present numeration systems, real number systems for concept of set through systems of natural numbers, whole numbers, integers and rational numbers, geometric concepts from set viewpoint, irrational numbers, operations and properties applied to mathematical sentences, square root, cube root, and metric system. A required course for elementary teachers.

MTH 112 TECHNICAL MATH II ..... 3(2-2)
Normally Offered: F, SP
This course is a continuation of MTH 110 Technical Math I, which places emphasis on applying mathematics to various technical industrial fields. Topics covered include advanced algebra, trigonometry, geometry, quadratics, statistical process control, and calculator usage. In all areas there will be a strong emphasis placed on solving practical industrial applications.
Prerequisite: MTH 110 or permission of instructor.

MTH 113 INTERMEDIATE ALGEBRA ..... 4(4-0)
Normally Offered: F, SP, SUM
Reviews the important topics covered in the first year of high school algebra. Further work on factoring, fractions, equations, functions and graphs, exponents and radicals, quadratics and logarithms. Does not count toward a major or minor in mathematics.

MTH 113ALP INTERMEDIATE ALGEBRA ..... 4(4-0)
Normally Offered: F, SP
Reviews the important topics covered in the first year of high school algebra. Further work on factoring, fractions, equations, functions and graphs, exponents and radicals, quadratics and logarithms. Does not count toward a major or minor in mathematics.

MATHEMATICS

MTH 114 ACCELERATED ALGEBRA ..... 6(6-0)
Normally Offered: F
Reviews the important topics considered in the first year of high school algebra. Further work on factoring, fractions, equations, functions and graphs, exponents and radicals, quadratics and logarithms. Does not count toward major of minor in mathematics. This is an accelerated course, as such the work load is significant.

MTH 115 APPLIED ALGEBRA & TRIGONOMETRY I ..... 5(4-2)
Normally Offered: F
Presents the mathematical topics most frequently encountered in technical work. Application of various functions of algebra, plane geometry, and trigonometry are used. Emphasis is on the numerical approach rather than the analytical.

MTH 116 APPLIED ALGEBRA & TRIGONOMETRY II ..... 5(4-2)
Normally Offered: SP
This course covers advanced algebra, geometry, and trigonometry with applications for technical programs.
Prerequisite: MTH 115.

MTH 117 MATHEMATICS FOR ELEMENTARY TEACHERS II ..... 3(3-0)
Normally Offered: SP
Covers algebra, coordinate geometry, functions, geometric construction, rotation and symmetry, mapping, statistics and experimentation. This course is designed for elementary education majors and use of computers in the elementary classroom will be emphasized.
Prerequisite: MTH 111 with a grade of 2.0 or higher.

MTH 118 MATHEMATICS FOR LIBERAL ARTS / QUANTITATIVE REASONING ..... 4(4-0)
Normally Offered: F, SP
This course is for students pursuing a liberal arts curriculum or a program without a specified mathematics requirement. Upon successful completion of this course students will be able to use mathematics in a variety of practical applications including statistics, financial math, geometry, symbolic logic, probability and counting principles, graph theory, and voting schemes. Emphasis will be placed on problem solving, communication with mathematics, and the usefulness of math in the everyday world.

MTH 119 INTRODUCTION TO COMPUTERS AND PROGRAMMING ..... 3(3-0)
Normally Offered: F, SP
This course introduces the student to a collection of contemporary computer applications, including operating system concepts, word processing, spreadsheets, and programming concepts. Computer terminology is introduced; however, the major emphasis is placed upon computer usage and applications. Students should have some keyboarding skills.

MTH 121 COLLEGE ALGEBRA ..... 4(4-0)
Normally Offered: F, SP
Reviews previous mathematics, stressing modern approaches. Including topics related to business such as compound interest installment buying and annuities, matrices, linear algebra, linear programming, and logarithms. May require some written interpretations of mathematical applications. For non-science majors.
Prerequisite: MTH 113 or equivalent with a grade of 2.0 or higher.

MTH 122 PLANE TRIGONOMETRY ..... 3(3-0)
Normally Offered: F, SP
Includes the study of trigonometric functions, identities, graphing, inverse trigonometric functions and sinusoidal functions. Exponential and trigonometric equations are solved. Oblique and right triangles are studied, as well as radian measure and complex numbers. This is a required course for students who plan to take advanced mathematics and lack a high school background in this subject.
Prerequisite: MTH 113 or equivalent with a grade of 2.0 or higher.

MATHEMATICS

MTH 123 COLLEGE ALGEBRA AND ANALYTIC TRIGONOMETRY ..... 4(4-0)
Normally Offered: F, SP
This course covers sets, inequalities, functions, inverse functions, polynomials, real and complex number systems exponential and logarithmic functions, introduction of coordinate geometry, trigonometric identities and functions, trigonometric equations, elementary theory of equations, and determinates, matrices. Offered for students who intend to enter the analytic geometry and calculus sequence, but who do not meet the necessary prerequisites.
Prerequisite: MTH 113 and MTH 122 or equivalent with a grade of 2.0 or higher.

MTH 131 ANALYTIC GEOMETRY AND CALCULUS I ..... 5(5-0)
Normally Offered: F, SP
Covers rate of change of functions, limits, differentiation, and integration of algebraic and trigonometric functions and applications.
Prerequisite: MTH 123 or equivalent with a grade of 2.0 or higher.

MTH 132 ANALYTIC GEOMETRY AND CALCULUS II ..... 5(5-0)
Normally Offered: F, SP
Includes transcendental functions, techniques of integration, analytic geometry, polar coordinates, parametric equations and infinite series. This course provides a comprehensive study of advanced topics in calculus and analytic geometry. It includes an in-depth exploration of transcendental functions, such as exponential, logarithmic, and trigonometric functions, alongside techniques of integration like integration by parts, partial fractions, and trigonometric substitution. The course also covers the fundamentals of analytic geometry, including conic sections, curves, and surfaces in both two and three dimensions. Students will learn to work with polar coordinates and parametric equations, gaining the tools to describe complex curves and motion in a plane. Additionally, the course introduces infinite series, focusing on convergence, power series, and Taylor series, laying the groundwork for higher level mathematics and its applications in various field or science and engineering.
Prerequisite: MTH 131 with a grade of 2.0 or higher.

MTH 221 C++ PROGRAMMING..... 4(3-2)
Normally Offered: SP
This course is intended to satisfy the programming requirements for engineering and science students and is designed to teach the traditional concepts of programming such as integer, floating-point, and character data types, I/O, control structures, loops, functions, and arrays using the C++ programming language. It also teaches modern, object-oriented programming techniques using classes and data abstraction. Additional topics include dynamic array allocation, pointers, file manipulation, and inheritance. A brief introduction to MATLAB® software is included
Prerequisite: MTH 123 or above.

MTH 223 STATISTICAL METHODS..... 4(4-0)
Normally Offered: F, SP
This course covers elementary statistics. Topics are: the nature of statistical methods, frequency distributions and graphs, measure of central tendency, dispersion, probability including conditional probability, the binomial, normal, T-, chi-square, and F-distributions, confidence intervals, hypothesis testing, linear regression modeling, and analysis of variance (ANOVA). Computer software will be used to reinforce student mathematical skills.
Prerequisite: MTH 113 or equivalent with a grade of 2.0 or higher.

MATHEMATICS

MTH 231 ANALYTIC GEOMETRY AND CALCULUS III ..... 5(5-0)
Normally Offered: F, SP
This course covers vectors, vector-valued functions and motion in space, linear algebra, partial differentiation, multiple integrals, and vector analysis.
Prerequisite: MTH 132 with a grade of 2.0 or higher.

MTH 232 DIFFERENTIAL EQUATIONS ..... 4(4-0)
Normally Offered: SP
This course includes differential equations of order one with applications, linear equations with constant coefficients (homogeneous and nonhomogeneous), variation of parameters, inverse differential operations, systems of linear equations, Laplace transforms with applications, nonlinear systems of differential equations, and an introduction to power series solutions. This is a required course for students majoring in engineering, mathematics, and physics.
Prerequisite: MTH 231 with a grade of 2.0 or higher.

METALLURGY

MET 200 MATERIAL SCIENCE..... 3(2-2)
Normally Offered: F
Introduction to the study of the science of engineering metals. Included in topics of study are atomic structure and bonding, properties and testing of materials. Methods of production and fabrication, methods of changing properties including heat treatment of metals, alloying and surface treatments. Introduces mechanical properties, phase diagrams, thermal processing, alloying, and corrosion. The common classification systems used to identify the various engineering materials are also covered. Laboratory exercises include heat treatment and destructive and non-destructive materials testing.

MUSIC

MUS 110 MUSIC APPRECIATION ..... 3(3-0)
Normally Offered: F
Students will be exposed to many forms and periods of Western music, with emphasis on listening in order to follow the composer's musical ideas.

MUS 120 FUNDAMENTALS OF MUSIC ..... 3(3-0)
Normally Offered: F, SP
Acquaints the student (both with and without a musical background) with the fundamental elements of music. Including, but not limited to: pitch, meter and rhythm, chords/harmony, notation, and ear training.

MUS 121 PIANO..... 2(0-2)
Normally Offered: F, SP
Gives individual instruction in the fundamentals of keyboard technique. Graded pieces comprise the repertoire that is chosen according to the student's proficiency. One-half hour lessons each week, by prior arrangement with instructor.

MUS 122 PIANO..... 2(0-2)
Normally Offered: F, SP
Continues instruction in the fundamentals of keyboard technique. Graded pieces comprise the repertoire that is chosen according to the student's proficiency. It is a continuation of MUS 121 and is comprised of a one-half hour lesson each week by prior arrangement with instructor.
Prerequisite: MUS 121.

MUSIC

MUS 123 VOICE I ..... 2(0-2)
Normally Offered: F, SP
Student begins his/her study of voice with simple folk songs and easily-learned art songs. Subject matter includes: an attitude of enthusiasm, pleasure and confidence in singing, proper posture and diaphragmatic breathing, clear enunciation of pure vowel sounds and precise articulation of consonant sounds. A variety of styles are studied including: art songs and arias, texts in foreign languages and proper pronunciation of these texts.

MUS 124 VOICE II ..... 2(0-2)
Normally Offered: F, SP
This course continues one-on-one instruction and builds upon concepts learned in MUS 123 Voice I. Students will add some foreign language songs in this course.
Prerequisite: MUS 123 Voice I for instructor permission.

MUS 125 MUSIC THEORY ..... 4(4-0)
Normally Offered: F
Analytical study of musical structure. Including, but not limited to the following: chord analysis and progression, voice leading, figured bass, phrase structure and cadences, harmonization, ear training, dictation, and part writing. The foundation course for all music degree programs.
Prerequisite: MUS 120 or ability to read sheet music.

MUS 126 MUSIC THEORY ..... 4(4-0)
Normally Offered: F, SP
Further studies the elements of musical notation, ear training and part-writing techniques. This is a continuation of MUS 125. Both semesters of Music Theory are recommended for all students who expect to continue in music after leaving Alpena Community College, whether majoring or minoring in music.
Prerequisite: MUS 125.

MUS 130 COMMUNITY CHORUS WITH THUNDER BAY ARTS COUNCIL ..... 1(2-0)
Normally Offered: F
Partnership with Thunder Bay Arts Council community chorus will allow students to learn, prepare, and perform approximately fifteen choral arrangements. Chorus, study, and rehearsals include the basics of informed singing in a group setting such as proper breathing, pronunciation, maintenance of relative pitch, counting, blend, dynamics, and interpretation.

MUS 160 APPLIED FLUTE I ..... 2(0-2)
Normally Offered: F, SP
Applied Flute I will provide the student with private instruction in flute pedagogy and flute literature. Student must provide own flute, purchase method book and music.

MUS 161 APPLIED FLUTE II ..... 1(0-2)
Normally Offered: F, SP
Applied Flute II will provide students with private instruction in more advanced flute pedagogy and flute literature than provided in Applied Flute I.
Prerequisite: MUS 160.

MUS 221 PIANO ..... 2(0-2)
Normally Offered: F, SP
Gives individual instruction in the fundamentals of keyboard technique. Graded pieces comprise the repertoire which is chosen according to the student's proficiency. It is a continuation of MUS 122. It is comprised of a one-half hour lesson each week, by prior arrangement with instructor.
Prerequisite: MUS 121 and MUS 122.

MUSIC

MUS 222 PIANO..... 2(0-2)
Normally Offered: F, SP
Gives individual instruction in the art of piano mastery. Graded pieces comprise the repertoire that is chosen according to the student's proficiency. It is a continuation of MUS 221. It is comprised of a one-half hour lesson each week by prior arrangement with instructor.
Prerequisite: MUS 221.

MUS 228 MUSIC IN THE ELEMENTARY CLASSROOM ..... 3(3-0)
Normally Offered: SP
Acquaints the prospective elementary school teacher with music fundamentals and musical activities used in the classroom. Students receive practical experience in teaching elementary songs and using various teaching aids such as piano, rhythm instruments, and autoharp.

MUS 229 MUSIC COMPOSITION ..... 2(2-0)
Normally Offered: On Demand
Studies the works of a variety of composers to understand how melodies are written and musical material is organized to form a unified piece. Students will complete their own composition using the Finale 2004 program.
Prerequisite: MUS 125.

NURSING

NUR 128 PHARMACOLOGY I..... 1.5(1.5-0)
Normally Offered: F, SP
This course provides drug therapy foundations for the delivery of safe patient care. Emphasis is placed on the basics of core drug knowledge and patient related variables in drug administration.
Prerequisite: BIO 110, HEA 133, ENG 111, SPE 121.

NUR 135 PN TRANSITION TO PRACTICE..... 1(1-0)
Normally Offered: F, SP
This course focuses on the knowledge and skills necessary to transition from the role of student to the role of entry level practicing nurse. Content includes a discussion of current issues in health care, leadership and management, professional practice issues, and transition into the workplace. Emphasis is placed on NCLEX-PN test-taking skills, computer-assisted practice tests, development of a plan for remediation, and review of selective content specific to the practice of entry level practical nursing.
Prerequisite: NUR 128, NUR 140, NUR 140LC, NUR 142, NUR 143.

NUR 140 FOUNDATIONS OF NURSING..... 3(3-0)
Normally Offered: F, SP
This course focuses on the foundational concepts of nursing care. Reinforcement of nursing theory is included with the expanded concepts of the role of the practical nurse providing holistic and culturally competent care. This course includes the introduction of the standard principles and skills of nursing practice as applied to common physical, psychosocial, and physiological components of health.
Prerequisite: BIO 110, HEA 133, ENG 111, SPE 121.
Co-requisite: NUR 140LC.

NUR 140LC NURSING FOUNDATIONS LAB..... 1.5(0-4.5)
Normally Offered: F, SP
This course will provide students with basic nursing skills within the laboratory setting. Skills taught will enable students to function in a safe and professional manner in the role of the general practical nurse.
Prerequisite: BIO 110, HEA 133, ENG 111, SPE 121.
Co-requisite: NUR 140.

NURSING

NUR 142 MEDICAL SURGICAL NURSING I ..... 2.5(2.5-0)
Normally Offered: F, SP
This course introduces the practical nursing role in disease management and the continuum of care for the individual from early through late adulthood in various settings. The student identifies and describes nursing concepts that assist the patient in achieving optimal functioning for patients with medical/surgical problems.
Prerequisite: BIO 110, ENG 111, HEA 133, SPE 121.

NUR 143 MEDICAL SURGICAL NURSING CLINICAL I..... 2(0-6)
Normally Offered: F, SP
This course exposes the student to caring for the adult patient in the clinical environment. Strategies which enhance critical thinking, clinical reasoning, and clinical judgement are incorporated into this experience. This clinical experience strengthens the student's understanding of the nursing process, nursing theory, patient care, data collection, interventions, and fundamental skills. Management of disease processes related to various body systems will be emphasized with the expectation of consistent application in patient care.
Prerequisite: BIO 110, ENG 111, HEA 133, SPE 121.

NUR 150 MEDICAL SURGICAL NURSING II ..... 2.5(2.5-0)
Normally Offered: F, SP
This course focuses on the Practical Nurse role in the area of disease management and the continuum of care for the individual from early through late adulthood in various settings. This includes the pathophysiological components of disease. In this course, students use the nursing process to identify and describe nursing concepts that assist the patient in achieving optimal functioning for patients with medical/surgical problems.
Prerequisite: NUR 128, NUR 140, NUR 140LC, NUR 142, NUR 143.
Co-requisite: NUR 151.

NUR 151 MEDICAL SURGICAL NURSING II CLINICAL..... 2(0-6)
Normally Offered: F, SP
Students are introduced to the clinical environment providing direct patient care to the adult population in a health care environment. The student will be expected to function in the practical nurse role providing total patient care to a minimum of 3-4 patients. The student is expected to function at the level of a basic team member.
Prerequisite: NUR 128, NUR 140, NUR 140LC, NUR 142, NUR 143.
Co-requisite: NUR 150.

NUR 152 OB/REPRODUCTIVE HEALTH/PEDS/PSYCH THEORY ..... 2(2-0)
Normally Offered: F, SP
This course provides the theoretical background to prepare the Licensed Practical Nurse student to care for women in all phases of the reproductive cycle and all aspects of newborn care. This course covers the ethical aspects of Pediatric and Women's Health including Human Trafficking and safety of women and children. This course will also cover the introductory concepts of psychiatric nursing, mental health diseases, and nursing care of patients with mental health conditions in both the acute care setting and withing the community.
Prerequisite: NUR 128, NUR 140, NUR 140LC, NUR 142, NUR 143

NUR 153 OB/REPRODUCTIVE HEALTH/PEDS/PSYCH CLINICAL..... 1.5(0-4.5)
Normally Offered: F, SP
This course focuses on concepts pertaining to the health needs of women, children, and childbearing families in multiple health care settings. Health promotion, maintenance of health for individuals of childbearing and childrearing families is included. Principles of mental health, growth, and development allow for understanding of the individual and family unit. Nursing care of at-risk families and children with special needs is included. Mental health and psychiatric concepts are included in this clinical course. High-fidelity simulation will be included as a part of this clinical course.
Prerequisite: NUR 128, NUR 140, NUR 140LC, NUR 142, NUR 143.

NURSING

NUR 156 PHARMACOLOGY II ..... 2.0(2-0)
Normally Offered: F, SP
This course continues the study of the effect of specific medications on the body systems and ways to promote therapeutic effect and recognize and treat side effects or toxic effects.
Prerequisite: NUR 128, NUR 140, NUR 140LC, NUR 142, NUR 143.

NUR 157 PN NURSING SIMULATION LAB ..... 2.0(0-6.0)
Normally Offered: F, SP
This simulation course focuses on the integration of simulation technology into clinical education. It continues the development of critical thinking and clinical decision-making skills application to the Licensed Practical Nurse role in simulated learning experiences. Students will apply the nursing process to various patient care scenarios, expanding their knowledge and skills in the area of quality and safe patient care, teamwork and communication, evidence-based practice, and clinical reasoning using high-fidelity patient simulators.
Prerequisite: NUR 128, NUR 140, NUR 140LC, NUR 142, NUR 143.

NUR 228 RN PHARMACOLOGY I ..... 2.5(2.5-0)
Normally Offered: F, SP
This course provides drug therapy foundations for the delivery of safe patient care. Emphasis will be placed on the Registered Nurse's management of drug therapy, the basics of core drug knowledge, and patient related variables in drug administration. The RN's management of drugs affecting various body systems, disease states, and other health conditions will be considered.
Prerequisite: BIO 110, ENG 111, HEA 133, SPE 121.
Co-requisite: BIO 140, ENG 112, NUR 238, NUR 239LC, NUR 245, NUR245LC.

NUR 229 RN PHARMACOLOGY II ..... 2.5(2.5-0)
Normally Offered: F, SP
This course provides additional drug therapy foundations for the delivery of safe patient care. Emphasis will be placed on the Registered Nurse management of drug therapy, the basics of core drug knowledge, and patient related variables in drug administration. Additionally, the nursing management of drugs affecting various body systems, disease states, and other health conditions will be offered.
Prerequisite: NUR 228, NUR 238, NUR 239LC, NUR 245, NUR 245LC.
Co-requisite: NUR 247, NUR 252, NUR 253, NUR 258, NUR 259.

NUR 234 HEALTH CARE THERAPIES I ..... 2(2-0)
Normally Offered: SP
Students will receive an education in a variety of complimentary care modalities for self and clients through creative movement, engaging activities, and purposeful discussion. This course focuses on exploration of self, progress toward self-realization, and self-enhancement to encourage the building of skills and awareness for holistic individual and client care.

NUR 235 HEALTH CARE THERAPIES II ..... 2.5(2.5-0)
Normally Offered: F
Students will acquire an education on an array of complimentary care modalities for self and clients through creative movement, engaging activities, and purposeful discussion. This course spotlights the exploration of self, progress toward self-realization and self enhancement to inspire the building of skills and awareness of holistic individual and client care. Specific topics covered in this course include breath work, yoga, self-exploration, color therapy, massage, acupressure (Tapping), hypnosis, doshas, muscle memory, anxiety management, heart mapping, vibrations/frequencies, growth boards, mindfulness/sleep, and advancing knowledge of chakras.

NUR 236 HEALTH CARE THERAPIES III ..... 2.5(2.5-0)
Normally Offered: SP
Students will gain an education on a range of complimentary care modalities for self and clients through creative movement, engaging activities, and purposeful discussion. This course targets the exploration of self, progress toward self-realization and self enhancement to support the building of skills and awareness of holistic individual and client care. Specific topics covered in this course include green living, astrology/natal chart, numerology, grounding, Tai Chi/Pilates, art therapy, geology/gemology, pranic healing, dance therapy, improving self-esteem, Feng Shui, and kinetics.

NUR 237 HEALTH CARE THERAPIES IV ..... 2.5(2.5-0)
Normally Offered: F
Students will gain an education on a cross section of complimentary care modalities for self and clients through creative movement, engaging activities, and purposeful discussion. This course centers on the exploration of self, progress toward self-realization and self enhancement to strengthen the building of skills and awareness for holistic individual and client care. Specific topics covered in this course include acupuncture, archetypes, Bach flower remedies, past life regressions, shamanic journey, drum therapy, dream interpretation, angel cards/readings, auras, Zuni fetishes, persuasion, and religions of the world.

NUR 238 RN FOUNDATIONS ..... 3(3-0)
Normally Offered: F, SP
This course focuses on the foundational concepts of Registered Nurse care. Reinforcement of nursing theory is included with the expanded concepts of the RN's role providing holistic, safe, and culturally competent care. This course includes the introduction of the standard principles of skills of nursing practice as applied to common physical, psychosocial, and physiological components of health.
Prerequisite: BIO 110, ENG 111, HEA 133, SPE 121.
Co-requisite: BIO 140, ENG 112, NUR 228, NUR 239LC, NUR 245, NUR245LC.

NUR 239LC RN FOUNDATIONS LAB ..... 2(0-6)
Normally Offered: F, SP
This course will provide Registered Nurse students with the opportunity to learn basic nursing skills within the laboratory setting. Skills taught will enable the RN to function in a safe and professional manner.
Prerequisite: BIO 110, ENG 111, HEA 133, SPE 121.
Co-requisite: BIO 140, ENG 112, NUR 228, NUR 238, NUR 245, NUR245LC.

NUR 242 RN PARENT/CHILD NURSING THEORY ..... 2.5(2.5-0)
Normally Offered: F, SP
This course will provide the theoretical background to prepare the student to care for women in all phases of the reproductive cycle as well as children with health problems. The focus will be on health promotion, patient education, and understanding the physiological adaptations of these populations. The concepts of growth and development will be discussed as they relate anticipatory guidance specific to age groups from infancy through adolescents.
Prerequisite: NUR 229, NUR 247, NUR 252, NUR 253, NUR 258, NUR 259.
Co-requisite: NUR 243.

NUR 243 ADVANCED PARENT/CHILD NURSING CLINICAL ..... 1.5(0-4.5)
Normally Offered: F, SP
This clinical course focuses on the concepts of caring for women during the antenatal, intrapartum, and postpartum periods. Exploration of nursing care of newborns in the acute care setting are included. Students will care for women admitted for conditions related to reproductive health, gynecological issues, and at-risk health situations. Supplemental learning experiences will be completed with area agencies surrounding women's health and pediatric populations.
Prerequisite: NUR 229, NUR 247, NUR 252, NUR 253, NUR 258, NUR 259.
Co-requisite: NUR 242.

NURSING

NUR 245 PHYSICAL ASSESSMENT ..... 2.0(2.0-0)
Normally Offered: F, SP
This course is designed to teach the student a health orientated approach to nursing assessment of clients across the life span in a variety of settings. The primary focus of the course is on health assessment findings of every major body system, with recognition of abnormal findings. The course emphasizes development of the skills needed to perform a comprehensive health assessment. Data collection through comprehensive history taking and physical assessment is emphasized. Utilization of assessment findings in clinical decision making and application of the nursing process is focused on health promotion and disease prevention strategies.
Prerequisite: BIO 110, ENG 111, HEA 133, SPE 121
Co-requisite:

NUR 245LC PHYSICAL ASSESSMENT LAB ..... 1.0(0-3.0)
Normally Offered: F, SP
This course is designed to provide students the opportunity to learn and practice history taking and physical examination skills. The focus is on physical assessment findings of every major body system. Students will utilize critical thinking skills in identifying health alterations, interpreting abnormalities, formulating nursing diagnoses, and documenting findings appropriate to nursing. This lab will include various learning environments including the skills lab, simulation lab, and a community setting.
Prerequisite: BIO 110, ENG 111, HEA 133, SPE 121
Co-requisite: NUR 245

NUR 247 RN SIMULATION LAB I 2 (0-6.0)
Normally Offered: F, SP
This nursing simulation course focuses on the integration of simulation technology into clinical education. This course continues the development of critical thinking and clinical decision-making skills applicable to the nursing role in simulated learning experiences. Students will apply the nursing process to various patient care scenarios, expanding their knowledge and skills in the area of quality and safe patient care, teamwork and communication, evidence-based practice, and clinical reasoning using high fidelity patient simulators.
Prerequisite: NUR 228, NUR 238, NUR 239LC, NUR 245, NUE 245LC.
Co-requisite: NUR 229, NUR 252, NUR 253, NUR 258, NUR 259.

NUR 248 RN SIMULATION LAB II 2 (0-6.0)
Normally Offered: F, SP
This course focuses on the integration of simulation technology into clinical education, continuing the development of critical thinking and clinical decision-making skills applicable to the nursing role in simulated learning experiences. Students will apply the nursing process to various patient care scenarios, expanding their knowledge and skills in the areas of quality and safe patient care, teamwork and communication, evidence-based practice, and clinical reasoning using high fidelity patient simulators.
Prerequisite: NUR 229, NUR 247, NUR 252, NUR 253, NUR 258, NUR 259.
Co-requisite: NUR 242, NUR 243, NUR 255, NUR 260, NUR 261, NUR 262.

NUR 252 PSYCHIATRIC NURSING THEORY ..... 2(2-0)
Normally Offered: F, SP
This course provides the theoretical background to prepare the Registered Nurse student to provide care for clients with acute and chronic psychiatric disorders and chemical dependency problems.
Prerequisite: NUR 228, NUR 238, NUR 239LC, NUR 245, NUR 245LC.
Co-requisite: NUR 229, NUR 247, NUR 253, NUR 258, NUR 259.

NUR 253 PSYCHIATRIC NURSING CLINICAL 1.5 (0-4.5)
Normally Offered: F, SP
This is a clinical course with experience on an acute in-patient behavioral health unit, a residential drug and alcohol treatment program, and a community setting for the chronically mentally ill. Level II nursing students assume aspects of the scope of practice of the Registered Nurse in Michigan by providing care to clients with acute and chronic behavioral health problems.
Prerequisite: NUR 228, NUR 238, NUR 239LC, NUR 245, NUR 245LC.
Co-requisite: NUR 229, NUR 247, NUR 252, NUR 258, NUR 259.

NUR 255 NURSING LEADERSHIP..... 1(1-0)
Normally Offered: F, SP
This hybrid course provides the basics of leadership and management techniques to enable students to provide care to groups of patients. Legal and ethical problems in nursing will be identified and investigated. It will also include the concepts of role transition from student to graduate nurse as well as job-seeking strategies for an entry level Registered Nurse position. Developing strategies for first-time success on the NCLEX-RN exam will be discussed /explored.
Prerequisite: NUR 229, NUR 247, NUR 252, NUR 253, NUR 258, NUR 259.
Co-requisite: NUR 242, NUR 243, NURE 248, NUR 260, NUR 261, NUR 262.

NUR 258 RN MEDICAL/SURGICAL I..... 2.0(2.0-0)
Normally Offered: F, SP
This course introduces the student to the Registered Nurse role in disease management and the continuum of care for the medical surgical individual across the lifespan in various settings. The students focus on nursing concepts that assist patients to achieve optimal functioning.
Prerequisite: NUR 228, NUR 238, NUR 239LC, NUR 245, NUR 245LC.
Co-requisite: NUR 229, NUR 247, NUR 252, NUR 253, NUR 259.

NUR 259 RN MEDICAL/SURGICAL I CLINICAL ..... 3.0(0-9.0)
Normally Offered: F, SP
This course exposes the Registered Nurse student to caring for the adult patient in the clinical environment. Strategies which enhance critical thinking, clinical reasoning, and clinical judgement are incorporated into this experience. This clinical experience strengthens the RN student's understanding of the nursing process, nursing theory, patient assessment, interventions, and fundamental nursing skills. Management of disease processes related to various body systems will be emphasized with the expected application of consistent patient care. High fidelity simulation may also be included in this clinical course.
Prerequisite: NUR 228, NUR 238, NUR 239LC, NUR 245, NUR 245LC.
Co-requisite: NUR 229, NUR 247, NUR 252, NUR 253, NUR 258.

NUR 260 RN MEDICAL/SURGICAL II..... 2.0(2.0-0)
Normally Offered: F, SP
This course is a continuation of NUR 258 which provides the theoretical background, knowledge, and skills to prepare the student to provide holistic care for adult patients with common, acute, and chronic medical/surgical problems.
Prerequisite: NUR 229, NUR 247, NUR 252, NUR 253, NUR 258, NUR 259.
Co-requisite: NUR 242, NUR 243, NUR 248, NUR 255, NUR 261, NUR 262.

NURSING

NUR 261 RN MEDICAL/SURGICAL II CLINICAL..... 2.0(0-6.0)
Normally Offered: F, SP
This clinical course focuses on the coordination of care, physical and psychosocial assessment, and care of patients in the health care setting. Students will complete experiential learning opportunities in the areas of the Intensive Care Unit and Emergency Department. By the end of the rotation, the student will be expected to manage a full complement of medical surgical patients in the acute care setting. Additionally, medical/surgical high-fidelity simulations may be used to enhance the students' critical thinking and clinical reasoning skills.
Prerequisite: NUR 229, NUR 247, NUR 252, NUR 253, NUR 258, NUR 259.
Co-requisite: NUR 242, NUR 243, NUR 248, NUR 255, NUR 260, NUR 262.

NUR 262 RN TRANSITION TO PRACTICE..... 2.0(2.0-0)
Normally Offered: F, SP
This course provides learning activities to prepare the Registered Nurse for practice with emphasis on first time NCLEX-RN success and the concepts of role transition from student to graduate nurse. Current issues and trending topics that the nurse will encounter will be explored.
Prerequisite: NUR 229, NUR 247, NUR 252, NUR 253, NUR 258, NUR 259.
Co-requisite: NUR 242, NUR 243, NUR 248, NUR 255, NUR 260, NUR 261.

PHYSICAL EDUCATION & HEALTH FITNESS

PEH 104 OPEN WATER DIVER..... 1(0.5-1)
Normally Offered: SU
The course covers the basic principles and practices of scuba diving skills, including terminology, theory, and safety procedures. Class includes classroom/online materials and confined water activities. Upon satisfactory completion of course, students will have the option to complete their open water dives and obtain PADI certification.
Prerequisite: Successful completion of PADI swim test required for certification.

PEH 105 ADVANCED OPEN WATER DIVER..... 1(0.5-1)
Normally Offered: SU
The Advanced Open Water Diver course provides the fundamentals to increase diving skills and knowledge with a strong focus on enhancing comfort in the water. The course builds on PEH 104 and develops new capabilities by introducing skills such as underwater navigation and deeper water diving (60-100 ft.), including the practical aspects and physiological effects of deeper scuba diving. Class includes classroom/online materials, pool session and open water dives. PADI certification upon satisfactory completion of course.
Prerequisite: PEH 104 or proof of equivalent certification and successful completion of PADI swim test required for certification. Instructor permission required.

PEH 110 PERSONALIZED FITNESS I..... 2(0-3)
Normally Offered: F, SP, SU
Provides development of basic exercise skills to increase and maintain levels of cardiovascular endurance, muscular strength, flexibility and body composition. Students will perform a personalized Tri Fit fitness profile and be responsible for documenting progress toward personal goals.
Prerequisite: Participants with physical restrictions or other medical health problems must have a written permission statement from their physician prior to active participation in this program.

PEH 112 PERSONALIZED FITNESS II..... 2(0-3)
Normally Offered: F, SP, SU
Includes advanced development of exercise skills to increase and maintain levels of cardiovascular endurance, muscular strength, flexibility and body composition. Provides a basic overview of nutrition guidelines that will enable students to perform a 3-day personal dieting analysis.
Prerequisite: PEH 110 and participants with physical restrictions or other medical health problems must have a written permission statement from their physician prior to active participation in this program.

PHYSICAL EDUCATION & HEALTH FITNESS

PEH 181 YOGA FOR FITNESS I ..... 2(0-4)
Normally Offered: F, SP
This course incorporates powerful poses with relaxation poses. The sequential order allows for flowing movements designed to increase flexibility, strength and balance.

PEH 182 YOGA FOR FITNESS II ..... 2(0-4)
Normally Offered: SP
This course incorporates powerful poses with relaxation poses. The sequential order allows for flowing movements designed to increase flexibility, strength and balance. The poses will build on skills acquired in PEH 181 Yoga for Fitness I and, therefore, will be more advanced.

PEH 247 ADVANCED KARATE TANG SOO DO II ..... 2(0-4)
Normally Offered: F, SP
Continuation of the study and practice of Tang Soo Do Karate. Students may train and test for the next belt level in Tang Soo Do.
Prerequisite: PEH 162 or instructor permission.

PEH 263 WORKPLACE FIRST AID/CPR/AED ..... 1(1-0)
Normally Offered: F, SP
This course seeks to help participants identify and eliminate potentially hazardous conditions in their environment, recognize emergencies and make appropriate decisions for first aid care. It teaches the knowledge and skills that individuals in the workplace need to know to give immediate care to an ill or injured person until more advanced medical care arrives. Students who successfully complete this course according to American Red Cross standards will receive adult, child, and infant First Aid, CPR and AED certification.

PEH 264 COMMUNITY FIRST AID/CPR/AED (BLS) ..... 1(1-0)
Normally Offered: F, SP, SU
This course seeks to help participants identify and eliminate potentially hazardous conditions in their environment, recognize emergencies and make appropriate decisions for first aid care. It teaches the knowledge and skills that individuals in the community need to know to give immediate care to an ill or injured person until more advanced medical care arrives. Students who successfully complete this course according to American Heart Association standards will receive adult, child, and infant First Aid, CPR and AED certification. There is a separate course fee for this course.

PREFORMING ARTS

PFA 101 INTRODUCTION TO DANCE ..... 3(3-0)
Normally Offered: On Demand
This course will introduce the student to the basic components in ballet and jazz techniques.

PFA 102 DANCE II ..... 3(3-0)
Normally Offered: On Demand
Continues the curriculum in dance principles in creative and contemporary movement, ballet basics and jazz techniques from Dance I.
Prerequisite: PFA 101 or instructor permission.

PFA 108 ACTING I ..... 3(3-0)
Normally Offered: F, SP
This course provides students with a comprehensive foundation in acting, focusing on developing fundamental skills and techniques. Through a combination of exercises, scene work, and improvisation, students will explore character development, emotional expression, physicality, voice, and body awareness. Emphasis is placed on the process of preparing and performing a role, building confidence on stage, and cultivating a deeper understanding of the actor's craft. No prior acting experience is required.

PERFORMING ARTS

PFA 110 ACTING II ..... 3(3-0)
Normally Offered: F, SP
Acting II continues to develop improvisational and creative dramatic skills for more complex performance situations. In addition, Acting II will introduce students to scene study utilizing Stanislavski techniques for performance of scripted material.
Prerequisite: PFA 108.

PFA 203 DANCE III ..... 3(3-0)
Normally Offered: On Demand
This course is geared for the student of dance who has a background in dance and would like to continue their education in ballet and jazz techniques. An introduction to choreography will also be covered.
Prerequisite: PFA 102 or instructor permission.

PFA 204 DANCE IV ..... 3(3-0)
Normally Offered: On Demand
This course is designed for the student of dance who has had extensive experience in the field before attending college. Jazz, ballet and modern technique will be covered along with an introduction to the art of choreography. This is meant to be a continuation of Dance III.
Prerequisite: PFA 203 or instructor permission.

PFA 211 ACTING III ..... 3(3-0)
Normally Offered: F, SP
Acting III will focus on developing audition techniques, script analysis and advanced character analysis utilizing the Stanislavski technique.
Prerequisite: PFA 110.

PFA 212 ACTING IV ..... 3(3-0)
Normally Offered: F, SP
Acting IV will focus on advanced performance activity and character analysis and development utilizing the Stanislavski point of view. Acting IV will concentrate on preparing students for continued studies in theatre at the university level.
Prerequisite: PFA 211.

PHILOSOPHY

PHL 125 LANGUAGE AND REASON ..... 3(3-0)
Normally Offered: F, SP
Develops the student's problem solving and critical thinking skills and enhances the student's understanding of the relationship between language and thinking. Topics covered include, but are not limited to, critical thinking, verbal reasoning, analogical thinking, pattern recognition, mathematical thinking, and more. Emphasis is on the development of specific skills that are necessary for the student to effectively read and process information in a critical way.

PHL 225 PHILOSOPHY ..... 3(3-0)
Normally Offered: F, SP, SU
Surveys some of the main problems of philosophy and the ideas of great thinkers from ancient times to the present.
Prerequisite: Sophomore standing or consent of instructor.

PHILOSOPHY

PHL 228 INTRODUCTION TO ETHICS..... 3(3-0)
Normally Offered: F, SP, SU
Introduces the student to both a variety of classical ethical theories as well as to the application of these theories to a number of contemporary moral issues. Areas of focus include bio- and business ethics, environmental ethics, crime and punishment issues, and political and economic ethical issues, etc. The principal aim of the course is to help students become more knowledgeable about ethical theories and issues as well as to help them develop practical methods for reaching critically defendable positions on the moral questions that affect their lives.
Prerequisite: ENG 111 or ENG 121 with a grade of 2.0 or higher, or permission of instructor.

PHYSICAL SCIENCE

PHS 113 INTRODUCTION TO PHYSICAL SCIENCE ..... 4(3-2)
Normally Offered: F, SP
Develops fundamental concepts in mass, energy, space and time through use of selected material from the areas of physics, chemistry, astronomy and earth science. Attention is given to methods and the process of scientific investigation. May be elected by those not majoring in science to meet science requirements.

PHYSICS

PHY 111 APPLIED PHYSICS ..... 3(2-2)
Normally Offered: F, SP
Includes classical mechanics, simple machines, power transmission, structure and properties of matter, thermodynamics and heat. The emphasis is placed upon practical, technical and industrial aspects of physics rather than upon philosophical and theoretical considerations. Designed specifically to furnish a sound scientific background for students majoring in certain technical fields.
Prerequisite: Algebra and preferably high school physics. Technical students having two years of algebra with trigonometry are encouraged to enroll in PHY 121-122 as a substitute for PHY 111-112.

PHY 121 GENERAL COLLEGE PHYSICS ..... 4(4-2)
Normally Offered: F
Meets the needs of liberal arts students, especially those on pre-medical, pre-dental, pre-law, general science and secondary education programs. This course also meets the needs of technical students who satisfy the prerequisites. Topics covered include classical mechanics, heat, thermodynamics, wave motion, and sound.
Prerequisite: One and one-half years of high school algebra with one-half year of trigonometry. Students having one semester of calculus sequence are encouraged to enroll in PHY 221 in place of PHY 121.

PHY 122 GENERAL COLLEGE PHYSICS ..... 4(4-2)
Normally Offered: SP
Continues PHY 121. Topics included are electricity and magnetism, light and optics, special relativity, and some other aspects of modern physics.
Prerequisite: PHY 121.

PHY 123 INTRODUCTION TO ASTRONOMY ..... 3(3-0)
Normally Offered: F
Includes historical introduction, methods of astronomy, the solar system, the sun, stars, stellar systems, galaxies and some current topics in cosmology. Designed for liberal arts students. Although no prerequisites are required, simple algebra and geometry are used and a general science background is desired.

PHY 124 INTRODUCTION TO PHYSICAL GEOLOGY ..... 4(3-0-2)
Normally Offered: SP
Lecture, discussion, labs, and field trips will be used to study the processes that shape our world. Topics include: minerals, rocks, volcanism, earthquakes, continental drift, erosion and deposition, the ice age, and the economic significance of geology to humankind.

PHYSICS

PHY 221 PHYSICS ..... 5(3-2-2)
Normally Offered: F
Includes topics in classical mechanics, heat, thermodynamics, wave motion, and sound. The class is designed primarily for students majoring in chemistry, engineering, mathematics, or physics; but other students who desire a rigorous course in physics and who satisfy the prerequisites are encouraged to enroll in this course. The course consists of three lecture hours per week along with two one-hour problem-solving sessions and one double period laboratory session.
Prerequisite: High school physics and MTH 131 or its equivalent.

PHY 222 PHYSICS ..... 5(3-2-2)
Normally Offered: SP
Continues Physics 221. Includes electricity, magnetism, light and optics, and some special topics of modern physics. The course consists of three hours of lecture per week along with one double period problem session and one double period laboratory session.
Prerequisite: PHY 221 or consent of instructor.

POLITICAL SCIENCE

PLS 221 AMERICAN GOVERNMENT AND POLITICS ..... 3(3-0)
Normally Offered: F, SP, SU
This course provides opportunity for extended exploration of national government, politics, and civics in the United States while fostering breadth of understanding and appreciation for the structure of political processes, government, and the responsibilities of citizenship relevant to students with broad occupational, academic, personal, and civic interests. Emphasis is placed on the nature of representative democracy, political philosophies, the U.S. Constitution and its historical evolution, federalism, the institutions of government, civil liberties, basic rights of citizenship, and practical politics, including political behavior, political parties, interest groups, and the policy making processes regarding a variety of contemporary domestic and international issues.

PLS 222 STATE AND LOCAL GOVERNMENT ..... 3(3-0)
Normally Offered: F (even years, SP (odd years)
This course surveys politics, government, and civic engagement at the state and local level with comparative perspective from a variety of states within the United States. Considerable attention is afforded formal institutions of government at the state, county, township, city, and village levels of government, including the challenges facing each level of government within the federal system of the United States. Special attention is given to the occupational, academic, personal, and civic interests of students in a participatory social, political, and governmental system.

PLS 228 INTERNATIONAL RELATIONS ..... 3(3-0)
Normally Offered: F (odd years)
This course provides a broad and comprehensive survey of modern international systems and relations among nations and states throughout the world from historical, social, cultural, economic, and political perspectives. Included are considerations of inter-governmental and non-governmental organizations such as the United Nations, NATO, as well as regional surveys of major issues in the Middle East, Africa, the Indian subcontinent, Asia, Europe, and the Americas, placing the United States within this larger international context. The course emphasizes relations among nations and states relative contemporary global events, conflicts, and trends of global perspective. It fosters breadth of understanding and appreciation of international dynamics and global awareness for students with broad occupational, academic, personal, and civic interests.

POLITICAL SCIENCE

PLS 230 COMPARATIVE GOVERNMENT ..... 3(3-0)
Normally Offered: SP (even years)
This course surveys the governmental and political structures, practices, and ideological foundations of democratic and non-democratic countries around the world comparing and contrasting their systems of government and politics. Included in the comparative survey of countries are Great Britain, France, Germany, China, and Iran relative to one another and the United States. Consideration is given to the methodologies of comparative study of politics, nation-states and their development, state institutions (parliamentary versus presidential and mixed systems), democracy, authoritarianism, political ideologies, nationalism, electoral systems, political parties, interest groups, political culture, and political economy within the various countries. The course fosters breadth of understanding and appreciation of comparative analysis and global awareness for students with broad occupational, academic, personal, and civic interests.

PSYCHOLOGY

PSY 101 GENERAL PSYCHOLOGY ..... 3(3-0)
Normally Offered: F, SP, SU
Presents the basic subjects of the field of psychology from the scientific study of behavior and mind of humans and animals. Subjects include, but are not limited to, biology of behavior, learning, memory and cognition, human development and emotions, health, abnormal behavior and therapy, and social interaction.

PSY 226 DEVELOPMENTAL PSYCHOLOGY ..... 3(3-0)
Normally Offered: F, SP
This course covers the physiological and psychological development of humans from conception through old age. The course includes social, emotional, and cognitive development; relations with parents, peers, and others; and problems related to school, work, and society.
Prerequisite: PSY 101, ENG 111 or ENG 121 or permission of instructor.

PSY 230 HUMAN SEXUALITY ..... 3(3-0)
Normally Offered: F, SP
This course will cover the biological, psychological, and socio-cultural aspects of human sexuality.
Prerequisite: PSY 101 or SOC 123, ENG 111 or ENG 121 or instructor permission.

PSY 241 SOCIAL PSYCHOLOGY ..... 3(3-0)
Normally Offered: SP
This course begins with a discussion surrounding the methods used to study social psychology and is followed by a consideration of how individuals view themselves and others by examining the accuracy of impressions, intuitions, and explanations. Part three explores the cultural sources of attitudes to better recognize the social forces impacting individuals. Finally, part four focuses on social relations. Discussions will be directed at subjects such as prejudice, aggression, attraction, altruism, conflict, and peacemaking.
Prerequisite: PSY 101, ENG 111, or instructor permission.

PSY 242 ABNORMAL PSYCHOLOGY ..... 3(3-0)
Normally Offered: F, SP
This course will familiarize students with the history of how people have reacted to abnormal behavior in others, biological and psychosocial theories about the origins and dynamics of mental illness and abnormal behavior, classification and assessment of disorders, and therapeutic methods to treat these disorders.
Prerequisite: PSY 101, ENG 111 or ENG 121 or instructor permission.

SOCIOLOGY

SOC 123 INTRODUCTION TO SOCIOLOGY ..... 3(3-0)
Normally Offered:
This introduction to sociology offers students foundational understandings of central sociological approaches, including terminology, theory, and methods that sociologists use to understand life worlds, social order, social conflict, and social change. Students will learn how sociologists examine social arrangements to shape human experience and how people create order and conflict.

SPEECH

SPE 121 SPEECH COMMUNICATION ..... 3(3-0)
Normally Offered: F, SP, SU
Presents communication fundamentals with emphasis on oral communication. Topics include origin of language, semantics, interpersonal and intrapersonal communication, etc. Students discuss materials and participate in informal and formal speech activities.

SPE 123 PUBLIC COMMUNICATION ..... 3(3-0)
Normally Offered: F, SP
A course in public communication including practical experience and theoretical study of small group discussions and the public speech.

SPE 126 ORAL INTERPRETATION OF LITERATURE ..... 3(3-0)
Normally Offered: On Demand
An introduction to the analysis, interpretation, rehearsal and oral performance of literature. Students work with selections of prose, poetry and drama written for adults and children.

SPANISH

SPN 117 CONVERSATIONAL SPANISH ..... 1(1-0)
Normally Offered: On Demand
An introductory, exploratory course for prospective travelers or those who are considering enrolling in a full language study course.

SPN 125 SPANISH ..... 4(4-0)
Normally Offered: F, SP
Promotes grammatical, cultural and geographic appreciation of the Spanish language and the people who speak it. This introductory course will begin to develop the student's fluency in listening to, speaking, reading and writing Spanish.

SPN 126 SPANISH ..... 4(4-0)
Normally Offered: F
Continues SPN 125. Promotes grammatical, cultural and geographic appreciation of the Spanish language and the people who speak it. This course will continue developing the student's fluency in listening to, speaking, reading and writing Spanish.
Prerequisite: SPN 125 or instructor's permission.

STUDENT DEVELOPMENT EDUCATION

SDE 101 INTRODUCTION TO CAREERS ..... 1(1-0)
Normally Offered: F, SP, SU
This class provides multiple opportunities for students to enhance their self-awareness in relation to the world of work. Various careers are explored through the use of videotapes, inventories and campus resources. Life-long decision-making skills are emphasized and applied to personal goals and values.

SDE 201 JOB SEARCH STRATEGIES ..... 1(1-0)
Normally Offered: F, SP
This course is designed to equip students with the essential skills and tools needed for a successful job search. By analyzing personal strengths and interests, students will align their career paths with their abilities. The course provides practical experience in developing professional resumes and cover letters tailored to specific job postings. Students will gain valuable insights into effective interviewing techniques through mock interviews, preparing them to present themselves confidently in professional settings. Additionally, students will learn to navigate and complete online job applications, ensuring they are proficient in the digital aspects of job searching. Through a combination of self-assessment, practical application, and skill development, this course prepares students for their transition into the workforce.

UTILITY ARBORIST

UAR 100 INTRODUCTION TO UTILITY ARBORIST ..... 1(1-0)
Normally Offered: F
This course will provide students with an understanding of the equipment, safety, and different career opportunities in the Utility Arborist field.

UAR 110 CLIMBING ..... 3(1-4)
Normally Offered: F
This course is based on ANSI standards, focusing on training safe and proficient climbers. Students will learn and practice aerial rescue techniques focusing on safe tree climbing, effective use of ropes, saddles, and gaffs. Students will learn plan-of-action for both climbing and trimming to prepare for employment in the industry.

UAR 115 TOOLS AND EQUIPMENT ..... 3(2-2)
Normally Offered: F
This course is based on ANSI standards, focusing on proficiency with required tools and equipment common in the utility and arborist industries. Additionally, this course will allow students lab time to build skills in proper tool and equipment techniques and maintenance, including but not limited to chainsaws, chippers, ropes, and riggings.

UAR 120 TREE FELLING ..... 3(2-2)
Normally Offered: SP
This course is based on ANSI standards, focusing on successful tree felling. Additionally, this course will allow students lab time to build skills in proper tree felling technique around conductors and electrical hardware equipment.

UAR 125 PESTICIDE APPLICATION ..... 2.5(2-1)
Normally Offered: SP
This course is based on MDARD standards, focusing on safe herbicide and pesticide application, regulations, and application methods around utilities. Upon successful completion, students will be prepared to take the MDARD pesticide application exam for industry-recognized certification.

UTILITY TECHNICIAN

UTT 101 INTRODUCTION TO THE UTILITY INDUSTRY ..... 1(1-0)
Normally Offered: F
This course orients students to the importance of and opportunities in the utility industry.

UTT 102 CLIMBING ELEVATED WORK SITES ..... 1(1-0)
Normally Offered: F
Provides practical experience in working in an elevated work site. Climbing and bucket truck operation will be stressed.

UTT 103 OVERHEAD CONSTRUCTION ..... 1(1-0)
Normally Offered: F
Proper overhead construction techniques will be demonstrated and practiced. Topics will include tool selection, pole selection and setting, rigging, safety procedures, maintenance techniques, and vehicle trailer operations.
Co-requisite: UTT 102.

UTT 110 LINE MECHANIC LAB I ..... 6(1.5-9)
Normally Offered: F
Orient students, in an outdoor lab setting, to proper and safe climbing techniques and the use of aerial lift devices. Students will construct overhead and underground primary and secondary electrical systems. Safe equipment operation will be stressed.
Co-requisite: UTT 102, UTT 103, UTT 203.

UTILITY TECHNICIAN

UTT 111 LINE WORKER PHYSICAL FITNESS I ..... 2(1-2)
Normally Offered: F
Designed for the Utility Technician student to improve fitness levels to meet the demands of lineworker training and unique job requirements. Course focuses on injury prevention, flexibility, endurance, and strength. Course will include individual and group workout activities.
Prerequisite: UTT student or instructor permission.
Co-requisite: UTT 110 or instructor permission.

UTT 202 TRANSFORMER FUNDAMENTALS ..... 2(1-2)
Normally Offered: SP
Orients student to the operation of and types of transformers used by the utility industry. Selection of proper transformer for a given application and maintenance of transformers will be stressed.
Co-requisite: UTT 201.

UTT 203 UNDERGROUND CONSTRUCTION ..... 2(2-0)
Normally Offered: F
Introductory course in underground utility construction and equipment operation. Includes hands-on experience in cable laying, splicing and terminations of both primary and secondary cable.

UTT 204 SYSTEM DESIGN AND OPERATION ..... 4(4-0)
Normally Offered: SP
Provides an orientation to utility system design and operation from point of origination to end user consumer. Includes generation and generation types, transmission, distribution, secondaries, and services.
Co-requisite: APP 100E or Instructor Permission.

UTT 206 EQUIPMENT/VEHICLE OPERATION ..... 2(1-2)
Normally Offered: F
Designed to educate the student in the proper way to inspect a commercial motor vehicle prior to use, operate a commercial motor vehicle, and educate the student on the various laws and regulations that govern the commercial motor vehicle license.
Valid Driver's License is required; must be able to obtain a Department of Transportation Medical card; must obtain a Commercial Learners Permit from the Secretary of State of Michigan; must pass an alcohol and drug screening and submit results dated within 30 days before class start time.

UTT 208 CLIMBING & WORKING IN ELEVATED WORK SITES ..... 2(2-0)
Normally Offered: SP
Classroom study of climbing and elevated work platforms used in the utility industry to perform construction and maintenance. Topics include dead line and live line techniques as well as safety instruction.
Prerequisite: Student must be a qualified climber.
Co-requisite: UTT 210.

UTT 210 UTILITY LINE/MECHANIC LAB ..... 5(1-8)
Normally Offered: SP
Orient students, in an outdoor lab setting, to the proper and safe construction and maintenance of overhead and underground electric systems. To include test and diagnostic equipment as well as transformer function, installation, selection and troubleshooting of single phase and three-phase power banks.
Prerequisite: First semester of Utility Technology program.
Co-requisite: UTT 201, UTT 202, and UTT 208.

UTT 211 LINE WORKER PHYSICAL FITNESS II ..... 2(1-2)
Normally Offered: SP
Advanced line worker fitness course concentrating on stamina, strength, and mental toughness required to complete a line worker apprentice program and be successful as a career lineworker. Course includes individual and group workout activities.
Prerequisite: UTT 110 or instructor permission.
Co-requisite: UTT 210 or instructor permission.

UTILITY TECHNICIAN

UTT 222 ELECTRIC BASIC LINE CLIMBING ..... 4(2-4)
Normally Offered: SU
This course is designed to provide students with the basic knowledge and pole climbing skills necessary to successfully progress through the Electric Line Apprentice Program.
Prerequisite: Must have successfully completed UTT Basic Certificate Program.

UTT 223 GROUND/UTILITY WORKER ..... 5(2-6)
Normally Offered: SU
This course is designed to provide students with the basic Ground/Utility Worker knowledge and skills necessary to progress through the Electric Line Apprentice Program.
Prerequisite: Must have successfully completed UTT Basic Certification Program.

UTT 224 ENERGIZED SECONDARY WORKER ..... 5(2-6)
Normally Offered: SU
This course addresses the knowledge and skills necessary to progress through the Utility Technician Advanced Certificate program with a focus on the installation and maintenance of secondary lines of 120/240 Volts. Safe work practices on energized conductors and aerial lifts, digger derricks, and associated equipment are developed and required. This course is normally offered during the summer semester and the Consumers Energy training facility in Marshall, Michigan.
Prerequisite: Must have successfully completed UTT Basic Certification program.

UTT 300 WORKING WITH UTILITY SYSTEMS ..... 6(5-2)
Normally Offered: SP
Provides an orientation to, and hands on operation of, test and troubleshooting equipment used in the utility industry. Orients student to the operation of and types of transformers used by the utility industry. Selection of proper transformer for a given application and maintenance of transformers will be stressed. Orients student to the design and operation of an electrical utility system from point of generation, transmission, and distribution, to end user.
Co-requisite: APP 100E.

WELDING

WLD 123 SMAW WELDING PROCESSES ..... 4(2-4)
Normally Offered: F
This course covers basic Shielded Metal Arc Welding using E6010 and E701 electrodes, used in all positions. Welding safety, oxyacetylene and plasma cutting, equipment set-up, electrodes, joint design, and welding theory will be discussed.

WLD 124 CMAW AND FCAW WELDING PROCESSES ..... 4(2-4)
Normally Offered: F, SP
Gives the student experience in Gas Metal Arc Welding (GMAW), Flux Cored Arc Welding (FCAW) and out-of-position shielded metal arc welding. Welding equipment setup, welding theory and processes, nonferrous metals, testing and inspection, welding design, welding blueprints, and general welding shop equipment will be studied.

WLD 134 INTRODUCTION TO WELDING TECHNIQUES ..... 2(1-2)
Normally Offered: F, SP
This course provides students with an introductory course in basic SMAW welding techniques, equipment set-up, safety, and applications.

WLD 135 INTERMEDIATE WELDING ..... 1.5(.75-1.5)
Normally Offered: F, SP
This course provides students with an intermediate level of SMAW welding techniques, equipment set-up, safety, and applications.
Prerequisite: WLD 134.

WELDING

WLD 138 AMERICAN WELDING SOCIETY LEVEL I ..... 4(2-4)
Normally Offered: F, SP
This course will cover intermediate welding practices which will prepare students for the American Welding Society Level I entry level welding certification requirements. Welding will be performed in the flat, horizontal, vertical, and overhead positions. This is an additional course to provide the student with more time to fi8nish the Level I assignments that have not been competed in prior coursework.
Prerequisite: WLD 123, WLD 124, or instructor permission.

WLD 238 AMERICAN WELDING SOCIETY LEVEL II ..... 4(2-4)
Normally Offered: F, SP
This course will cover advanced pipe welding practices which will prepare students for the American Welding Society Level II advanced welding certification requirements. Welding will be performed on pipe in the 2G, 5G, and 6G positions. This is an additional course to provide the student with more time to finish the Level II assignments that have not been competed in prior coursework.
Prerequisite: WLD 123, WLD 124, or instructor permission.

WLD 240 GAS TUNGSTEN ARC AND PIPE WELDING ..... 4(2-4)
Normally Offered: F, SP
Students will develop the skills, principles, and application of gas tungsten arc welding. Welds will be done on different thicknesses of ferrous and non-ferrous metals in all positions. Proper material cleaning, joint fit-up, and safety are also introduced. Base pipe welding practices will also be introduced in this course.

WLD 242 WELDING FABRICATION ..... 3(1-4)
Normally Offered: SP
This course covers sheet metal, structural steel, AWS structural D1.1 welding code practices and weldments, CNC plasma cutting and layout, material processing, WPS development, creating a bill of materials, and fabrication to print specifications. Students will be required to complete a capstone fabrication project.
Prerequisite: WLD 123 or WLD 124 and MFG 120 or instructor permission.

WLD 250 ADVANCED PIPE WELDING ..... 5(2-6)
Normally Offered: F
This course is designed to train the student in advanced pipe and tube welding procedures, using various welding processes. Students will learn to weld carbon steel, aluminum and stainless steel pipe and tubing in the 2G, 5G, and 6G positions. Strong emphasis will be placed on proper joint preparation and adherence to the applicable AWS, ASME, and API welding code standards.
Prerequisite: WLD 240 or instructor permission.

WLD 252 SPECIALTY WELDING AND TESTING PROCEDURES ..... 5(2-6)
Normally Offered: SP
This course is designed to train welders in the weldability of less common metals and the proper equipment and electrode selection, machine set-up, and base metal preparation required to make a high quality weld. Students will be taught the basic Destructive (DT) and Nondestructive (NDT) weld control testing procedures for checking discontinuities and defects that could affect weld integrity, appearance, and strength. Strong emphasis will be placed on confirming weld quality and adherence to all applicable AWS, ASME, and API welding code standards.
Prerequisite: WLD 124 or instructor permission.

WLD 254 CNC THERMAL CUTTING SYSTEMS ..... 3(2-3)
Normally Offered: F
This is an introductory course designed to train the student in the basic operation and programming of a CNC plasma & oxyfuel cutting table. Emphasis will be placed on safety, machine operation, set-up, programming software, and troubleshooting. Laboratory will include the set-up, programming, and operation of a basic CNC plasma & oxyfuel cutting system.

WELDING

WLD 260 WELDING AUTOMATION ..... 3(2-2)
Normally Offered: SP
This is an introductory course designed to train the student in the basic operation and programming of a robotic welding cell. Emphasis will be placed on safety, justification, fixturing, set-up, programming, and troubleshooting. Laboratory will include the set-up and operation of basic automatic welding systems with a sturdy of the effects of welding parameters on weld outcomes.
Prerequisite: WLD 124 or instructor permission.

ACCREDITATIONS AND AFFILIATIONS

(Accreditation documents can be examined upon request in the ACC Library.)
Alpena Community College is accredited by:

North Central Association of Colleges and Schools
Commission on Institutions of Higher Education
30 North LaSalle Street, Suite 2400
Chicago, Illinois 60602-2504
Phone: 800.621.7440

The Licensed Practical Nurse and Registered Nurse programs at Alpena Community College at the Alpena and Oscoda campuses are accredited by the: **Accreditation Commission for Education in Nursing (ACEN).** 3390 Peachtree Road NE, Suite 1400 Atlanta, GA, 30326. The most recent accreditation decision made by the ACEN Board of Commissioners for the Licensed Practical Nurse and Registered Nurse programs is Continuing Accreditation. View the public information disclosed by the ACEN regarding this program on the ACEN website. ACEN contact details: Phone: 404.975.5000 | Website: www.acenursing.org.

The **Michigan Correctional Officers Training Council** has accredited the following Alpena Community College certificate: Corrections Officer Academic Program.

Alpena Community College is a member of: **American Association of Community Colleges; College Entrance Examination Board; Michigan Association of Collegiate Registrars & Admissions Officers; and Michigan Community College Association.**

Alpena Community College Mission

The mission of Alpena Community College is to create a culture of educational excellence and service to the community.

Alpena Community College Goals

1. Campus/Culture
   Offer a welcoming, safe, and adaptable culture that inspires diversity.
2. Learning/Education
   Motivate continuous exploration of diverse opportunities and knowledge acquisition through a flexible learning environment.
3. Community
   Stimulate community collaboration, which fosters comprehensive economic, cultural, and community development.
4. Value
   Exercise sustainable value that supports career pathways and fiscal responsibility.

Alpena Community College Vision

To be recognized in our local and global communities as the premier resource and first choice for exceptional, affordable, and innovative education.

Alpena Community College Values

We demonstrate **accountability** to all our stakeholders, students, staff, business partners, industry alliances, and taxpayers.

We act with **integrity**, placing fairness and honesty at the center of all our actions.

We aspire to **excellence** in all our endeavors.

We show **respect** for diversity, individual contributions, and educational partnerships.

HISTORY

Alpena Community College offers educational programs, technical training, and cultural opportunities to all of Northeast Lower Michigan. Its student population is marked by diverse ages, backgrounds, and goals. Small classes and the opportunity for individual attention enhance the quality instruction delivered at Alpena Community College and benefit both the traditional and non-traditional student.

FOUNDED IN 1952

Situated on 700 acres of land bordered by the Thunder Bay River, ACC is located within the city limits of Alpena and is just a short distance from Lake Huron. It was founded in 1952 and was part of the Alpena K-14 system until 1979, when district voters approved separation of the College from the public school district. Voters also granted a 1.5 charter mill levy for operations and established the Alpena Community College Board of Trustees to govern the institution. The College district encompasses the same geographic voting district as Alpena Public Schools.

The first Alpena Community College classes began in September 1952 at Alpena High School, then located at 400 S. Second Avenue. The first class of 23 students graduated in June 1954. The current Alpena campus was established in 1957 when 23 acres of land were granted to ACC by philanthropist Jesse H. Besser. An additional 14 acres came from the City of Alpena and the Michigan Department of Conservation. Central Hall (now Van Lare Hall) opened in 1958. Additional donations from Besser have provided a total of 700 acres that now constitute the Alpena Campus.

ACCREDITATION

By 1959, ACC was accredited by the Michigan Commission on College Accreditation, and it awarded associate in arts, associate in commerce, and associate in science degrees. Full accreditation came in March 1963 from the North Central Association of Colleges and Schools. It has remained accredited, with the latest 10-year re-accreditation granted in 2008.

EXPANDING THE CAMPUS

Besser Technical Center, a 50,000-square-foot facility, opened in September 1963. Space was added in 1967, and in 1979 the Besser Tech Annex opened to provide an additional 9,600 square feet for technical programs. In 2007 the old Concrete Tech lab space was renovated to house seven computer classrooms, four faculty offices, and a 3,000 square foot student commons area.

The Natural Resources Center opened in 1972, and in 1977 the former Alpena Catholic Central High School became Alpena Community College East Campus and housed the Fine Arts programs.

Almost 20 years later a new series of projects brought a new look and feel to ACC, beginning with the August 1996 completion of an $8.2 million construction and renovation project on the north side of Johnson Street. Called the Center Building, it became “a center of activity” as both the College and community found its multiple spaces perfect for a myriad of uses. In 2005 it was renamed the Donald L. Newport Center in honor of President Emeritus Donald L. Newport.

In 1997, College Park Apartments opened, providing on-campus student housing in 16 four-bedroom townhouse units. They were privately built and are privately owned and operated.

The next addition to campus was the World Center for Concrete Technology, which opened in August 2000. The Concrete Technology and Blockmakers Workshop® programs relocated there from Besser Technical Center, and expanded workforce development, testing and research services are available to the concrete and concrete products industries.

In January 2008 the 12,000 square foot Fine Arts Center was constructed on the site of the old Graphic Arts Building and became the new home of the fine arts programs.

Oscoda Extension Center

In 1969, an extension center was established in partnership with the U.S. Air Force at Wurtsmith Air Force Base, Oscoda. Now known as the Oscoda Campus, it continues to serve Iosco County residents following the 1993 closure of the air base. The facilities include 12 classrooms, computer and science labs, a two-way interactive room, administrative office, and a Student Success Center. Library resources for ACC students are available through a partnership with the nearby Robert J. Parks Library.

50th Anniversary, 1952-2002

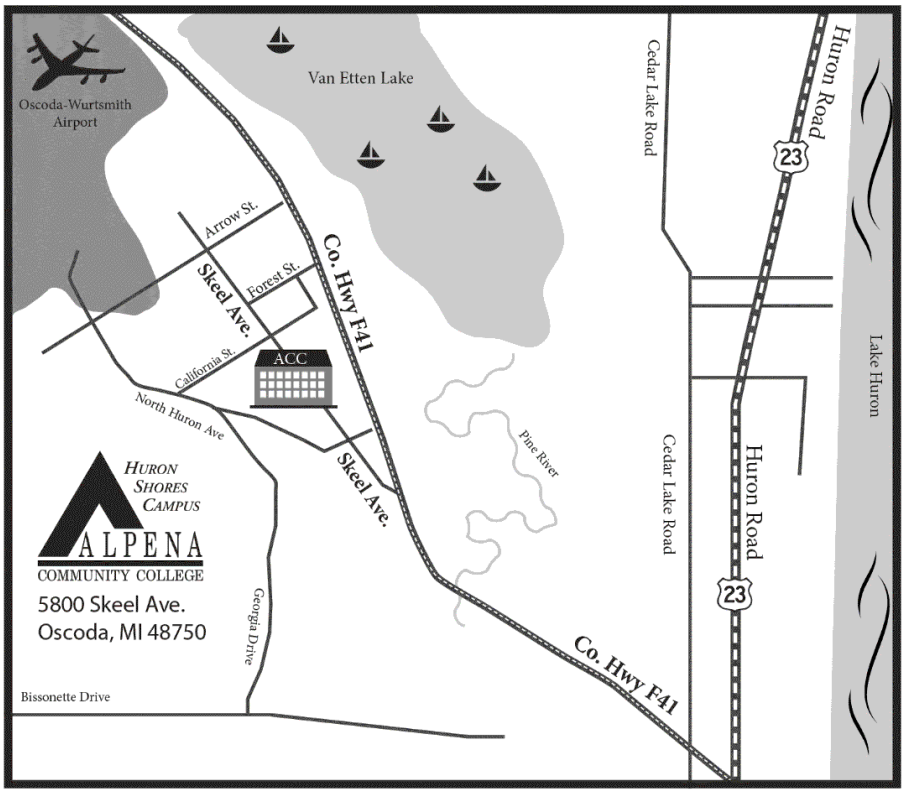
During the 2002-03 academic year, ACC celebrated its 50th year of educating students and enhancing the Northeastern Michigan community. Since its founding in 1952, ACC has awarded approximately 10,300 degrees and directly influenced the lives of nearly 200,000 people through College programs and services. The vast majority of these people are our neighbors, family members, local employees, and our civic, social, and opinion leaders. No other college has touched as many individuals or had so much influence on the future of Northeast Michigan.

Oscoda Campus Information

5800 Skeel Avenue • Oscoda, Michigan 48750
989.358.7295

Building hours: Weekdays 8:30 a.m. to 5:00 p.m.

Located in the Oscoda Educational Center, just off F-41, minutes from US-23 in the renovated Headquarters Building at the former Wurtsmith Air Force Base.



Oscoda Campus Contacts

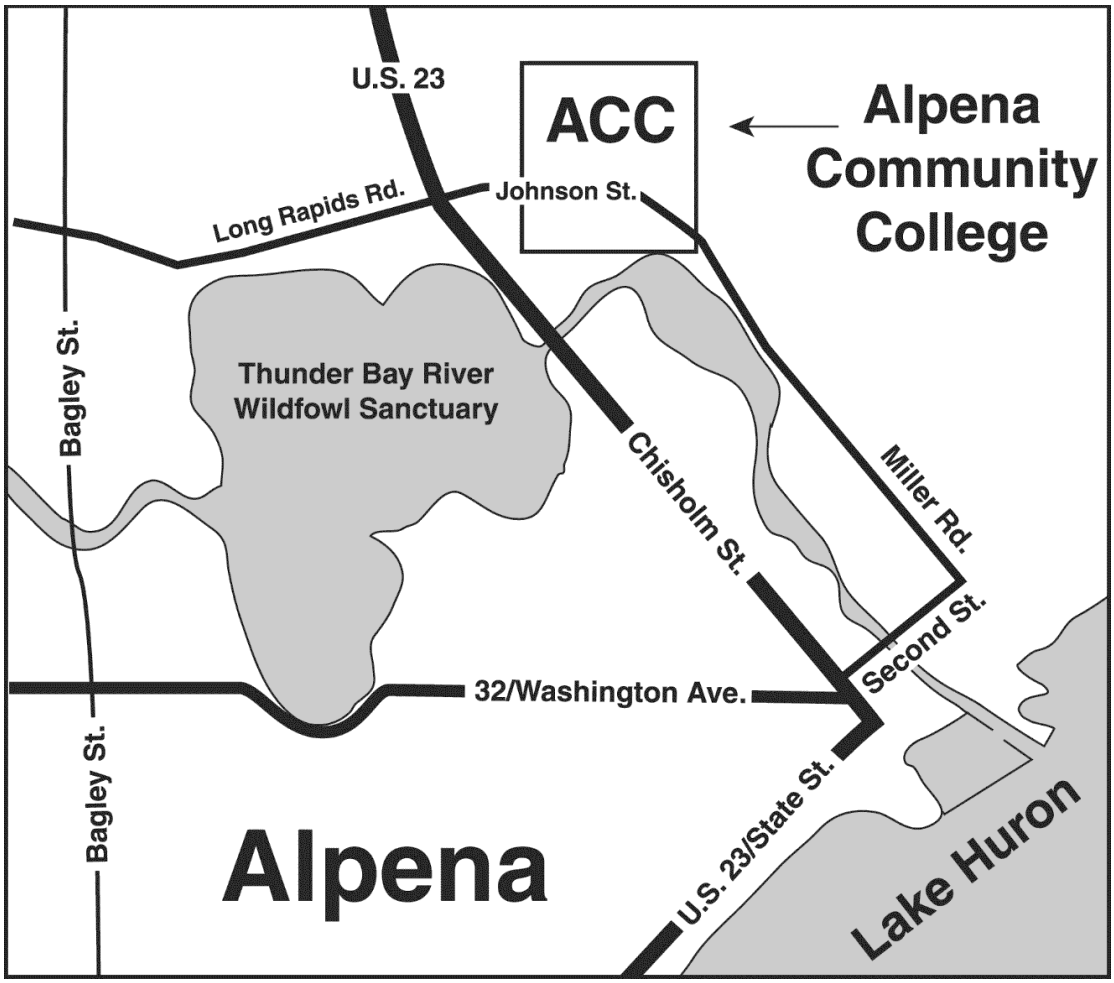
Director .....989.358.7442....OSCC, Second Floor
Administrative Assistant....989.358.7295....OSCC, Second Floor
Student Success Center ...989.358.7445....OSCC, Second Floor

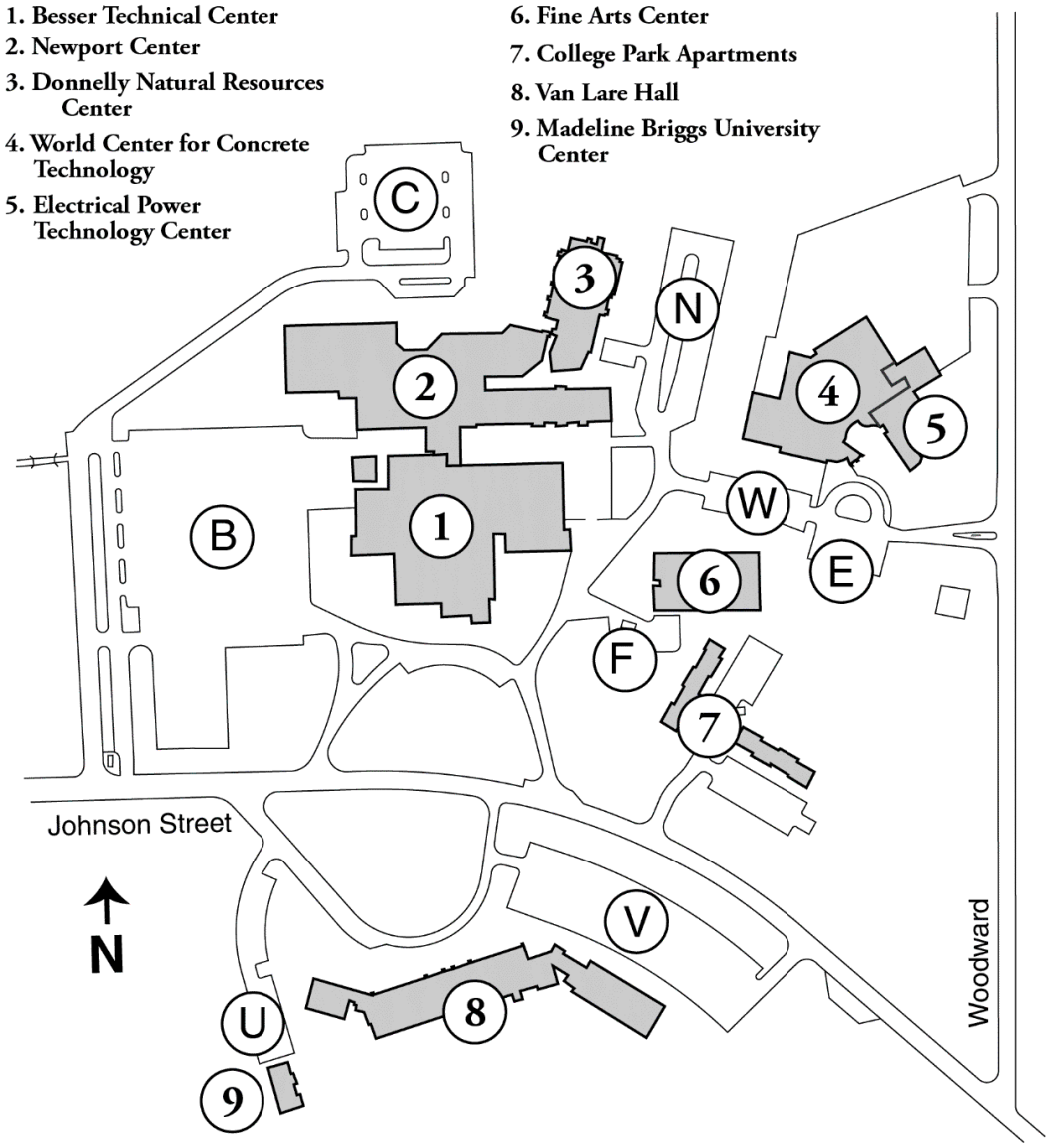
Alpena Campus Information

665 Johnson St. • Alpena, MI 49707-1495 • 989.356.9021

Building hours: Weekdays 6:00 a.m. to 10:30 p.m.

Use the last four digits as the extension with the automated phone system.





Besser Technical Center (BTC)

ACC Foundation 989.358.7297
Bookstore 989.358.7274
Facilities..... 989.358.7360
Food Service..... 989.358.7216
Parking Office 989.358.7360
Public Information 989.358.7215
President 989.358.7246

Newport Center (CTR)

ACC Library 989.358.7252
Student Success Center 989.358.7270
Tutoring 989.358.7270
Dean of Students 989.358.7212
Northwood University 989.358.7302
Office of Information Technology (IT) 989.358.7374
Wellness Center 989.358.7391

Electrical Power Technology Center (EPTC)

Fine Arts Center (FAC)

Natural Resources Center (NRC)

University Center (MBUC)

Association of Lifelong Learners 989.358.7207

Van Lare Hall (VLH)

Admissions 989.358.7339
Business Office 989.358.7213
Financial Aid 989.358.7286
Human Resources 989.358.7351
Nursing 989.358.7211
Registration, Records 989.358.7353
Vice President for Administration and Finance 989.358.7368
Vice President of Instruction 989.358.7458

World Center for Concrete Technology (WCCT)

Director 989.358.7293

ALPENA CAMPUS BUILDINGS

The main Alpena Community College campus site is situated on approximately 690 acres located on both sides of Johnson Street, approximately one-half mile east of US-23 North. Much of the property remains undeveloped forest land, and the campus is situated along a portion of Thunder Bay River where the Ninth Avenue Dam forms Lake Besser. Completion of an $8.2 million project in August 1996 provided weather-protected access to virtually all instructional and administrative areas located on the north side of Johnson Street. In 1997, College Park Apartments opened, providing on-campus. The newest facility is the $5 million Ferris H. Werth Electrical Power Technology Center, which opened in January 2015.

Following are descriptions of campus facilities with building names accompanied by the abbreviations used on course schedules to identify classroom locations.

BESSER TECHNICAL CENTER (BTC)

Besser Technical Center was built in 1963 by industrialist and philanthropist Jesse Besser to showcase the structural and architectural use of concrete block products. When completed, the building was given to Alpena Community College to support an expanded curriculum featuring technical education programs.

Today, Besser Tech houses specially equipped instructional areas and labs used for manufacturing technology, welding, computer-aided drafting and design, automotive service and repair and physics.

The building is built around an accessible open-air courtyard and houses the ACC Bookstore and Lumberjack Shack (dining services) as well as faculty offices and the offices of the President, Board of Trustees, Director of Public Information & Marketing, Alpena Community College Foundation, Facilities Management, Parking Control, and Educational Talent Search. As part of the Pathways to the Future project, the space which formerly housed the Concrete Tech program was renovated to house seven computer classrooms, faculty offices, and a 3,000-square-foot student commons area.

DONALD L. NEWPORT CENTER (CTR)

This facility designation names an addition to campus completed in 1996, as well as renovated space which was formerly called the Besser Technical Center Annex. The new and renovated facilities are connected to one another and to Besser Technical Center. It is truly a “center” of activity, housing the College Library and Student Success Center, a 250-seat performance and lecture theatre, a health fitness facility and an athletics and events arena, and telephone switchboard. There are two seminar rooms, faculty offices, three general purpose classrooms, a two-way interactive room, classroom and labs for auto body repair, utility technician, electrical apprentice and millwright apprentice courses. A student lounge, activities room and government office are located here.

FERRIS H. WERTH ELECTRICAL POWER TECHNOLOGY CENTER (EPTC)

The $5 million Ferris H. Werth Electrical Power Technology Center supports ACC’s Utility Technician and Electrical Apprentice programs by providing state-of-the-art facilities and equipment. To create this new facility, ACC extended the existing World Center for Concrete Technology building, adding approximately 21,000 square feet of space for classrooms, equipment labs, faculty offices, and bays for four bucket trucks or other pieces of heavy equipment. In addition to the new labs and equipment, ACC has plans for new academic programs to train technicians for occupations in the substations, relay and control, metering, and power generation technologies. The building also features a wind turbine and photovoltaic panel array for generating green energy.

OLIN H. JOYNTON FINE ARTS CENTER (FAC)

The Fine Arts Center was constructed as part of the Pathways to the Future project to house ACC’s fine arts programs after the closing of the East Campus facility. Opened in January 2008, the 12,000 square foot building contains photography, ceramics, and painting labs in addition to gallery space for displaying artwork.

CHARLES R. DONNELLY NATURAL RESOURCES CENTER (NRC)

This four-story, contemporary block building provides six natural science laboratories on the first floor used for chemistry, biology, microbiology, and botany. Also on the first floor are a vending area, 130-seat lecture hall (Room 101) and faculty offices. The second floor has three general purpose classrooms, faculty offices, a small conference room, and dedicated classroom, laboratory and faculty and administrative office space for the nursing and health occupations programs. The third floor contains faculty offices, and the fourth floor is the College Board Room. An elevator serves all floors.

VAN LARE HALL (VLH)

Van Lare Hall, named for Stanley Van Lare, ACC's first president, was the first building constructed on the current ACC campus; its cornerstone was laid by philanthropist and area businessman Jesse Besser, who also donated the land on which the current Alpena campus resides. Van Lare Hall houses student services including the Admissions Office, Financial Aid Office, registration, student records, Registrar's Office, and the office of the Vice President of Instruction. Van Lare Hall also houses the Business Office, the Office of the Vice President for Finance and Administration, the controller, cashier, accounting, payroll, and Human Resources Office. In 2017 ACC received state approval to begin renovating Van Lare Hall; the $8.7 million project updated the building's exterior and interior and provided state-of-the-art labs for ACC's Nursing Program as well as an attractive new main entrance and student gathering area. Work on the project was completed in the fall of 2021.

WORLD CENTER FOR CONCRETE TECHNOLOGY (WCCT)

Harris Hall, located on six acres at the eastern edge of campus, is a $7.7 million facility which houses the World Center for Concrete Technology. The associate degree Concrete Technology program and the Blockmakers Workshop® program relocated there from Besser Technical Center during the spring of 2000. The WCCT is expanding services to meet the workforce development and research needs of the concrete and concrete products and aggregate industries. It also houses industrial testing services and the Small Business and Technology Development Center (SBTDC).

The 42,360-square-foot building contains a full-size concrete products manufacturing plant as well as labs for mason training, certified testing and instruction; a computer lab; three classrooms, offices and a conference room.

COLLEGE PARK APARTMENTS

Sixteen four-bedroom student townhouse apartments opened in August 1997 at Alpena Community College. Each two-floor unit features two bathrooms, a range, refrigerator, forced air natural gas heat, and natural gas water heater. Options include furnished or unfurnished units and a nine-month lease. Applications are available online or the Admissions Office (VLH 111).

MADELINE BRIGGS UNIVERSITY CENTER (MBUC)

Located just west of Van Lare Hall, the University Center Building the Association of Lifelong Learners.

OSCODA CAMPUS

Alpena Community College has operated a full-service extension center in Iosco County since 1969. The Oscoda Campus serves area residents with classes in Oscoda, Tawas, and Whittemore.

In June 1996, renovations at the Headquarters Building of the former Wurtsmith Air Force Base, were completed and the Oscoda Educational Center opened at 5800 Skeel Avenue, Oscoda. Oscoda Campus students have a full-service program of advising, assessment and instruction coordinated through the ACC office. Courses in Fall and Spring semesters are offered, as well as six-week or twelve-week summer courses. Instructional facilities include 12 classrooms, a computer lab, science lab, welding lab, two-way interactive room, and the Student Success Center. ACC is also a partner in supporting the nearby Robert Parks Library which is a resource for students.

Selected classes are offered at community sites in the county as enrollment allows. Customized training for business and industry is provided by the Alpena Community College Workforce Development Office and can be coordinated through the Oscoda Campus office.

For more information, contact the Oscoda Campus at 989.358.7295. See page 200 of this catalog for a location map.

Community Services

ACC Bookstore

The Alpena Community College Bookstore carries a wide variety of course materials, logo wear, and ACC merchandise; it is open to the public Monday through Friday.

It is located at the Alpena Campus in Besser Technical Center Room 104 and is operated by Follett. Extended hours are posted for the beginning of each semester and during College special events.

Bookstore phone: 989.358.7274.

Learning Resources Center — Library

Alpena Community College Learning Resources Center consists of the Stephen H. Fletcher Library, Student Success Center, and the College audio-visual service. Located in the Center Building, the Library and A-V areas provide intellectual access to recorded knowledge and information which is consistent with the present and anticipated teaching and research responsibilities of Alpena Community College. Insofar as possible, these resources are shared with the community and other institutions. The academic library collection is generally suitable for adult use. Non-ACC students 18 years of age and older are invited to obtain an ACC library card at no cost.

The Library consists of books, e-books, periodicals, microforms, reference, CD and on-line materials. Computerized local and regional library catalogs and inter-library loan facsimile service give students, community patrons, and college staff quick access to materials anywhere in the country. Computerized (CD and on-line Internet) full-text access is available for approximately 18,000 unique periodical titles, Michigan newspapers, and an assortment of national and local newspapers. Computer access to the Internet, websites and e-mail are also available in the ACC Library.

Community groups holding meetings in College facilities may also request use of audio-visual equipment.

Library phone: 989.358.7249 or 989.358.7252.

Lumberjack Shack

The College cafeteria, the Lumberjack Shack, is open to the public Monday through Thursday from 8:00 a.m. to 6:00 p.m. and from 8:00 a.m. to 2:00 p.m. on Fridays. It is located in Besser Technical Center Room 107 and is operated by Fremont Catering, through contractual arrangements with ACC.

Special food service for community groups using ACC facilities is also available by contacting Fremont Catering at 989.358.7216 or 989.354.0016.

Meeting Facilities

ACC facilities, including a 250-seat theatre, events arena and conference rooms, are available for use by community groups. There is no fee for use by non-profit groups between 6 a.m. and 10 p.m. Monday through Friday. A fee is charged for non-profit use outside these hours and to for-profit organizations. A fee chart and printable facility use form can be obtained from the College website at www.alpenacc.edu or by calling 989.358.7360.

Two-way interactive rooms are available for rent at both the Alpena and Oscoda Campuses. Visit the College website for details, or call 989.358.7360.

STUDENT SUCCESS CENTER (SSC)

The Student Success Center (SSC) is located in CTR 111B and houses academic support services for students (details are in the Student Handbook).

WELLNESS CENTER

Membership at the Frederick T. Johnston Wellness Center is open to the public with special senior citizen rates available for college district residents. Registered credit students may utilize the Wellness Center free of charge.

Individual health and fitness programs are developed and designed by the professional staff, and a variety of the newest cardiovascular, weight training and monitoring equipment is available for member use. The Wellness Center is located adjacent Park Arena on the ACC campus. For information on rates and enrollment, call 989.358.7391.

CUSTOMIZED TRAINING CENTER

Customized Training programs enable local employers to provide specialized training to their employees. This training is designed to meet specific needs, may be conducted either at the work place or at Alpena Community College, and can be conducted for any number of employees. For more information contact the Customized Training program director in World Center for Concrete Technology Room 106B, or by phone at 989.358.7293.

ACC Personnel

President

Dr. Donald C. MacMaster
B.A., University of Michigan
M.A., Central Michigan University
Ed.D., Ferris State University

Administrators

Amanda Belusar
Director of Financial Aid
A.S., Alpena Community College
B.S., Northwood University
M.B.A., Capella University

Nicholas Brege
Vice President for Administration & Finance
A.S., Alpena Community College
B.S., Kettering University
M.B.A., University of Michigan

Noel Curtis
Director of the Wellness Center
B.A., Central Michigan University
M.A., Central Michigan University

Cynthia DeRocher
Director of Student Life Activities,
Campus Housing
A.A., Alpena Community College
B.S, Lake Superior State University

Laura Douglas
Director of Alumni Relations
B.A., Arizona State University

Mary Eagan
Executive Director of ACC Foundation,
Executive Director of Development
A.A., Alpena Community College
B.A.S., University of Iowa
M.A., University of Iowa

Vicki Goodburne
Assistant Controller/Payroll Manager
A.A.S., Alpena Community College
B.S., Lake Superior State University
M.B.A, Capella University

Paige Gordier
Vice President of Instruction
B.S., Lake Superior State University
M.A., Sam Houston State University
Ph.D., Sam Houston State University

Melissa Guy
Director of Human Resources,
Title IX Coordinator
A.A.S., Alpena Community College
B.A., Ferris State University
PHR Certificate
SHRM-CP Certificate

Adam Keyes
Director of Information Technology
A.A.S., Alpena Community College
B.S., Northwood University
CIAC GMON & GHFA Certificate
Mile2 CPTE Certificate
CISSO Certificate
CPEH Certificate
CompTIA Certificates

Michael Kollien
Director of Admissions
A.A., Alpena Community College
B.A., Concordia College

Louis "Kurt" Konieczny
Director of Facilities Management
Cert., Alpena Community College

Lyn Kowalewsky
Controller
A.A., Alpena Community College
A.A.S., Alpena Community College
B.S., Lake Superior State University
M.B.A., Lake Superior State University

Marvin Pichla
Director of Oscoda Campus
B.S., Central Michigan University
M.P.A., Central Michigan University
Ph.D., Capella University

Sheila Rupp
Registrar
B.S., University of Michigan

Corey Sarnia
Director of Institutional Research
A.S., Alpena Community College
B.S., Western Michigan University

Nancy Seguin
Dean of Students
A.A., Alpena Community College
B.S., Central Michigan University
M.A., Central Michigan University

ADMINISTRATORS

Dawn Stone
Dean of Workforce Development,
Director of WCCT
B.A., Michigan State University

Allen Telgenhof
Athletic Director
B.A., Michigan State University
J.D., Thomas M. Cooley Law School

Crystal Vogt
Director of Learning Technology
B.A., Spring Arbor University
M.Ed., Grand Canyon University

Denis J. Walterreit
Director of Public Information & Marketing,
Secretary to the Board of Trustees
B.A., Michigan State University

Denise Wekwert
Simulation Lab Manager
A.A.S., Alpena Community College
B.S.N., Lake Superior State University

Jaime Wilson
Assistant to the Director of Human Resources
A.A.S., Alpena Community College
B.B.A., Northwood University

Kristen Wisniewski
Director of Workforce Development Grants
B.A., Hope College

Chanda Zbytowski
Director of Nursing
A.A.S., Alpena Community College
B.S.N., Chamberlain College of Nursing
M.S.N., Chamberlain College of Nursing

FACULTY

Nicholas Bancroft
English
B.S., Northern Michigan University
M.A., Northern Michigan University

Joseph Bastow
English
B.A., North Central College
M.Ed., Aquinas College
M.A., Ashland University

Matt Bedard
Business
A.S., Community College of the Air Force
A.A.S., Wayland Baptist University
B.S., Wayland Baptist University
M.B.A., Wayland Baptist University

Jodie Borowicz
Accounting, Business
B.S., Central Michigan University
Certified Public Accountant (CPA)

Sarah Burt
Mathematics
A.S., Alpena Community College
B.S., Central Michigan University
M.A., Central Michigan University

Meghan Cameron
Mathematics
B.S., Michigan Technological University
M.S., Michigan Technological University

Amanda Campbell
Anthropology, Geography, History
B.A., Albion College
M.A., Western Michigan University

Susan Cook
Business, Computer Information Systems
B.S.E., University of Michigan
M.S.E., Michigan State University

Reilly Card
Speech
B.A., Wayne State University
M.S., Illinois State University

David Cummins
Marine Technology, Mechanical Design Tech
B.S., Central Michigan University
M.A., Central Michigan University

Ryan Dziedzic
Biology
B.S., Central Michigan University
M.S., Central Michigan University

Paul Gamage
Utility Technology
A.A.S., Alpena Community College
I.B.E.W. Journeyman Lineman Certification

Thomas Gougeon
Physics
B.S., Central Michigan University
M.S., Central Michigan University

FACULTY

Christopher Kauffman
Utility Technology
State Licensed Master Electrician

Eric Kennedy
Concrete Technology
A.A.S., Alpena Community College
B.S., University of Phoenix
M.S., University of Phoenix

Jeremy Kilbourn
Nursing
A.A.S., Alpena Community College
B.S.N., University of Phoenix
M.S.N., University of Phoenix

Timothy Kuehnlein
History, Political Science
B.A., Hillsdale College
M.A., Western Michigan University

Jewel Lancaster
Student Services and Perkins Counselor
A.A., Pasco-Hernando Community College
B.S., University of South Florida
M.A., Central Michigan University

Sanghyun Paul Lee
Political Science, Economics
B.A., Hanyang University
M.A., Hanyang University
M.A., Portland State University
M.A., Florida Atlantic University

Douglas Mayo
Nursing
A.A.S., Alpena Community College
B.S., Southern New Hampshire University
M.S., Southern New Hampshire University

Vicki McCoy
Biology
A.A.S., Alpena Community College
A.A.S., Mid-Michigan Community College
B.S., Central Michigan University
M.S., Central Michigan University

Amber McLarney-Vesotski, Ph.D.
Psychology
A.A., Jamestown Community College
B.A., St. Bonaventure University
M.A., University of Toledo
Ph.D., University of Toledo

Terry McKenzie
Nursing
A.A.S., Alpena Community College
B.S., Chamberlain University
M.S., Chamberlain University

Robert Mills
Criminal Justice
A.S., Community College of the Air Force
A.A.S, Alpena Community College
B.A., University of Arizona

Timothy Onstwedder
Concrete Technology
A.A.S., Alpena Community College
B.S., Lake Superior State University

Andrew Paad
Manufacturing Technology, Millwright
A.A., Alpena Community College
A.A.S, Alpena Community College
B.S., Embry-Riddle
B.S., Park University
Certified SolidWorks Associate
AWS Certificate

Sven Pearsall
Humanities, Philosophy
A.A., North Central Michigan College
B.S., Northern Michigan University
M.A., Central Michigan University

Heather Pines
English
A.A., Alpena Community College
B.A., Northern Michigan University
M.A., Central Michigan University

Matthew Plante
Mathematics
A.S., Alpena Community College
B.S., Grand Valley State University
M.A., Central Michigan University
Ph.D., University of Connecticut

Alexa Ramacher
Nursing
A.A.S., Kirtland Community College
B.S.N., Chamberlain University

Scott Ratz
Chemistry
A.S., Alpena Community College
B.S.E., University of Michigan

FACULTY

Timothy Ratz
Manufacturing Technology, Welding
A.A.S., Alpena Community College
B.S.E., Ferris State University
M.S., Ferris State University

Wesley Repke
Electrical Systems Technology
B.S., Grand Valley State University

Daniel Rothe
Mathematics
A.A., Alpena Community College
B.S., Central Michigan University
M.A., Central Michigan University

Melanie Rowden
Nursing
LPN Certificate, Alpena Community College
A.A.S., Kirtland Community College
B.S.N., Grand Canyon University
M.S.N., Grand Canyon University

Dustin Ruehle
Automotive Service & Repair
A.A.S., Alpena Community College
ASE Master Certified
ASE Advanced Level Specialist
GM Technical College Master Certified

Bonnie Schopfer
Nursing
L.P.N., Alpena Community College
R.N., Alpena Community College
B.S.N., Chamberlain University
M.S.N., Chamberlain University
R.N. License

Brian Schorn
Fine Arts
B.F.A., College for Creative Studies
M.F.A., University of Michigan
M.F.A., Brown University
M.F.A., Cranbrook Academy of Art
M.F.A., Mills College

Theresa Schulz
Biology
B.A., Waldorf College
M.S., Northern Michigan University

Shawn Sexton
English
B.A., University of Dayton
M.A., University of Dayton

Rick Smith
Utility Technology
UTT Certificate, Alpena Community College
ALBAT, Journeyman Lineman Certification

Angela Soltysiak
Nursing
A.A.S., Alpena Community College
B.S., University of Michigan – Flint
M.S., University of Michigan – Flint

Dane Werth
Utility Tech, Electrical
State Licensed Master Electrician

Kyle Zarske
Computer Science, Network Administration
A.A.S., Alpena Community College

STAFF

Michael Belusar
Computer Technician

Patrice Billiel
SSC Technician, Oscoda Campus

Kathryn (Lisa) Blumenthal
Marketing & Data Specialist

Lisa Brege
Nursing Secretary

Bethany Bruski
Asst to Director of Admissions

Richard Buchler
Maintenance

James Chapman
Parking Lot Attendant

Shelly Clarke
OIT Help Desk Coordinator

Robert Corwin
Custodian

Steve Corwin
Custodian

Todd Crandall
EPTC Vehicle Maintenance Technician

Joseph Donna
Fine Arts Studio Technician

Cora Dykes
Oscoda Campus Services Coordinator

Patricia Fontaine
Registrar's Office Specialist

STAFF

Monika Ehrlich
Student Success Resource Ctr Technician, Alpena Campus

Adam Guitar
Athletics Office Coordinator

Jessica Haselhuhn
Communications Technician

Bridget Hollinshead
Campus Services Receptionist

Jesse Huizenga
Computer Network Support Specialist

Nhia Lee
Technology Support Specialist

Kerrie Kamyszek
ACC Foundation Secretary, Secretary to the President

Danielle Kollen
Accounts Receivable Secretary/Cashier

Terry LaBarge
Wellness Center Technician

Stephen LeFebvre
Custodian

Kelly Lewis
Registrar's Office Support Specialist

Patricia Manning
Library Technician

Brandi Markey
Accounts Payable Secretary, Cashier

Beth Matzke
Testing Coordinator

Justin Miltz
Institutional Research Specialist

Michael Miltz
Custodian

Nicholas R. Neuman
Maintenance

Julie Nowak
Campus Services Receptionist

Ashley Nowicki
High School & Admissions Outreach Coordinator

Kristen Schnell
Financial Aid Support Specialist

John Seguin
Mail Processing Technician

William Shatrau
Maintenance

Grant Shaw
Library Coordinator

Bryan Shellenbarger
Custodian/Maintenance – Oscoda Campus

Eric Soik
Maintenance

Gwen Spence
Facilities Management Secretary

Denise Tobias
Office Assistant Workforce Development

LuAnne Thurston
Registrar's Office Assistant

Jennifer Turske
Custodian

Christal Wiltse
Custodian

Jackie Witter
Assistant to Academic VP & Dean of Students

Todd Wozniak
Students Success Facilitator

Alexis Young
Financial Aid Technician

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