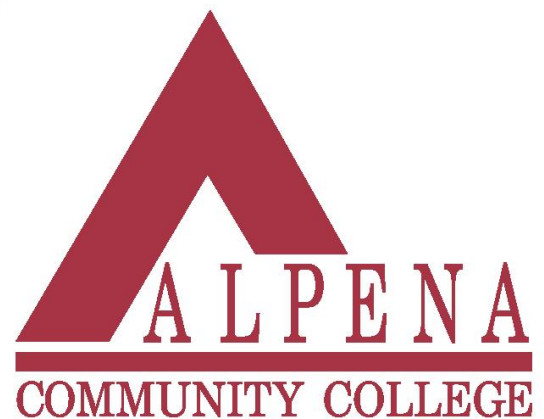


2015-16 CATALOG

Alpena Community College



Discover the **value** of an
ACC education!



Alpena Community College 2015-16 Academic Catalog

Catalog Volume 58 — August 2015

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 2015 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 WebAdvisor and the schedule that is published each semester to provide current information on registration and course offerings.

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Huron Shores Campus

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Oscoda, Michigan 48750-1587
Telephone: (989) 739-1445

Call toll free in Michigan: 1-888-468-6222
ACC Website: www.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
Joseph Gentry II, Treasurer
Teresa Duncan
Marc Ferguson
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 Huron Shores branch campus in Oscoda. Concrete Technology, Utility Technology, and Marine Technology 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,

A handwritten signature in dark ink that reads "Don MacMaster". The signature is written in a cursive, flowing style.

Dr. Don MacMaster
President

Getting to College 101

1. Choose a Program and Apply to ACC

Look through this catalog, the ACC website, or other literature 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 www.alpenacc.edu/apply.

Once you've received your acceptance letter, sign up for mandatory orientation. You can make reservations via the ACC website.

Please note: ACC cannot process your financial aid or COMPASS Assessment without your completed application. **Recommended Completion Date: Anytime! (Must be completed prior to COMPASS 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. Apply online at www.fafsa.gov and authorize electronic release of **the results (called the Student Aid Report or SAR) to ACC by including our code number, 002237. The recommended completion date for Fall Semester is March 1.**

3. Take the COMPASS Placement Assessment

The COMPASS Placement Assessment is required for:

All new ACC students who **do not have** ACT Reading, English, and Mathematics sub scores of 18 or higher, and wish to register for more than one course **OR** have not earned a minimum of 12 college credits including at least one college level course in either English or Mathematics **AND** all students who enroll for the first time in an English or mathematics course.

To schedule an appointment contact the Testing Center at 989-358-7209.

4. Academic Advising

An advisor will be assigned to you after you submit your Application for Admission. Meet with your 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 possible date for the best choices of class days and times.

Thinking of a 4-year College or University? The credits you earn at ACC do 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 other 4-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 on transferring 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 a counselor or 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 www.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 even easier for students to transfer their credits to earn a Bachelor's Degree. Northwood offers a Bachelor of Business Administration program with focuses on Health care Management, Management, Computer Information Management, Accounting, and Automotive Supply Management.

Alpena Community College is preparing to offer a bachelor's degree in Electrical Power Technology beginning in August 2016. Check the ACC website for more information as it becomes available!

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 and Student Affairs Office is the designated office at ACC 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 Student Services Center). All disability documentation will be maintained by the Dean of Students.
3. The student is contacted by a disability services staff member after documentation has been reviewed.
4. A decision regarding reasonable disability accommodation services is made by the disability services staff member 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 Student Services Center or on the Alpena Community College website (www.alpenacc.edu).

Admissions Policy

Alpena Community College grants admission to all persons who have earned a High School Diploma, Certificate of Completion or GED, 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 the Alpena Community College COMPASS placement test 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.

Placement testing is required for:

All new Alpena Community College students who do not have A.C.T. Reading, English and Mathematics sub-scores of 18 or higher and wish to register for more than one course*** (Note: placement tests will only be given in the subject areas where sub-score minimums were not met) OR

Have not earned a minimum of 12 college credits including at least one college level course in either English or mathematics AND

All students who enroll for the first time in an English or mathematics course.

* **Satisfactory Skills** – Ability to Benefit: Persons taking the COMPASS placement testing must achieve subtest scores of 32 (3 on e-write), 62, and 25 or higher on the Writing Skills, Reading and Pre-algebra/Num Skills sections respectively. This test

battery may be taken no more than twice in a single semester. Individuals scoring below the minimum subtest scores in all three of the areas as described above must take the College's four course preparatory curriculum earning a C grade or above in each course, while not exceeding eight (8) credit hours, without advisor approval, in a given semester, prior to taking any other college level course. Those failing to meet the minimum scores in one or two areas described above need only take the preparatory course or courses corresponding to those areas (see table below).

- ** Interested high school students should contact their high school principal or guidance counselor for further information.
- *** Students who accumulate 6 credit hours by taking one course per semester will be required to take the COMPASS placement test battery.

Preparatory Curriculum Table

Course Number and Title	Credit Hours	Required Courses Based Upon COMPASS Placement Testing
CSS-095 Effective Reading Strategies and Study Skills	3.0	Required if COMPASS Reading Score is 61 or below
CSS-100 Becoming a Master Student	2.0	Must be taken when CSS-095, ENG-090 OR ENG-102, and MTH 090 (i.e., all three discipline specific courses) are required
ENG-090 Fundamentals of Writing	4.0	Required if COMPASS e-Write score is 3 or below (or Writing Skills Score is 31 or below) OR
ENG-102 Basic English	4.0	Required if COMPASS e-Write score is 4 – 5 (or Writing Skills Score is 32 - 65)
MTH-090 Arithmetic	4.0	Required if Mathematics Placement Score is 24 or below

Application Process

Applications for Admission to Alpena Community College can be obtained in person from the Admissions Office (Van Lare Hall 111) or Registrar's Office (Van Lare Hall 108) at the main campus and at the Huron Shores Campus Office in Oscoda. An online application can be completed through the College website (www.alpenacc.edu). Mail and telephone requests for applications are accepted at (989) 358-7339 and (989) 358-7295 (Huron Shores Campus). The application process involves submitting:

1. A completed Application for Admission.
2. Transcripts of all high school and college work completed.

The American College Test (ACT) is recommended, but not required. A foreign applicant must present a visa.

Dual Enrollment & 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.

For a number of years Alpena Community College has also accepted 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 needs only to contact the Registrar's Office to update his/her personal information file and reactivate registration 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 towards 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 are 16 privately-owned and privately-operated four-bedroom units located on the eastern edge of campus along Johnson Street. Applications are available in the Admissions Office at Van Lare Hall or from Stratford Group Ltd., 442 W. Baldwin St., Alpena MI 49707 or by calling (989) 354-2424.

Listings of off-campus housing are available through the Alpena Area Chamber of Commerce, (989) 354-4181, and through the Alpena Community College Financial Aid Office at Van Lare Hall, (989) 358-7286.

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 status, 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 www.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 and 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: Carolyn Daoust, Title IV Coordinator/Director of Human Resources, VLH 102, (989) 358-7211, e-mail: daoustc@alpenacc.edu.

Off-campus Courses

Off-campus services to local communities make educational experiences available to students not having access to campus facilities. Persons or groups interested in off-campus courses should contact the Dean for Workforce Development or the Director of the Huron Shores Campus. Off-campus credit classes are currently offered each semester at community sites in 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 registration and testing 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.

Placement Testing

Placement testing evaluates the student's basic skills in reading, writing, and mathematics in relation to the prerequisite requirements for college-level coursework. Results are used to make recommendations concerning course placement and the possible need for additional skills instruction. Placement dates and times for the main campus in Alpena

and the Huron Shores campus in Oscoda are published in the semester course schedule and are available on the Alpena Community College website.

Placement testing is required for:

1. All new Alpena Community College students who do not have a high school diploma, G.E.D. or do not have A.C.T. Reading, English, and Mathematics sub-scores of 18 or higher and wish to register for more than one course** (Note: placement tests will only be given in the subject areas where sub-score minimums were not met) or
2. All students who have not earned a minimum of 12 college credits including one college level course in either English or Mathematics, AND
3. All students who enroll for the first time in an English or mathematics course.

** Students who accumulate six credit hours by taking one course per semester will be required to take the COMPASS Placement test battery.

Assessment and Placement Grid

Reading Skills

<u>COMPASS Score</u>	<u>Placement Course</u>
0-38	CSS 095/Decision Zone
39-61	CSS 095
62-80	CSS 098
81-100	No reading course required

E-Write Skills

<u>COMPASS Score</u>	<u>Reading Score</u>	<u>Placement Course</u>
3 or below	61 or below	ENG 090 Required
4-5		ENG 102
5	81 or above	ENG 111 or ENG 120*
5		ENG 111 or ENG 120*
6		ENG 111 or ENG 120*
6-7		ENG 111 or ENG 120*
7	91 or higher	ENG 121
7-8		ENG 121

* Students whose placement scores require concurrent enrollment in CSS 095 or 098 and ENG 111, 121 or 120 must fulfill the minimum CSS reading requirements to remain enrolled in the ENG course. Students co-enrolled will be offered the opportunity to re-test on COMPASS within the first week of class.

Math Skills

	<u>COMPASS Scores</u>	<u>Placement Course</u>
Pre-Algebra Score:	0-24	MTH 090 Required
	25-28	MTH 090
	29-35	Decision Zone
	36-100	MTH 102, MTH 110, MTH 115 or BUS 125
Algebra Score:	0-36	MTH 102, MTH 110, MTH 115 or BUS 125
	37-100	MTH 113
College Algebra Score:	0-49	Use Algebra score for placement
	50-100	MTH 121, MTH 122, MTH 123
Trigonometry Score:	0-49	Use College Algebra Score for placement
	50-100	See Math Department for placement

ACT Placement Guidelines

ACT sub scores (Reading, Math & English) of 18 or above No COMPASS needed

English

ACT English score of 18 ENG 111 English Placement

ACT English score of 24 & above ENG 121 English Placement

Math

ACT math score below 18 Base on COMPASS score

ACT math score of 18-24 MTH 113 Intermediate Algebra

ACT math score of 24-27 MTH 121 College Algebra, MTH 122 Plane Trigonometry, or MTH 123 College Algebra and Analytic Trigonometry, based on academic program and trigonometry background

ACT math score of 27 and above Consult math instructor

Biology Placement Guidelines

ONE Year of high school biology with a "C" or higher within last five years or BIO 114 Introduction to Biology with a "C" or higher	BIO 110 Essentials of Anatomy and Physiology
No high school biology, or high school biology with "C" or higher within the last five years or Advanced Placement of 3 in Biology.	BIO 114 Introduction to Biology with corequisite of ENG 102 Basic English or eligibility placement in ENG 111 English
BIO 110 or BIO 114 or equivalent: CEM 100 or CEM 111 or equivalent recommended	BIO 140 Microbiology for the Health Sciences (for students pursuing associate degree level

	programs in the Allied Health Sciences; students planning to major/minor in biology or other pre-professional programs are advised to take BIO 227
One year of high school biology with a “C” or higher within last five years or BIO 114 Introduction to Biology with a “C” or higher or Advanced Placement of 4 or 5 in biology AND one year of high school chemistry with a “C” or higher within the last five years or CEM 100 Introductory Chemistry or higher	BIO 161 General Biology placement and eligibility placement in ENG 111 English
Two years of high school biology or one year of high school biology and LME 320 (AHS course) with a “C” or higher within last five years or BIO 161 General Biology with a “C” or higher or BIO 110 with a “C” or higher or BIO 114 with a “C” or higher within last five years	BIO 201 Human Anatomy placement
BIO 201 Human Anatomy with a “C” or higher and CEM 111 General Chemistry (or higher) with a “C” or higher	BIO 203 Human Physiology placement
BIO 161 with a “C” or higher or CEM 111 with a “C” or higher AND BIO 110 with a “C” or higher or BIO 114 with a “C” or higher or one year of high school biology with a “C” or higher within the last five years	BIO 227 Microbiology (for students planning to major/minor in biology or other pre-professional programs)

Chemistry Placement Guidelines

One year of high school algebra with a “C” or higher or MTH 102 Elementary Algebra or concurrent enrollment in MTH 102 or instructor permission	CEM 100 Introductory Chemistry
One year of high school chemistry with a “C” or higher or CEM 100 Introductory Chemistry AND MTH 102 or equivalent or concurrent enrollment in MTH 102 or instructor permission	CEM 111 General Chemistry
Two years of high school chemistry with a “C” or higher or permission from instructor	CEM 121 General and Inorganic Chemistry
Advanced Placement (AP)	3 = CEM 121 General and Inorganic Chemistry; 4 = CEM 121 General and Inorganic Chemistry and CEM 122 Inorganic Chemistry and Qualitative Analysis

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 section of this publication 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 & Annual Fire Safety Report

Alpena Community College is committed to enhancing the safety and security of our campus communities. The College has adopted a number of 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 a 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 (www.alpenacc.edu/safety/docs/acc_asr.pdf).

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 on 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.

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 reported in this report are for 409 new students who began their attendance at ACC in the Fall semester of 2011, 402 new students who began their attendance at ACC in the Fall semester of 2010, and 405 new students beginning their attendance in the Fall semester of 2009. 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

Cohort Completion Rates — New Full-Time Students, Fall 2011

	<u>'09-'10</u>	<u>'10-'11</u>	<u>'11-'12</u>
A. Students	405	402	409
Completers	133 (33%)	110 (27%)	144 (35%)
B. Male Students	231	206	205
Completers	84 (36%)	63 (31%)	81 (40%)
Female Students	174	196	204

Completers	49 (28%)	47 (24%)	63 (31%)
C. Ethnic Breakdown			
White Students	383	381	387
Completers	128 (33%)	105 (28%)	140 (36%)
Black Students	6	7	7
Completers	0 (0%)	0 (0%)	0 (0%)
Other Students	12	9	11
Completers	3 (25%)	4 (44%)	2 (18%)
Native American			
Students	4	5	4
Completers	2 (50%)	1 (20%)	2 (50%)

Individual program completion rates are available to interested students through the Office of Academic and Student Affairs.

Cohort Completion Rates — Athletics

		'09-'10	'10-'11	'11-'12
A.	Scholarship Athletics 40*	45	38	
	Male 13	14	13	
	Female 27	31	25	
	Program Completers	17 (43%)	10 (22%)	14 (36%)
	New Students Athletes	30	25	27
	Completers	8 (27%)	4 (16%)	15 (55%)
B.	Men's Basketball			
	Athletes 12	16	13	
	Completers	2 (17%)	2 (13%)	5 (38%)
	Caucasian 7	11	4	
	Completers	2 (28%)	1 (9%)	2 (50%)
	Black 5	5	9	
	Completers	0 (0%)	1 (20%)	3 (33%)
	Native American	0	0	0
	Completers	n/a	n/a	n/a
C.	Women's Basketball			
	Athletes 10	12	11	
	Completers	4 (40%)	4 (33%)	4 (36%)
	Caucasian 8	10	11	
	Completers	4 (50%)	4 (40%)	4 (36%)
	Black 2	2	0	
	Completers	0 (0%)	0 (0%)	n/a
D.	Men's Golf			
	Athletes 8	7	5	
	Completers	6 (75%)	4 (57%)	3 (60%)
	Caucasian 8	7	5	
	Completers	6 (75%)	4 (57%)	3 (60%)

	Black	0	0	0		
	Completers		n/a	n/a	n/a	
E.	Women's Softball					
	Athletes	11	11	11		
	Completers		6 (54%)		4 (36%)	3 (27%)
	Caucasian	11	11	11		
	Completers		6 (54%)		4 (36%)	3 (27%)
	Black	0	0	0		
	Completers		n/a	n/a	n/a	
F.	Women's Volleyball					
	Athletes	10	11	9		
	Completers		4 (40%)		3 (27%)	3 (33%)
	Caucasian	10	11	9		
	Completers		4 (40%)		3 (27%)	3 (33%)
	Black	0	0	0		
	Completers		n/a	n/a	n/a	

* Unduplicated count

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 at that time 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 are now accepted through WebAdvisor. Cash is accepted at the Alpena Campus; however, no cash payments are accepted at the Huron Shores Campus. Your cooperation is appreciated.

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 24 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.

Tuition Rates

The following rates are for the 2015-16 academic year and are subject to change.

In-District (Alpena Public Schools District)	\$120.00 per contact hour*
In-State and Out-of-State	\$189.00 per contact hour*

- * The maximum number of contact hours per semester for which a student will be charged during the regular semester enrollment period is 23 contact hours. The maximum number of contact hours per summer session for which a student will be charged during the regular summer session enrollment period is 16 contact hours.

Fees

The following fees are for the 2015-16 academic year and are subject to change.

Student Services Fee

A Student Services Fee of \$6 per contact hour will be assessed for all enrollments on campus. The Student Services Fee is used to fund the Student Services Program 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.
- b. No student will be assessed for more than 23 contact hours per semester.
- c. During summer session, the fee is assessed on no more than 16 contact hours.

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.
- b. No student will be assessed for more than 23 contact hours per semester.
- c. During summer session, the fee is assessed on no more than 16 contact hours.

Technology Fee

A Technology Fee of \$4 per contact hour will be assessed on all enrollments for classes held at the Alpena Campus and the Huron Shores 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.
- b. No student will be assessed for more than 23 contact hours per semester.
- c. During summer session, the fee is assessed on no more than 16 contact hours.

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.
- b. No student will be assessed for more than 23 contact hours per semester.
- c. During summer session, the fee is assessed on no more than 16 contact hours.

Special Course Fees

Beginning Spring Semester 2014, a fee of \$75 per art course will be applied to cover the cost of supplies. 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.

Records/Registration Fee

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

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 went to print. 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 expenses consider a student living in campus housing. These are estimates given only to help in planning.

The following estimates are based on 2015-16 tuition and fee rates, which are subject to change.

<u>Expenses</u>	<u>In-District</u>	<u>In-State and Out-of-State</u>
Tuition	\$3,330	\$5,250
Fees	540	540
Books and Supplies	1,000	1,000
Room and Board	3,000	5,500
Personal	600	600
Transportation	<u>1,000</u>	<u>2,000</u>
Total	\$9,470	\$14,890

Some courses and programs of study, especially in technical and occupational areas, also require students to purchase supplies, equipment, clothing or tools which are necessary for course work and which they will continue to use when employed. These items vary in cost and estimates for some programs are below. Academic advisors for specific programs can provide additional information about the current costs for such investments. For example:

Automotive Service and Repair (C): \$1,000-\$2,500

Drafting and Design Technology (AAS): \$35-\$75

Utility Technician Training (C): \$1,400

Nursing (C) or (AAS): \$1,000 -\$2,000

Refunds

Full refunds (100%) — A refund of all paid tuition and fees (with the exception of the registration fee) 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.

A request for refunds for extenuating circumstances must be submitted to the Vice President of Instruction.

Return of Title IV Funds (Federal Aid): Based on the Higher Education Amendments of 1998, students receiving Title IV financial aid (Stafford Loan, Perkins Loan, PLUS Loan, Pell Grant, Federal Supplemental Educational Opportunity Grant or other federal sources of aid), and who withdraw, drop out or are dismissed before completing more than 60 percent of the payment period, are subject to a calculation to determine if funds must be returned to federal financial aid programs. No scholarship or grant funds will be refunded to the student. Books can be returned to the ACC Bookstore for the proper credit.

The calculation of the return of these funds may result in the student being required to repay all or a portion of the total aid dollars received from federal Title IV aid to the federal government and/or Alpena Community College. Once the student has completed more than 60 percent of the payment period, all federal financial aid assistance is considered to be earned and the funds may be retained. If funds must be returned, the order of return is as follows: unsubsidized Federal Stafford Loan; subsidized Federal Stafford Loan; Federal Perkins Loan; Federal PLUS Loan; Federal Pell Grant; Federal Supplemental Educational Opportunity Grant; other Title IV aid programs.

A detailed explanation of the required Return of Title IV Funds Calculation and examples are available in the Registrar's Office (VLH 108) and the Huron Shores Campus office.

Non-Payment

Grades, transcripts, 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 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).

To be considered for financial aid, an applicant must be a High School graduate or have a GED, completed the ACC admission application process, and be in a 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 Student Loan, and College Work Study program) and all State of Michigan programs (Michigan Competitive Scholarship, and Tuition Incentive Program) 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 and a student must meet all three of the following requirements to remain eligible for financial aid:

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

<u>Hours completed</u>	<u>GPA</u>
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 an associate degree may not exceed 90 attempted credit hours.

A student in a certificate program may not exceed 45 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.

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 grades: 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 the satisfactory progress requirements because of mitigating or extenuating circumstances (i.e. death of a relative, illness or injury of student, 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. This form can be obtained from the Financial Aid Office or downloaded from the Financial Aid Office website at:

http://discover.alpenacc.edu/future_students/financial_aid_policies.php.

Appeals should be submitted to the Financial Aid Office no later than the first day of class 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.

Gainful Employment

The United States Department of Education has instituted new regulations on the for-profit and vocational education sectors effective July 1, 2011. Known as Gainful Employment, the regulations mandate that providers of vocational education participating in federal Title IV financial aid programs disclose graduation and job placement rates and median amount of student debt levels to prospective students.

For the most recent ACC Gainful Employment info, refer to the College's website at:

http://discover.alpenacc.edu/gainful_employ.php

Disbursement

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 \$5,730 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 College Work-Study (CWS) 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. The interest rate for 2013-14 is fixed at 3.86% and a new rate will be determined on July 1, preceding 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 first-year students and \$4,500 for second-year students. Borrowing for students in a one-year certificate program may only receive one and a half years of subsidized loans, and associate degree students may only borrow three years of subsidized 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 2013-14 is fixed at 3.86% and a new rate will be determined on July 1, preceding 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)

Loan 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 2013-14 is fixed at 6.41% and a new rate will be determined on July 1, preceding 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 90 or higher on the American College Test (ACT) assessment prior to college entry and release the scores to the State of Michigan. Financial need is a factor in the award so a Free Application for Federal Student Aid (FAFSA) must be completed. The renewable award varies from \$100 to \$1,300 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. The program pays for 24 semester hours of tuition and fees per year at the local community college. The student must have graduated from high school or earned a GED certificate prior to age 20, be a U.S. citizen and resident of Michigan. Further information is available in the Financial Aid Office in Van Lare Hall 107.

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. For whatever reason, 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 Registrar's Office (Van Lare Hall 108), the Foundation Office (Besser Technical Center 125A), the Huron Shores Campus Office in Oscoda 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 GED 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 at the end of 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 distributed into the student's account in equal amounts over 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 and Chapter 1607
- 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
- Veterans Retraining Assistance Program (VRAP)

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

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 Progress Report (PPR), which will also identify the remaining courses and credits required for the student's degree program at ACC.

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 Office of Higher Education Management Services of the Michigan Department of Education and must be approved by the VA.

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 an ACC counselor 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:

Student Scholarships and Grants

P.O. Box 30462

Lansing, MI 48909-7962

1-888-447-2687, ext. 3-7120

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. The 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 carrying a course load of nine semester credits or more, and is strongly recommended for all students.

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 Huron Shores Campus Office in Oscoda.

Late Registration

Any student may register for classes the first week of the semester only with the authorized signature of approval by 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 of in-session courses will be allowed, only course level changes (ex. MTH 113 to MTH 102) and lateral course changes (ex. ENG 111 to another section of ENG 111) will be allowed 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 insure 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). Due to extenuating circumstances and only with written permission from the Vice President for Academic and Student Affairs and the course instructor, a course may be added during the second 5 days of the semester. 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 both instructor and Vice President for Academic and Student Affairs' 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 (Withdraw) 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 classification 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 18 credit hours per semester; to carry over 18 credit hours requires permission of the Vice President for Academic and Student Affairs. 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 WebAdvisor. 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:

	<u>Hours of Credit</u>	<u>Grade</u>	<u>Honor Points</u>
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 121	<u>4</u>	C (2)	<u>8.0</u>
	16		35

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

Other Marks

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

I — Incomplete

The grade of I (Incomplete) is given only when a student is unable to complete a segment of the course because of circumstances beyond his/her control. The I grade must be removed by completing the required work before the deadlines 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.

W — Withdraw

The grade of W (Withdraw) is given in a course if a student processes a drop form for the course during the drop period, or if a student officially 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 34) and “Withdrawal” (page 52).

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 in WebAdvisor, available through the ACC website at www.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	<i>summa cum laude</i>
3.7-3.89 grade point average	<i>magna cum laude</i>
3.5-3.69 grade point average	<i>cum laude</i>

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 (see pages 56-58) 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 WebAdvisor which is available on ACC's website (www.alpenacc.edu). Instructions for WebAdvisor 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 necessary. 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 paying 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, 108 Van Lare Hall. Request forms are also available at the Huron Shores Office in Oscoda

and can be printed off the ACC website (www.alpenacc.edu). Transcript requests can also be made through WebAdvisor. Forms and request letters, with the appropriate fee, should be sent to:

Alpena Community College Records 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, 108 Van Lare Hall.

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 office of the Vice President for Academic and Student Affairs 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.

MACRAO Agreement

(Also see Michigan Transfer Agreement.)

Alpena Community College participates in the Michigan Association of Collegiate Registrars and Admissions Officers (MACRAO) Articulation Agreement between public and private community colleges and senior colleges 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.

The MACRAO Articulation Agreement contains basic General Education requirements which are included in the Associate in Arts degree. Students earning an Associate in Science or Associate in Applied Science may also receive MACRAO certification by completing the following general education requirements (see page 58 for courses that meet these areas).

- a. English Composition (six semester hours). (See Group I listing, page 57.)
- b. Sciences and Mathematics. 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). (See Group II listing, page 62.)
- c. Social Science. 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). (See Group III listing, page 57.)
- d. Humanities/Fine Arts. Eight semester credits required which must include either a) combination of courses taken in more than one academic discipline (course abbreviation/prefix) or b) HUM 241 and 242 — Humanities (See Group IV listing, page 58.)

To be eligible for MACRAO Certification at Alpena Community College, 15 credit hours must be taken at Alpena Community College. Transcripts of ACC graduates who meet the MACRAO Agreement requirements and are awarded an Associate degree will automatically be certified for the MACRAO Agreement. Students who transfer prior to the completion of a degree program but have completed the MACRAO requirements may also be certified upon request. Requests can be made to the Registrar, 108 Van Lare Hall.

Michigan Transfer Agreement

(Replaces MACRAO Transfer Agreement Beginning Fall 2014)

(MACRAO Agreement for students who started prior to Fall 2014 Completion Deadline – Summer 2019 – see Registrar.)

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
 - o ENG111 or ENG121
- A second course in English Composition or one course in Communications
 - o ENG112 or ENG122 or SPE121 or SPE123
- One course in Mathematics
 - o MTH – MTH 121 and higher
- Two courses in Social Sciences (from two disciplines)
 - o ANP – All Anthropology courses
 - o ECN – All Economics courses
 - o EDU – All Education courses
 - o GEO – All Geography courses (except GEO127 - lab science)
 - o HST – All History courses
 - o PLS – All Political Science courses
 - o PSY – All Psychology courses
 - o SOC – All Social Science courses
- Two courses in Humanities and Fine Arts (from two disciplines and excluding studio and performance classes)
 - o ART – ART 246
 - o ASL – All American Sign Language courses
 - o ENG – All 200 level courses
 - o HST – HST 121 or 122 (may be used as Humanities or Social Science)
 - o HUM – All Humanities courses
 - o MUS – MUS110, 120, 125, 126, 228 and 229

- o PHL – All Philosophy courses
- o SPE – All Speech courses (if not used to complete communications requirement)
- o All Foreign Language courses (FRN, GER, SPN)
- Two courses in Natural Sciences including one with laboratory experience (from two disciplines)
 - o BIO – All Biology courses
 - o CEM – All Chemistry courses
 - o GEO – GEO127
 - o PHS – All Physical Science courses
 - o 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, 108 Van Lare Hall.

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 57).

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

Group II General Education Courses — Sciences and Mathematics (see page 57).

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 57).

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 58).

Eight semester credits required which must include either:

- a. A combination of courses taken in more than one academical 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 57).

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

Group II General Education Courses — Sciences and Mathematics (see page 57).

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 and Humanities/Fine Arts (see page 57-58).

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 for Academic and Student Affairs.

Course work more than seven years old will not apply towards 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 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 57).

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 57).

Four semester credits required.

Group III General Education Courses — Social Science (see page 57).

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 58).

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's 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 (pages 53-56).

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. Physical Sciences
CEM — All Chemistry courses
PHS — All Physical Science courses
PHY — Physics courses 111, 121, 122, 123, 124, 221, 222
- C. Mathematics/Computer Science
MTH — Mathematics courses 102, 111, 113, 115, 116, 117, 121, 122, 123, 131, 132, 223, 231, 232
MTH — Computer Science course 119, 221

Group III. Social Sciences

- ANP — All Anthropology courses
- ECN — All Economics courses
- EDU — All Education courses
- GEO — All Geography courses
- 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

SOC — SOC 252 Great Books on Leadership (satisfies Group III Social Science or Group IV Humanities requirements but may not be used for both)

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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† Courses for these programs are regularly offered at the Huron Shores Campus. Students may have to travel to the Alpena campus for some courses.

‡ Application deadline May 15. March 15 for Fall applicants and October 15 for Spring applicants. If this date is a non-business day the deadline will be the preceding business day.

Associate in Applied Science Degree (AAS) in
ACCOUNTING
Program Number: 52.0302

This program prepares students for employment as accountants and other related positions in business and industry. Successful completion will equip graduates with the skills and knowledge to perform general accounting and financial reporting responsibilities, to perform financial and managerial accounting analysis and to engage in corporate and manufacturing accounting practices.

FIRST YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
ENG 111 English or ENG 121 English	3.0(3.0)	ENG 112 English, or ENG 122 English	3.0(3.0)
BUS 123 Principles of Accounting ^B	4.0(4.0)	BUS 124 Principles of Accounting II ^B	4.0(4.0)
ECN 231 Economics (Micro)	3.0(3.0)	ECN 232 Economics (Macro)	3.0(3.0)
MTH 121 College Algebra or MTH 123 College Algebra & Analytical Trig.	4.0(4.0)	American Gov. Req. ^A	3.0 or 6.0(3.0 or 6.0)
CIS 120 Intro to Microcomputers ^B	3.0(4.0)	CIS 171 Spreadsheets I	1.0(1.25)
		CIS 172 Spreadsheets II	1.0(1.25)
		CIS 173 Spreadsheets III	1.0(1.25)
	<hr/> 17.0(18.0)		<hr/> 16.0 or 19.0(16.75 or 19.75)

SECOND YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
BUS 221 Business Law ^B	3.0(3.0)	BUS 222 Business Law ^B	3.0(3.0)
BUS 223 Intermediate Accounting I ^B	4.0(4.0)	BUS 224 Intermediate Accounting II ^B	4.0(4.0)
BUS 225 Individual Taxation ^B	3.0(3.0)	BUS 226 Taxation of Business Entities ^B	3.0(3.0)
BUS 121 Intro to Business ^B	3.0(3.0)	BUS 228 Cost Accounting ^B	3.0(3.0)
SPE 121 Speech Communications or SPE 123 Public Communication	3.0(3.0)	BUS 257 Computerized Acct. Systems ^B	1.5(2.0)
	<hr/> 16.0(16.0)		<hr/> 14.5(15.0)

Total Program Credits: 63.5 or 66.5. Total Program Contact Hours: 65.75 or 68.75.

^A Choose either three credits in Political Science (PLS 221 or 222) or six credits in U.S. History (HST 221 and 222).

^B Included in occupational specialty: GPA of 2.0 or higher must be maintained in the area of occupational specialty.

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 for your degree 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.

Associate in Arts Degree (AA) Concentration in
ANTHROPOLOGY
Program Number: 45.0201

This is a suggested program of study for specialized interest in the subject of anthropology that may be altered to meet individual goals and transfer plans. Students should refer to the Alpena Community College graduation requirements and degree distribution requirements and consult with an academic advisor concerning specific course selection. A minimum of 60 credit hours is required for an Associate of Arts degree.

GENERAL EDUCATION COURSE REQUIREMENTS

Group I: English Composition (6 hrs total required)	Credit (Contact) Hours
ENG 111 English or ENG 121 English	3.0 (3.0)
ENG 112 English or ENG 122 English	3.0 (3.0)

Group II: Science & Mathematics (8 hrs total required) ^A	Credit (Contact) Hours
MTH 113 Intermediate Algebra	4.0 (4.0)
Laboratory Science	4.0 (5.0)
GEO 127 Physical Geography	4.0 (5.0) *

Group III: Humanities/Fine Arts (8 hrs total required) ^B	Credit (Contact) Hours
HST 121 History of Western Civilization	3.0(3.0)
HST 122 History of Western Civilization	3.0(3.0)
Language, Arts and Humanities elective	3.0(3.0)

Group IV: Social Science (8 hrs total required) ^C	Credit (Contact) Hours
SOC 123 Introduction to Sociology	3.0 (3.0)
ECN 232 Economics (Macro)	3.0 (3.0)
PSY 101 General Psychology	3.0 (3.0)
American Government Requirement ^D	
HST 221 US History	3.0 (3.0)
HST 222 US History	3.0 (3.0)

Total Required Credit (Contact) Hours	42.0 (44.0) **
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Group V: Electives (18 hrs needed) ^E	Credit (Contact) Hours
Recommended electives:	
Program of Study:	
ANP 121 Cultural Anthropology	3.0 (3.0)
ANP 229 Anthropology of North American Indians	3.0 (3.0)
ANP 239 Religions of the World	3.0 (3.0)
ANP 240 Archeology	3.0 (4.0)
ANP 257 Underwater Archeology	3.0 (3.0)
HST 224 History of Michigan	3.0 (3.0)
HST 225 Twentieth Century US History	3.0 (3.0)
HST 227 Contemporary American Problems	3.0 (3.0)
HST 228 Civil War	3.0 (3.0)
Social Sciences:	
ECN 231 Economics (Micro)	3.0 (3.0)
ECN 232 Economics (Macro)	3.0 (3.0)

GEO 125 Geography	3.0 (3.0)
GEO 126 Cultural Geography	3.0 (3.0)
GEO 151 Introduction to GIS	1.5 (2.0)
GEO 152 Advanced GIS	1.5 (2.0)
SOC 227 Marriage and Family	3.0 (3.0)

Other electives:

MTH 223 Statistical Methods	4.0 (4.0)
PHL125 Language and Reason	3.0 (3.0)
PHL 225 Philosophy	3.0 (3.0)
SPE 121 Speech Communications	3.0 (3.0)
SPE 123 Public Communication	3.0 (3.0)
Any other PLS, PSY, SOC course	

Notes:

- * General education groups I-IV satisfy ACC graduation requirements and Michigan Transfer Agreement (MTA).
- ** Excess credits from the general education groups apply to elective credit.
- ^A Course selection should be determined in consultation with an Academic Advisor and chosen transfer institution/program requirements.
- ^B Courses may include two (2) different academic disciplines from the following humanities and fine arts prefixes: (ART, ENG, FRN, GER, GRA, HUM, LTN, MUS, PFA, PHL, SPE, SPN).
- ^C Courses may include two (2) different academic disciplines from the following social science prefixes: (ANP, ECN, EDU, GEO, HST, PLS, PSY, SOC).
- ^D Students may choose either three (3) credits in Political Science (PLS 221 American Government & Politics or PLS 222 State and Local Government) or six (6) credits in US History (HST 221 and HST 222) to fulfill the American Government requirement.
- ^E Electives should be selected to fulfill transfer institution requirements, area concentrations (major or minor), or student interest. It is strongly recommended that foreign language preparation begin as soon as possible.

ANTHROPOLOGY (AA) ASSOCIATE OF ARTS PROGRAM OUTLINE

FIRST YEAR

First Semester	Credit (Contact) Hrs	Second Semester	Credit (Contact) Hrs
ENG 111 English or ENG 121 English.....	3.0 (3.0)	ENG 112 English or ENG 122 English.....	3.0 (3.0)
HST 121 History of Western Civilization	3.0 (3.0)	HST 122 History of Western Civilization.....	3.0 (3.0)
MTH 113 Intermediate Algebra.....	4.0 (4.0)	Laboratory Science	4.0 (5.0)
HST 221 US History	3.0 (3.0)	SOC 123 Introduction to Sociology	3.0 (3.0)
Recommended elective	3.0 (3.0)	HST 222 US History	3.0 (3.0)
	<hr/>		<hr/>
	16.0 (16.0)		16.0 (17.0)

SECOND YEAR

First Semester	Credit (Contact) Hrs	Second Semester	Credit (Contact) Hrs
ANP 121 Cultural Anthropology	3.0 (3.0)	GEO 126 Cultural Geography	3.0 (3.0)
ECN 232 Economics (Macro) or ECN 231 Economics (Micro)	3.0 (3.0)	GEO 151 Introduction to GIS	1.5 (2.0)
Language, Arts and Humanities elective	3.0 (3.0)	GEO 152 Advanced GIS	1.5 (2.0)
PSY 101 General Psychology	3.0 (3.0)	Recommended electives	6.0 (6.0)
GEO 127 Physical Geography	4.0 (5.0)		<hr/>
	<hr/>		12.0 (13.0)
	16.0 (17.0)		

Total Program Credits: 60. Total Contact Hours: 63

Certificate (C) in
APPRENTICE — ELECTRICAL
Program Number: 46.0302

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 COURSES

Courses	Credit(Contact) Hrs
APP 106M Industrial Safety	0.5(0.5)
APP 100E Electrical Studies for Trades	3.0(4.0)
MTH 110 Technical Math I or MTH 115 Applied Algebra and Trig	3.0 or 5.0(4.0 or 6.0)
	6.5 or 8.5(8.5 or 10.5)

BASIC COURSES

Courses	Credit(Contact) Hrs
APP 102E Residential Wiring & Blueprint Reading	3.0(4.0)
APP 103E Commercial and Industrial Wiring	3.0(4.0)
APP 104E AC/DC Fundamentals	3.0(4.0)
APP 107E Specialty Wiring	3.0(4.0)
APP 111E Electric Motor Control	3.0(4.0)
APP 114E Programmable Controllers	3.0(4.0)
APP 115E National Electric Code Application	4.0(4.0)
	22.0(28.0)

Total Basic Certificate Credits: 28.5 or 30.5.
Total Basic Certificate Contact Hours: 36.5 or 38.5.

ADVANCED COURSES

(Must have completed core and basic courses)

Courses	Credit(Contact) Hrs
APP 122E Digital Elect. for Electricians	3.0(4.0)
APP 123E Linear Elect. for Electricians	3.0(4.0)
	6.0(8.0)

Total Advanced Certificate Credits: 34.5 or 36.5.
Total Advanced Certificate Contact Hours: 44.5 or 46.5.

Certificate (C) in
APPRENTICE — MILLWRIGHT
Program Number: 48.0507

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 hydraulics, 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 COURSES

Courses	Credit(Contact) Hrs	Courses	Credit(Contact) Hrs
APP 100E Electrical Studies for Trades	3.0(4.0)	APP 128M Rigging & Weight Estimating	1.5(2.0)
APP 106M Industrial Safety	0.5(0.5)	APP 129M Apprentice Pneumatics	1.5(2.0)
APP 121M App. Blueprint Reading or MFG 120 Print Interpretation & Processes.....	3.0(4.0)	APP 223M Predictive & Preventative Maintenance	2.5(4.0)
APP 122M Machine Repair	2.5(4.0)	WLD 123 SMAW Welding Processes or WLD 124 GMAW & FCAW Welding Processes	4.0(6.0)
APP 124M Apprentice Hydraulics.....	2.5(4.0)	MTM 110 Technical Math I.....	3.0(4.0)
APP 125M Apprentice Machine Shop or MFG 101 Machining Processes I	2.5(4.0) or 4.0(6.0)		

Basic Program Credits: 26.5 to 28. Basic Program Contact Hours: 38.5 or 40.5.

ADVANCED CERTIFICATE COURSES **

Program Number 48.0599

** Must have completed core and basic courses to enroll in the advanced certificate courses.

Courses	Credit(Contact) Hrs	Plus three courses from the following list:	
APP 102E Residential Wiring & Blueprint Reading	3.0(4.0)	APP 111E Electric Motor Control.....	3.0(4.0)
APP 103E Commercial & Ind. Wiring.....	3.0(4.0)	APP 114E Programmable Controllers	3.0(4.0)
		MFG 102 Machining Processes II	6.0(10.0)
		MFG 201 Intro to CNC	6.0(10.0)
		APP 290M Millwright Internship.....	3.0(3.0)
		An additional WLD, MET course	3.0-4.0(4.0)

Total Advanced Certificate Credits: 41.5 to 49.0.
Total Advanced Certificate Contact Hours: 57.5 to 72.5.

Certificate (C) in
AUTO BODY REPAIR
Program Number: 47.0603

One of the sub-specialties of the automobile repair and maintenance industry is auto body repair. This specialty has been changing rapidly in recent years because of new materials, assembly processes and tools. The one-year Alpena Community College curriculum provides the modern training required to be up-to-date in this field of work. Skills will be developed in areas of removing, replacing and straightening of body panels and fenders, MIG welding and refinishing processes including basecoat, clearcoat and tri-coat, painting procedures, rubbing and polishing.

First Semester	Credit(Contact) Hrs
AUT 115 Auto Body Repair	17.0(30.0)

Second Semester	Credit(Contact) Hrs
AUT 116 Auto Body Repair	17.0(30.0)

Total Program Credits: 34. Total Contact Hours: 60

Certificate (C) or Associate in Applied Science Degree (AAS) in
AUTOMOTIVE SERVICE & REPAIR
 Program Number: 47.0604

This one-year certificate program prepares the successful graduate for a number of entry-level employment positions in the automotive service field, including: brake specialist; engine performance specialist; electrical specialist; and suspension, steering and alignment specialist. By working with his/her academic advisor, a successful certificate graduate can study additional time to become Master Certified ^A and/or earn an associate degree ^B (Program Number 47.0604).

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
AUT 118 Automotive Fundamentals	4.0(6.0)	AUT 122 Automotive Air, Fuel & Emissions Systems	4.0(6.0)
AUT 119 Automotive Brake Systems.....	5.0(8.0)	AUT 125 Automotive Electrical & Electronics Systems II.....	5.0(8.0)
AUT 123 Automotive Suspension, Steering & Alignment.....	5.0(8.0)	AUT 201 Computerized Eng. Controls	4.0(6.0)
AUT 124 Automotive Electrical & Electronics Systems I.....	5.0(8.0)	AUT 202 Engine Performance Diagnosis & Tune-Up	5.0(8.0)
	19.0(30.0)		18.0(28.0)
Summer Semester Credit(Contact) Hrs			
AUT 205 Auto Climate Control.....	3.0(4.0)		

Basic Certificate Program Credits: 40. Basic Certificate Contact Hours: 62

^A Master Certificate can be obtained by completing the above program requirements and adding the following courses, which are offered on a rotating basis every other year:

Course	Credit(Contact) Hrs	Course	Credit(Contact) Hrs
AUT 221 Engine Repair & Overhaul.....	5.0(8.0)	AUT 206 Automatic Transmissions	5.0(8.0)
AUT 203 Auto. Manual Transmission and Drive Lines	4.0(6.0)		

Master Certificate Program Credits: 54. Master Certificate Contact Hours: 84

^B Associate in Applied Science Degree (AAS) can be earned by completing the above Master Certificate program and adding the following courses:

Course	Credit(Contact) Hrs	Course	Credit(Contact) Hrs
ENG 120 Applied Communications or ENG 111 English.....	3.0(3.0)	MTH 110 Technical Math or MTH 113 Intermediate Algebra or MTH 115 Applied Algebra & Trig I	3.0-5.0(4.0-6.0)
ENG 123 Technical Communications or ENG 112 English.....	3.0(3.0)	PLS 221 American Government & Politics.....	3.0(3.0)

AAS Program Credits: 66 to 68. AAS Program Contact Hours: 97 to 99.

Auto Service 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 between \$1,000 and \$2,500. Special student discounts and deferred payment programs are available. A quality set of hand tools is required for future employability.

Associate in Science Degree (AS) Concentration in
BIOLOGY
Program Number: 26.0101

This is a suggested program of study which may be altered to meet individual goals and transfer plans. Students should refer to the descriptions of Alpena Community College graduation requirements (page 44) and degree distribution requirements (page 54) and consult with an academic advisor concerning specific course selection. A minimum total of 60 credits is required for the Associate in Science degree.

FIRST YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
ENG 111 English or ENG 121 English.....	3.0(3.0)	ENG 112 English or ENG 122 English	3.0(3.0)
CEM 121 General & Inorganic Chem.....	4.0 (7.0)	CEM 122 Inorganic Chemistry &	
BIO 210 Introduction to Botany	4.0(5.0)	Qualitative Analysis	4.0(7.0)
MTH 122 Plane Trigonometry.....	3.0(3.0)	BIO 211 General Zoology	4.0(5.0)
	————	MTH 123 College Algebra & Analytic	
	14.0 (18.0)	Geometry.....	4.0(4.0)
			————
			15.0(19.0)

SECOND YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
CEM 221 Organic Chemistry	4.0(6.0)	CEM 222 Organic Chemistry	4.0(6.0)
Math/Science Elective	4.0(4.0-7.0)	American Govt. Req. A B	3.0 or 6.0(3.0 or 6.0)
MTH 119 Introduction to Computers.....	3.0(3.0)	BIO 227 Microbiology	4.0(6.0)
Humanities/Fine Arts Req. B	3.0-4.0(3.0-5.0)	Humanities/Fine Arts & Social	
	————	Sciences Requirement B.....	3.0-4.0(3.0-5.0)
	14.0-15.0(16.0-21.0)		————
			14.0-18.0(18.0-23.0)

Total Program Credits: 57 to 62. Total Program Contacts: 71 to 81.

- ^A Choose either three credits in Political Science (PLS 221 or 222) or six credits in U.S. History (HST 221 and 222)
- ^B A total of 10 semester credits are required in combination from Group III Social Sciences and Group IV Humanities/Fine Arts 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.

Associate in Applied Science Degree (AAS) in
**BUSINESS INFORMATION SYSTEMS —
ADMINISTRATIVE ASSISTANT**
Program Number: 52.0401

This program, designed for the student who plans to begin work as an administrative assistant 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 area of electronic communications technology.

FIRST YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
BIS 101 Keyboard Skillbuilding ^{*B}	1.0 (1.25)	BIS 140 Proofreading & Editing for Business Professionals ^B	3.0(4.0)
BUS 121 Intro. to Business ^B	3.0 (3.0)	CIS 171 Spreadsheets I ^{†B}	1.0(1.25)
BUS 125 Business Math ^B	3.0 (3.0)	CIS 172 Spreadsheets II ^{†B}	1.0(1.25)
CIS 110 Computer Essentials ^B	1.0 (1.25)	CIS 173 Spreadsheets III ^{†B}	1.0(1.25)
CIS 111 Computer Operating Systems ^B	1.0 (1.25)	CIS 240 Multimedia Presentations ^B	3.0(4.0)
CIS 151 Word Proc. I ^{†B}	1.0 (1.25)	CIS 281 Adv. Word Proc. I ^{†B}	1.0(1.25)
CIS 152 Word Proc. II ^{†B}	1.0 (1.25)	CIS 282 Adv. Word Proc. II ^{†B}	1.0(1.25)
CIS 153 Word Proc. III ^{†B}	1.0 (1.25)	CIS 283 Adv. Word Proc. III ^{†B}	1.0(1.25)
ENG 111 English or ENG 121 English.....	3.0 (3.0)	ENG 112 English or ENG 122 English	3.0(3.0)
	<hr/> 15.0 (16.5)		<hr/> 15.0 (18.5)

SECOND YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
BUS 123 Principles of Accounting I ^{B C} . 4.0 or 3.0(4.0)		BUS 124 Principles of Accounting II ^B	4.0 (4.0)
CIS 250 Desktop Publishing ^B	3.0(4.0)	BUS 235 Personnel Management ^B	3.0 (3.0)
CIS 260 Data Base ^B	3.0(4.0)	BUS 248 Business Communications ^B	3.0(3.0)
Recommended Business Elective ^D	3.0(3.0-4.0)	BUS 257 Computerized Accounting Sys. ^B	3.0 (3.0)
American Govt. Req. ^A	3.0 or 6.0(3.0 or 6.0)	CIS 241 Intro to Web Design & Man. ^B	3.0(4.0)
	<hr/> 16.0 or 19.0 (18.0 or 21.0)		<hr/> 14.5 (16.0)

Total Program Credits: 60.5 or 63.5. Total Program Contacts: 69.0 or 72.0.

- ^A Choose either three credits in Political Science (PLS 221 or 222) or six credits in U.S. History (HST 221 and 222).
- ^B Included in occupational specialty: GPA of 2.0 or higher must be maintained in the area of occupational specialty.
- ^C For the student taking BUS 123, BUS 125 must be taken as a corequisite.
- ^D Choose three credits from: BUS 127, BUS 221, CIS 140, BUS 262, or BIS 290.
- ^{*} Students who have not successfully completed a keyboarding class or who cannot demonstrate proficiency in touch keyboarding should be aware that BIS 100 is required before taking BIS 101.
- [†] These courses are normally taken during a semester in sequence within the course group.

Associate in Arts Degree (AA) Concentration in
BUSINESS INFORMATION SYSTEMS —
EXECUTIVE ASSISTANT
 Program Number: 52.0402

This is a suggested program of study for students who wish to study business information systems and go on to obtain a bachelor's degree. It may be altered to meet individual goals and transfer plans. Students should refer to the Alpena Community College Associate in Arts Degree Distribution Requirements and consult with an academic advisor concerning specific course selection, particularly as it relates to the Michigan Transfer Agreement.

FIRST YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
BIS 101 Keyboard Skillbuilding ^{*B}	1.0 (1.25)	BIS 140 Proofreading & Editing for Business Professionals ^B	3.0 (4.0)
CIS 110 Computer Essentials ^B	1.0 (1.25)	CIS 171 Spreadsheets I ^{†B}	1.0 (1.25)
CIS 111 Computer Operating Systems ^B	1.0 (1.25)	CIS 172 Spreadsheets II ^{†B}	1.0 (1.25)
BUS 123 Principles of Accounting I ^{B C}	4.0 (4.0)	CIS 173 Spreadsheets III ^{†B}	1.0 (1.25)
Math Requirement	4.0 (4.0)	CIS 240 Multimedia Presentations ^B	3.0 (4.0)
CIS 151 Word Proc. I ^{†B}	1.0 (1.25)	CIS 281 Advanced Word Proc. I ^{†B}	1.0 (1.25)
CIS 152 Word Proc. II ^{†B}	1.0 (1.25)	CIS 282 Advanced Word Proc. II ^{†B}	1.0 (1.25)
CIS 153 Word Proc. III ^{†B}	1.0 (1.25)	CIS 283 Advanced Word Proc. III ^{†B}	1.0 (1.25)
	14.0 (15.5)	Social Science Requirement	3.0 (3.0)
			15.0 (18.5)

SECOND YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
ENG 111 English or ENG 121 English	3.0 (3.0)	ENG 112 English or ENG 122 English	3.0 (3.0)
CIS 250 Desktop Publishing ^B	3.0 (4.0)	BUS 248 Business Communications ^B	3.0 (3.0)
CIS 260 Data Base ^B	3.0 (4.0)	Social Science Requirement	3.0 (3.0)
Humanities/Fine Arts Requirement	4.0 (4.0)	Humanities/Fine Arts Requirement	4.0 (4.0)
American Govt. Req. ^A	3.0 or 6.0 (3.0 or 6.0)	Laboratory Science Requirement	4.0 (4.0)
	16.0 or 19.0 (18.0 or 21.0)		17.0 (17.0)

Total Program Credits: 62.0 or 65.0. Total Program Contacts: 69 or 72.

- ^A Choose either three credits in Political Science (PLS 221 or 222) or six credits in U.S. History (HST 221 and 222).
- ^B Included in occupational specialty: GPA of 2.0 or higher must be maintained in the area of occupational specialty.
- ^C For the student taking BUS 123, the Math Requirement must be taken as a corequisite.
- ^{*} Students who have not successfully completed a keyboarding class or who cannot demonstrate proficiency in touch keyboarding should be aware that BIS 100 is required before taking BIS 101.
- [†] These courses are normally taken during a semester in sequence within the course group.

Associate in Applied Science Degree (AAS) Concentration in
BUSINESS INFORMATION SYSTEMS—
MEDICAL CODER AND BILLER
 Program Number: 51.0713

This program is designed to prepare individuals for positions in medical and allied health facilities requiring a comprehensive knowledge of ICD-CM and CPT codes and computerized billing software. Employment opportunities include hospitals, medical offices, public health facilities, health insurance agencies, billing agencies, skilled-care facilities, and allied health facilities.

Coursework is taught using various teaching methods. Students will learn in a structured learning environment, but will also be required to work independently. Students will gain a broad base of knowledge in anatomy and physiology, pathophysiology, medical office skills, along with the required background in medical billing, coding, and insurance procedures.

FIRST YEAR

First Semester	Credit (Contact) Hrs	Second Semester	Credit(Contact) Hrs
BIO 110 Essentials of Anatomy & Physiology		BIO 201 Human Anatomy	4.0(5.0)
OR BIO 114 Intro to Bio Science	4.0(5.0)	CEM 111 General Chemistry	4.0(7.0)
BIS 168 Medical Office CPT Coding ^B	3.0(4.0)	CIS 120 Intro to Microcomputers ^{**B}	3.0(4.0)
BIS 160 Medical Terminology ^B	4.0(4.0)	MTH 102 Elementary Algebra.....	5.0(5.0)
BIS 163 Medical Office Coding ^B	4.0(4.0)	BIS 101 Keyboard Skillbuilding [*]	1.0(2.0)
American Govt. Req. ^A	3.0 or 6.0(3.0 or 6.0)		
	18.0 or 21.0(20.0 or 23.0)		17.0(23.0)

SECOND YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
BIO 203 Human Physiology ^B	4.0(5.0)	BIS 173 Advanced Medical Coding ^B	3.0(4.0)
ENG 111 English or ENG 121 English.....	3.0(3.0)	BIS 164 Medical Office Insurance	
BIS 167 Medical Law and Ethics ^B	3.0(3.0)	Billing ^B	3.0(4.0)
PSY 101 General Psychology	3.0(3.0)	ENG 112 English or ENG 122	3.0(3.0)
BIS 165 Medical Office Procedures ^B	4.0(4.0)	BIO 228 Pathophysiology	4.0(4.0)
	17.0(18.0)	BIS 162 Medical Office Computer	
		Applications ^B	1.5(2.0)
		BIS 170 Electronic Health Record ^B	1.5(2.0)
			16.0(19.0)

Total Program Credits: 68 or 71. Total Program Contacts: 80 or 83.

- ^A Choose either three credits in Political Science (PLS 221 or 222) or six credits in U.S. History (HST 221 and 222).
- ^B Included in occupational specialty: GPA of 2.0 or higher must be maintained in the area of occupational specialty.
- ^{*} Students who have not successfully completed a keyboarding class or who cannot demonstrate proficiency in touch keyboarding should be aware that BIS 100 Computer Keyboarding is required before taking BIS 101.
- ^{**} Prerequisite: CIS 110 and CIS 111 or equivalent skills, or permission of instructor.

Associate in Applied Science Degree (AAS) in
**BUSINESS INFORMATION SYSTEMS —
 MEDICAL INFORMATION SPECIALIST**

Program Number: 51.0716

This program uses the latest developments in information technology as they relate to the modern medical office in small medical and medical-related practices, hospitals and other medical facilities. It has earned accreditation from the Association of Collegiate Business Schools and Programs. Successful graduates are trained in medical terminology, medical transcription, records management, billing and office management procedures.

FIRST YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
BIS 165 Medical Office Procedures ^B	4.0(4.0)	BIO 110 Essentials of Anatomy/Physiology	4.0(5.0)
BIS 160 Medical Terminology ^B	4.0(4.0)	BIS 140 Proofreading & Editing ^B	3.0(4.0)
ENG 111 English or ENG 121 English.....	3.0(3.0)	ENG 112 English or ENG 122 English	3.0(3.0)
BIS 101 Keyboard Skillbuilding ^{*B}	1.0(2.0)	BIS 162 Medical Office Computer Appl. ^B	1.5(2.0)
BUS 125 Business Math ^B	3.0(3.0)	BIS 170 Electronic Health Records ^B	1.5(2.0)
	————	PLS 221 or 222, or	
	15.0(16.0)	HST 221 and 222	3.0 or 6.0(3.0 or 6.0)
			————
			16.0 or 19.0(19.0 or 22.0)

SECOND YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
BIS 163 Medical Office ICD Coding ^B	4.0(4.0)	BIS 161 Medical Transcription ^B	4.0(6.0)
BIS 168 Medical Office CPT Coding ^B	3.0(4.0)	BIS 164 Medical Office Insurance	
BIS 147 Medical Office Transcription ^B	4.0(6.0)	Billing ^B	3.0(4.0)
CIS 151 Word Processing I ^{†B}	1.0(1.25)	BIS 167 Medical Ethics and Law ^B	3.0(3.0)
CIS 152 Word Processing II ^{†B}	1.0(1.25)	BUS 248 Business Communications ^B	3.0(3.0)
CIS 153 Word Processing III ^{†B}	1.0(1.25)	CIS 281 Advanced Word	
	————	Processing I ^{†B}	1.0(1.25)
	14.0(17.75)	CIS 282 Advanced Word	
		Processing II ^{†B}	1.0(1.25)
		CIS 283 Advanced Word	
		Processing III ^{†B}	1.0(1.25)
			————
			16.0(19.75)

Total Program Credits: 61 or 64. Total Program Contacts: 72.5 or 75.5.

^B Included in occupational specialty: GPA of 2.0 or higher must be maintained in the area of occupational specialty.

[†] These courses are normally taken during a semester in sequence within the course group.

^{*} Students who have not successfully completed a keyboarding class or who cannot demonstrate proficiency in touch keyboarding should be aware that BIS 100 Computer Keyboarding is required before taking most of the classes in this program.

Certificate (C) in
**BUSINESS INFORMATION SYSTEMS —
MEDICAL TRANSCRIPTIONIST**
Program Number: 51.0708

The Medical Transcription Certificate program is designed to provide the basic knowledge and skills necessary to transcribe health care dictation and prepare patient documents with accuracy, clarity, consistency, and timeliness, applying the principles of professional and ethical conduct. Students will acquire competencies in English language usage, medical terminology, and anatomy and physiology. Medicolegal and ethical concepts related to health care documentation will also be covered. This certificate program is designed to provide students with the skills necessary to function as transcriptionists in insurance companies, doctor's offices, hospitals, clinics, and private practices.

In this certificate program, students will convert audio recordings from doctors and other healthcare providers into grammatically correct written reports using accurate medical terminology. Students will transcribe a broad range of transcription based on actual medical records — including chart notes, history and physical reports, consultations, office procedure notes, x-ray reports, progress notes, and letters.

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
BIS 160 Medical Terminology ^B	4.0(4.0)	BIS 140 Proofreading & Editing for	
BIS 147 Medical Office Transcription ^B	4.0(6.0)	Business Professionals ^B	3.0(4.0)
BIS 101 Keyboard Skillbuilding ^B	1.0(2.0)	BIO 110 Essentials of Anatomy &	
SDE 201 Job Search Strategies	1.0(1.0)	Physiology	4.0(5.0)
CIS 151 Word Processing I ^{†** B}	1.0(1.25)	BIS 161 Medical Transcription ^B	4.0(6.0)
CIS 152 Word Processing II ^{† B}	1.0(1.25)	BIS 167 Medical Ethics and Law for	
CIS 153 Word Processing III ^{† B}	1.0(1.25)	Health Professionals ^B	3.0(3.0)
ENG 111 English, or ENG 121 English.....	3.0(3.0)	ENG 112 English or ENG 122 English	3.0(3.0)
	16.0(19.75)		17.0(21.0)

Total Program Credits: 33. Total Program Contacts: 40.75.

[†] These courses are normally taken during a semester in sequence within the course group.

^B Included in occupational specialty: GPA of 2.0 or higher must be maintained in the area of occupational specialty.

^{**} Prerequisite: BIS 100 Computer keyboarding skill, CIS 110 and CIS 111, or instructor permission.

Certificate (C) in
BUSINESS INFORMATION SYSTEMS —
OFFICE ASSISTANT
 Program Number: 52.0408

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 AAS BIS Administrative Assistant degree option.

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
BIS 101 Keyboard Skillbuilding ^B	1.0(1.25)	BIS 140 Proofreading & Editing for	
BUS 125 Business Math ^B	3.0 (3.0)	Business Professionals ^B	3.0(4.0)
BUS 123 Principles of Accounting I ^{B C}	4.0 (4.0)	BUS 248 Business Communications ^B	3.0 (3.0)
CIS 110 Computer Essentials ^B	1.0(1.25)	BUS 257 Comp. Accounting Systems ^B	1.5 (2.0)
CIS 111 Computer Operating Systems ^B	1.0(1.25)	CIS 171 Spreadsheets I ^{† B}	1.0(1.25)
CIS 151 Word Processing I ^{† B}	1.0(1.25)	CIS 172 Spreadsheets II ^{† B}	1.0(1.25)
CIS 152 Word Processing II ^{† B}	1.0(1.25)	CIS 173 Spreadsheets III ^{† B}	1.0(1.25)
CIS 153 Word Processing III ^{† B}	1.0(1.25)	CIS 281 Advanced Word Processing I ^{† B}	1.0(1.25)
ENG 111 English or ENG 121 English.....	3.0(3.0)	CIS 282 Advanced Word Processing II ^{† B}	1.0(1.25)
	—————	CIS 283 Advanced Word Processing III ^{† B}	1.0(1.25)
	16.0 (17.5)		—————
			13.5(16.5)

Total Program Credits: 29.5. Total Program Contacts: 34.

- ^B Included in occupational specialty: GPA of 2.0 or higher must be maintained in the area of occupational specialty.
- ^C For the student taking BUS 123, BUS 125 must be taken as a corequisite.
- ^{*} Students who have not successfully completed a keyboarding class or who cannot demonstrate proficiency in touch keyboarding should be aware that BIS 100 is required before taking BIS 101.
- [†] These courses are normally taken during a semester in sequence within the course group.

Associate in Applied Science Degree (AAS) in
BUSINESS INFORMATION SYSTEMS —
OFFICE INFORMATION TECHNOLOGY SPECIALIST

Program Number: 52.0407

This program prepares students to work in Management Information System departments as office support service providers to hardware and software end-users. It covers information technology as it relates to the management of the modern office, including equipment and procedures. The program provides extensive background in computer applications, with additional exposure to operating systems, hardware, and office management.

FIRST YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
BIS 101 Keyboard Skillbuilding ^{* B}	1.0 (2.0)	CIS 171 Spreadsheets I ^{† B}	1.0 (1.25)
BUS 125 Bus. Mathematics ^B	3.0 (3.0)	CIS 172 Spreadsheets II ^{† B}	1.0 (1.25)
CIS 110 Computer Essentials ^B	1.0 (1.25)	CIS 173 Spreadsheets III ^{† B}	1.0 (1.25)
CIS 111 Computer Operating Systems ^B	1.0 (1.25)	CIS 240 Multimedia Presentations ^B	3.0 (4.0)
CIS 151 Word Proc. I ^{† B}	1.0 (1.25)	CIS 281 Advanced Word Processing I ^{† B}	1.0 (1.25)
CIS 152 Word Proc. II ^{† B}	1.0 (1.25)	CIS 282 Advanced Word Processing II ^{† B}	1.0 (1.25)
CIS 153 Word Processing III ^{† B}	1.0 (1.25)	CIS 283 Advanced Word Processing III ^{† B}	1.0 (1.25)
ENG 111 English or ENG 121 English	3.0 (3.0)	ENG 112 English or ENG 122 English	3.0 (3.0)
BUS 123 Principles of Accounting I ^{B C}	4.0 (4.0)	BUS 124 Principles of Accounting II ^{B C}	4.0 (4.0)
	16.0 (18.25)		16.0 (18.5)

SECOND YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
CIS 140 Intro to Microsoft Client OS ^B	3.0 (4.0)	BIS 140 Proofreading & Editing for Business Professionals ^B	3.0 (4.0)
CIS 250 Desktop Publishing ^B	3.0 (4.0)	BUS 248 Business Communications ^B	3.0 (3.0)
CIS 260 Data Base ^B	3.0 (4.0)	CIS 241 Web Design & Management ^B	3.0 (4.0)
CNS 170 PC Repair and Maintenance ^B	4.0 (5.0)	CIS 295 IT Pro Practice Management ^B	3.0 (4.0)
	16.0 (20.75)	American Govt. Req. ^A	3.0 or 6.0 (3.0 or 6.0)
			15.0 or 18.0 (18.0 or 21.0)

Total Program Credits: 60.0 to 63.0. Total Program Contacts: 71.5 to 74.75.

- ^A Choose either three credits in Political Science (PLS 221 or 222) or six credits in U.S. History (HST 221 and 222).
- ^B Included in occupational specialty: GPA of 2.0 or higher must be maintained in the area of occupational specialty.
- ^C For the student taking BUS 123, BUS 125 must be taken as a corequisite.
- ^{*} Students who have not successfully completed a keyboarding class or who cannot demonstrate proficiency in touch keyboarding should be aware that BIS 100 is required before taking BIS 101.
- [†] These courses are normally taken during a semester in sequence within the course group.

Associate in Applied Science Degree (AAS) in
BUSINESS MANAGEMENT
Program Number: 52.0201

This program prepares students for employment in business and industry or to manage their own businesses. Students will gain widespread knowledge of sales, marketing, business law, human resource management, accounting, business application software, and business operations.

FIRST YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
ENG 111 English or ENG 121 English.....	3.0(3.0)	ENG 112 English or ENG 122 English	3.0(3.0)
BUS 125 Business Math or Mathematics		BUS 124 Principles of Accounting II ^B	4.0(4.0)
Elective ^B	3.0 or 4.0(3.0 or 4.0)	BUS 127 Principles of Management ^B	3.0(3.0)
BUS 121 Introduction to Business ^B	3.0(3.0)	BUS 255 Business Application Software ^B	3.0(4.0)
BUS 123 Principles of Accounting I ^B	4.0(4.0)	American Govt. Req. ^A	3.0 or 6.0(3.0 or 6.0)
CIS 120 Intro to Microcomputers ^B	3.0(3.0 or 4.0)		
			16.0 or 19.0(17.0 or 20.0)
	16.0 or 17.0(17.0 or 18.0)		

SECOND YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
BUS 221 Business Law ^B	3.0(3.0)	BUS 222 Business Law ^B	3.0(3.0)
ECN 231 Economics (Micro)	3.0(3.0)	ECN 232 Economics (Macro)	3.0(3.0)
SPE 121 Speech Communication.....	3.0(3.0)	PSY 101 General Psychology	3.0(3.0)
Social Sciences Elective	3.0(3.0)	BUS 235 Personnel Management ^B	3.0(3.0)
Business Elective ^{BC}	3.0(3.0)	Business Elective ^{BC}	3.0(3.0)
	15.0(15.0)		15.0(15.0)

Total Program Credits: 62 to 65. Total Program Contacts: 63 to 68.

- ^A Choose either three credits in Political Science (PLS 221 or 222) or six credits in U.S. History (HST 221 and 222).
- ^B Included in occupational specialty: Average GPA of 2.0 or higher must be maintained in the area of occupational specialty.
- ^C Choose business (BUS) electives from courses listed in the course description section of this catalog.

Certificate (C) in
CAD/CAM, ADVANCED
Program Number: 15.1306

This certificate program develops student skills in the operation of computer aided drafting (CAD) software and extensive focus on setup, 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, setup personnel, and programmers.

A prerequisite for this program is the completion of the Basic Manufacturing Technology certificate program OR the Welding Fabrication certificate plus MTH 112 Technical Math II, OR the CAD Engineering associate degree.

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
CAD 220 Machine Design ^{A **}	3.5(5.0)	MFG 220 Jigs and Fixture Design	
MFG 201 Introduction to CNC ^A	6.0(10.0)	Fundamentals ^A	3.0(4.0)
MFG 204 Computer Aided		MFG 202 Advanced CNC ^A	6.0(10.0)
Manufacturing ^A	3.0(4.0)	Elective	3.0(3.0 or 4.0)
	12.5(19.0)		12.0(17.0 or 18.0)

Total Program Credits: 24.5. Total Program Contacts: 36 to 37.

^A Included in occupational specialty; GPA of 2.0 or higher must be maintained in the area of occupational specialty.

^{**} **Prerequisite:** CAD 150 3D Modeling

Note: With additional coursework, Advanced CAD/CAM graduates can earn an AAS degree in CAD/CAM Technology.

Associate in Applied Science (AAS) Degree
CAD/CAM TECHNOLOGY (MACHINING OPTION)
 Program Number: 15.0613

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 in computerized industrial machining operations. Graduates can expect to find employment as CNC programmers, machinists, tool makers, and quality assurance technicians, or move on to complete a four-year degree in Manufacturing Engineering. The Associate in Applied Science (AAS) degree in CAD/CAM Technology (Machining Option) requires completing the certificate programs and the following courses marked with a **.

FIRST YEAR
Manufacturing Technology, Basic, Certificate
 Program Number: 48.0501

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
MFG 101 Machining Processes I ^A	4.0(6.0)	MFG 102 Machining Processes II ^A	6.0(10.0)
MFG 120 Print Interpretation & Processes ^A ...	3.0(4.0)	MTH 112 Technical Math II or	
MTH 110 Technical Math I or		MTH 122 Plane Trigonometry *	3.0(3.0 or 4.0)
MTH 113 Intermediate Algebra *	3.0(4.0)	ENG 123 Technical Communications or	
ENG 120 Applied Communications or		ENG 112 English **	3.0(3.0)
ENG 111 English **	3.0(3.0)	CAD 150 3D Modeling ^A	3.0(4.0)
MET 200 Material Science ^A	3.0(4.0)		
	16.0(21.0)		15.0(20.0 or 21.0)

SECOND YEAR
Advanced CAD/CAM Certificate
 Program Number: 15.1306

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
CAD 220 Machine Design ^A	3.5(5.0)	MFG 220 Jigs and Fixture Design ^A	3.0(4.0)
MFG 201 Introduction to CNC ^A	6.0(10.0)	MFG 202 Advanced CNC ^A	6.0(10.0)
PLS 221 American Government & Politics ** ..	3.0(3.0)	PHY 111 Applied Physics **	3.0(4.0)
MFG 204 Computer-Aided		Elective	3.0(3.0)
Manufacturing (CAM) ^A	3.0(4.0)		
	15.5(22.0)		15.0(21.0)

Total Program Credits: 61.5. Total Program Contacts: 84 to 85.

- * Students transferring into manufacturing or industrial engineering should take MTH 113 and MTH 122.
^A Included in occupational specialty; GPA of 2.0 or higher must be maintained in the area of occupational specialty.

Associate in Applied Science (AAS) Degree
CAD/CAM TECHNOLOGY (WELDING OPTION)
 Program Number: 15.0699

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 in computerized industrial machining operations. Graduates can expect to find employment as CNC programmers, machinists, tool makers, and quality assurance technicians, or move on to complete a four-year degree in Manufacturing Engineering. The Associate in Applied Science (AAS) degree in CAD/CAM Technology (Welding Option) requires completing the certificate programs and the following courses marked with a **.

FIRST YEAR
Welding Certificate
 Program Number: 48.0508

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
MFG 101 Machining Processes I ^B	4.0(6.0)	CAD 150 3D Modeling ^B	3.0(4.0)
MFG 120 Print Interpretation & Processes ^B ...	3.0(4.0)	WLD 124 GMAW & FCAW Welding Processes ^B	4.0(6.0)
MTH 110 Technical Math I or MTH 113 Intermediate Algebra ^C	3.0(4.0)	MTH 112 Technical Math II or MTH 122 Plane Trigonometry ^C ** ..	3.0(3.0 or 4.0)
ENG 120 Applied Communications or ENG 111 English **	3.0(3.0)	ENG 123 Technical Communications or ENG 112 English **	3.0(3.0)
WLD 123 SMAW Welding Processes ^B	4.0(6.0)	WLD 240 Gas Tung Arc/Pipe Welding ^B	4.0(6.0)
MET 200 Material Science ^B	3.0(4.0)	WLD 242 Welding Fabrication ^B	3.0(5.0)
	20.0(27.0)		20.0(27.0 or 28.0)

SECOND YEAR
Advanced CAD/CAM Certificate
 Program Number: 15.1306

First Semester	Credit(Contact) Hrs	Second Semester	Course Hours
CAD 220 Machine Design ^B	3.5(5.0)	MFG 220 Jigs and Fixture Design ^B	3.0(4.0)
MFG 201 Introduction to CNC ^B	6.0(10.0)	MFG 202 Advanced CNC ^B	6.0(10.0)
PLS 221 American Government & Politics ^A **	3.0(3.0)	PHY 111 Applied Physics **	3.0(4.0)
MFG 204 Computer-Aided Manufacturing (CAM) ^B	3.0(4.0)		12.0(18.0)
	15.5(22.0)		

^A Fulfills American Government Requirement.

^B Included in occupational specialty; GPA of 2.0 or higher must be maintained in the area of occupational specialty.

^C Students transferring into manufacturing or industrial engineering should take MTH 113 and MTH 122.

Students with current American Welding Society (AWS) Entry Level Welder (Level I) and/or AWS Advanced Welder (Level II) certifications or students with a current AWS D1.1 Structural Welding certification will receive credit for the applicable welding course(s). See program advisor for details.

Associate in Science Degree (AS) Concentration in
CHEMISTRY
 Program Number: 40.0501

This is a suggested program of study which may be altered to meet individual goals and transfer plans. Students should refer to the descriptions of Alpena Community College graduation requirements (page 44) and degree distribution requirements (page 54) and consult with an academic advisor concerning specific course selection. A minimum total of 60 credits is required for the Associate in Science degree.

FIRST YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
ENG 111 English or ENG 121 English.....	3.0(3.0)	ENG 112 English or ENG 122 English.....	3.0(3.0)
CEM 121 General & Inorganic Chem.....	4.0 (7.0)	CEM 122 Inorganic Chemistry & Qualitative	
MTH 131 Analytic Geometry & Calculus	5.0(5.0)	Analysis.....	4.0(7.0)
Humanities/Fine Arts Req. B	3.0-4.0(4.0-5.0)	MTH 132 Analytical Geom. & Calculus.....	5.0(5.0)
	15.0-16.0(19.0-20.0)		12.0(15.0)

SECOND YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
CEM 221 Organic Chemistry	4.0(6.0)	CEM 222 Organic Chemistry.....	4.0(6.0)
MTH 231 Analytic Geometry/Calculus	5.0(5.0)	CEM 222L Organic Chemistry Laboratory.....	1.0(0.0)
PHY 221 Physics	5.0(7.0)	MTH 232 Differential Equations.....	4.0(4.0)
American Govt. Req. A B.....	3.0 or 6.0(3.0 or 6.0)	PHY 222 Physics.....	5.0(7.0)
	17.0 or 20.0(21.0 or 24.0)	SPE 121 Speech Communication.....	3.0(3.0)
			17.0(20.0)

- ^A Choose either three credits in Political Science (PLS 221 or 222) or six credits in U.S. History (HST 221 and 222).
- ^B A total of 10 semester credits are required in combination from Group III Social Sciences and Group IV Humanities/Fine Arts 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.

Associate in Arts Degree (AA) in
COMPUTER INFORMATION SYSTEMS
Program Number: 11.0401

This program is designed for students who plan to continue their education in pursuit of a four-year degree in Computer Information Systems. The program includes all of the necessary courses to qualify for the MACRAO Articulation Agreement. All facets of business find computers and information systems to be vital. Qualified individuals are needed to relate the problem-solving abilities of a computer system to a company's operations. In this curriculum, students are preparing to work as computer programmers, programmer-analysts, systems analysts, network administrators, or microcomputer specialists in business and industry.

FIRST YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
CIS 120 Intro to Microcomputers	3.0(4.0)	ENG 112 English or ENG 122 English	3.0(3.0)
CIS 140 Intro to Microsoft Client OS	3.0(4.0)	Laboratory Science Requirement	4.0(4.0-5.0)
CNS 170 PC Repair and Maintenance	4.0(5.0)	MTH 223 Statistical Methods	4.0(4.0)
ENG 111 English or ENG 121 English.....	3.0(3.0)	PLS 221 American Government & Politics.....	3.0(3.0)
MTH 121 College Algebra	4.0(4.0)	SPE 121 Speech Communication	3.0(3.0)
	<hr/>		<hr/>
	17.0(20.0)		17.0(17.0-18.0)

SECOND YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
BUS 123 Principles of Accounting I.....	4.0(4.0)	BUS 124 Principles of Accounting II.....	4.0(4.0)
BUS 262 Project Management.....	3.0(4.0)	CIS 295 IT Professional Practice	3.0(4.0)
CIS 258 Intro to Enterprise Database.....	2.0(3.0)	ECN 232 Economics (Macro)	3.0(3.0)
CIS 260 Data Base.....	3.0(4.0)	Humanities/Fine Arts Requirement	3.0(3.0)
ECN 231 Economics (Micro)	3.0(3.0)	Humanities/Fine Arts Requirement	3.0(3.0)
	<hr/>		<hr/>
	15.0(18.0)		16.0(17.0)

Associate in Science Degree (AS) Concentration in
COMPUTER SCIENCE — GENERAL
Program Number: 11.0101

Students who attend Alpena Community College have the opportunity to complete all, or many, of the courses needed for transfer to four-year institutions in the areas of Computer Science (CPS) or Computer Information Science (CIS). Students are advised to work closely with their academic advisor and transfer school in planning the course of study at ACC because of varied academic backgrounds and differences in transfer requirements for individual colleges and universities.

The associate in science degree requires successful completion of 60 semester credits. Included are 36 semester credits in general education course work (see page 54 for distribution requirements) and 24 semester credits selected in the area of concentration. Requirements for graduation are on page 44. Please consult your academic advisor before registering for any course work.

Associate in Applied Science Degree (AAS) in
CONCRETE TECHNOLOGY
 Program Number: 15.0201

Alpena Community College's Concrete Technology associate of applied science (AAS) program is the only 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, communications, 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 receives 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 also allows students to continue higher education endeavors at various universities.

FIRST YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
CON 110 Intro to Concrete Tech ^B	1.0(1.0)	CON 122 Concrete Admixtures ^B	1.0(1.0)
CON 121 Aggregates ^B	3.5(4.9)	CON 124 Concrete Mix Proportioning ^B	4.0(6.0)
CON 123 Cementitious Materials ^B	1.5(2.1)	CST 112 Building Construction ^B	3.0(3.0)
ENG 111 English or ENG 120 Applied Communications	3.0(3.0)	ENG 112 English or ENG 123 Technical Communications	3.0(3.0)
MTH 115 Applied Algebra & Trig I or MTH 113 Intermediate Algebra	5.0 or 4.0(6.0 or 4.0)	MTH 116 Applied Algebra & Trig II or MTH 122 Plane Trigonometry	5.0 or 3.0(6.0 or (3.0)
Computer Elective	3.0(3.0)	SDE 201 Job Search Strategies	1.0(1.0)
	16.0-17.0(18.0-20.0)		17.0 or 15.0(20.0 or 17.0)

Summer Session	Credit(Contact) Hrs
CST 151 Construction Summer Co-Op	6.0(6.0)

SECOND YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
CON 221 Placed Concrete I ^B	4.0(6.0)	CON 222 Placed Concrete II ^B	4.0(6.0)
CON 223 Concrete Masonry Prod. ^B	4.0(6.0)	CON 224 Prestress/Precast Concrete ^B	3.0(5.0)
CON 227 Construction Inspection ^B	2.0(2.0)	CON 226 Concrete Troubleshooting & Repair ^B	2.0(2.0)
CON 231 Concrete Project Lab ^B	1.0(1.0)	CON 232 Project Lab ^B	2.0(2.0)
PLS 221 American Government & Politics ^A ..	3.0(3.0)	Program Elective *	3.0(3.0)
PHY 111 Applied Physics	3.0(4.0)		
	17.0(22.0)		14.0(18.0)

^A Fulfills American Government Requirement.

^B Included in occupational specialty: GPA of 2.0 or higher must be maintained in the area of occupational specialty.

* Program elective must be approved by the Concrete Technology Department advisor.

Online Certificate (C) in
CONSTRUCTION TECHNOLOGY – GREEN BUILDING
Program Number: 46.0000

This certificate program familiarizes students with construction industry tools and processes, focusing on green building techniques. Graduates meet the industry's need for advanced efficiency training, and will have received specific training in green systems, practices, and methods, as well as in the ability to communicate and grasp the benefits of such. It is the only on-line program offered in Michigan, designed to assist remotely located students in obtaining or advancing their residential and/or commercial green building career.

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
CST 101 Construction Tech.....	3.0(3.0)	CST 102 Construction Tech II	3.0(3.0)
CST 201 Green Building and Sustainability	3.0(3.0)	CST 222 Advanced Green Energy	3.0(3.0)
MTH 113 Intermediate Algebra.....	4.0(4.0)	CST 214 Blueprint/Estimating	3.0(3.0)
ENG 120 English.....	3.0(3.0)	BUS 248 Business Communications	3.0(3.0)
MFG 210 Green Manufacturing.....	3.0(3.0)	CST 240 Sustainability.....	3.0(3.0)
PEH 263 Workplace First Aid *	1.0(1.0)		
			<hr/>
	16.0(16.0)		15.0(15.0)

* May be replaced with current verified American Red Cross First Aid and CPR Certification.

Associate in Applied Science Degree (AAS) in
CORRECTIONS
 Program Number: 43.0102

This program prepares successful graduates for careers in Federal Corrections or Michigan's Department of Corrections. It includes the 15 credit hours needed for the Michigan Certificate in the Certified Corrections Officer Academic Program, plus degree requirements and other career-related courses. A minimum total of 60 credits is required for this degree. Students planning to transfer to a four-year college or university to pursue a bachelor's degree in corrections or criminal justice law enforcement should work closely with advisors both at Alpena Community College and the transfer school. (See also Associate in Arts Criminal Justice transfer program on page 88).

FIRST YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
ENG 111 or ENG 121 English.....	3.0 (3.0)	CJ 229 Criminal Investigation ^B	4.0 (4.0)
CJ 121 Intro. to Criminal Justice ^B	3.0 (3.0)	CJ 234 Multicultural Law Enforcement ^B	3.0 (3.0)
CJ 231 Introduction to Corrections ^{B C}	3.0 (3.0)	CJ 235 Client Relations in Corrections ^{B C}	3.0 (3.0)
CIS 120 Introduction to Microcomputers	3.0 (4.0)	PLS 221 American Government & Politics or	
SOC 123 Sociology	3.0 (3.0)	PLS 222 State and Local Government ^A ...	3.0 (3.0)
		SPE 121 Speech Communication.....	3.0 (3.0)
	15.0 (16.0)		
			16.0 (16.0)

Summer Semester	Credit(Contact) Hrs
CJ 248 Local Corrections Officer Academy	10.0 (11.5)

SECOND YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
CJ 211 Ethics in Criminal Justice ^B	3.0 (3.0)	CJ 110 Criminal Justice Physical Ed. ^B	2.0 (3.0)
CJ 236 Correctional Client Growth & Development.....	3.0 (3.0)	CJ 237 Correctional Inst./Facilities ^{B C}	3.0 (3.0)
CJ 238 Legal Issues in Corrections ^{B C}	3.0 (3.0)		5.0 (6.0)
ENG 112 or ENG 122 English.....	3.0 (3.0)		
PSY 101 General Psychology	3.0 (3.0)		
	15.0 (15.0)		

- ^A Fulfills American Government Requirement.
- ^B Included in occupational specialty; GPA of 2.0 or higher must be maintained in the area of occupational specialty.
- ^C Grade of 2.0 must be earned in these courses to meet standards for Michigan Correctional Officer's Training Council and Michigan Sheriff's Association.
- ^D A score of 70% or higher must be earned to meet Michigan Sheriff's Association Training Council.

Certificate (C) in
CORRECTIONS OFFICER ACADEMIC PROGRAM
Program: 43.0199

A career in corrections can be a reality by completing this program with a minimum grade of “C” (2.0) in each course. This qualifies the student to write the Michigan Civil Service Test for Corrections Officer. A graduate of this program who earns a passing score on the Civil Service test, as set by the Michigan Civil Service Board, and who also meets other Michigan Department of Corrections requirements, may receive priority for hiring as a Michigan Corrections Officer.

Course	Credit(Contact) Hrs
CJ 231 Intro. to Corrections	3.0(3.0)
CJ 235 Client Relations in Corrections	3.0(3.0)
CJ 236 Correctional Client Growth & Development.....	3.0(3.0)
CJ 237 Corr. Institutions & Facilities	3.0(3.0)
CJ 238 Legal Issues in Corrections	3.0(3.0)
CJ 110 Criminal Justice Physical Education	2.0(3.0)
	17.0(18.0)

Associate in Arts Degree (AA) Concentration in
CRIMINAL JUSTICE
Program Number: 43.0107

This program is designed for transfer students interested in majoring in criminal justice at a four-year college or university. This is a program choice for the man or woman whose career goal is to become a police officer or federal agent and who also wishes to enter supervision of criminal justice personnel.

FIRST YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
ENG 111 or ENG 121 English.....	3.0 (3.0)	ENG 112 or ENG 122 English	3.0 (3.0)
CJ 121 Intro. to Criminal Justice ^B	3.0 (3.0)	CJ 232 Intro to Computer Forensics and Cybercrime.....	3.0 (3.0)
CJ 231 Intro. to Corrections	3.0 (3.0)	CJ 233 Community Policing ^B	3.0 (3.0)
Laboratory Science Requirement	4.0 (4.0)	PSY 101 General Psychology	3.0 (3.0)
Elective	3.0 (3.0)	Science or Math Requirement	4.0 (4.0-5.0)
	<hr/> 16.0 (16.0)		<hr/> 16.0(16.0-17.0)

SECOND YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
American Govt. Req. ^A	3.0 or 6.0 (3.0 or 6.0)	CJ 211 Ethics in Criminal Justice ^B	3.0 (3.0)
CJ 220 Juvenile Delinquency ^B	3.0 (3.0)	CJ 223 Police Administration ^B	3.0 (3.0)
Humanities/Fine Arts Requirement.....	4.0 (4.0-5.0)	Humanities/Fine Arts Elective	4.0 (4.0-5.0)
SOC 123 Sociology	3.0 (3.0)	CJ 119 Intro to Homeland Security ^B	3.0 (3.0)
BUS 115 Foundation in Personal Finance	1.0 (1.0)	Natural Science Elective	4.0 (5.0)
BUS 116 Foundation in Personal Finance	1.0 (1.0)		<hr/> 17.0 (18.0-19.0)
BUS 117 Foundation in Personal Finance	1.0 (1.0)		
	<hr/> 16.0 or 19.0 (16.0-20.0)		

^A Choose either three credits in Political Science (PLS 221 or 222) or six credits in U.S. History (HST 221 and 222).

^B Included in occupational specialty: GPA or 2.0 or higher must be maintained in the area of occupational specialty.

Certificate (C) or Associate in Applied Science Degree (AAS) in
CUSTOMER ENERGY SERVICE
 Program Numbers 15.0503 (C) 15.0504 (AAS)

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.

CERTIFICATE OR AAS FIRST YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
ENG 120 Applied Communications	3.0(3.0)	ENG 123 Technical Communications	3.0(3.0)
CIS 120 Intro to Microcomputers ^B	3.0(4.0)	APP 104E AC & DC Fundamentals ^B	3.0(4.0)
CAD 135 Intermediate AutoCAD ^B	1.5(2.0)	CAD 150 3D Modeling ^B	3.0(4.0)
CAD 132 AutoCAD Fundamentals ^B	1.5(2.0)	UTT 204 System Design and Operation	4.0(4.0)
APP 100E Electrical Studies for Trades ^B	3.0(4.0)	PHY 111 Applied Physics	3.0(4.0)
MTH 115 Applied Algebra & Trig. I	5.0(6.0)		
	17.0(21.0)		16.0(19.0)

CERTIFICATE OR AAS SECOND YEAR

First Semester	Credit(Contact) Hrs
BUS 121 Introduction to Business ^B	3.0(3.0)
BUS 131 Applied Accounting ^B	3.0(4.0)
BUS 221 Business Law ^B	3.0(3.0)
BUS 241 Principles of Marketing ^B	3.0(3.0)
SPE 121 Speech Communication	3.0(3.0)
Electrical Elective ^A	3.0(4.0)
	18.0(20.0)

Total Certificate Program Credits: 51.0

A Select from the following electrical electives to complete requirements:

APP 102E Residential Wiring/Blueprint Reading	APP 115E National Electric Code Application
APP 103E Commercial/Industrial Wiring	APP 122E Digital Electronics for Electricians
APP 107E Specialty Wiring	APP 123E Linear Electronics for Electricians
APP 111E Electric Motor Control	

^B Included in occupational specialty: GPA of 2.0 or higher must be maintained in the area of occupational specialty.

An Associate in Applied Science Degree (AAS) can be earned by completing the above Certificate program and adding either three Political Science credit hours (PLS 221 or 222) or six credits in U.S. History (HST 221 and 222) AND six credits of general electives. Sixty total credit hours needed for an AAS degree.

Associate in Arts Degree (AA) Concentration in
ECONOMICS
Program Number: 45.0601

This is a suggested program of study for specialized interest in the subject of economics that may be altered to meet individual goals and transfer plans. Students should refer to the Alpena Community College graduation requirements and degree distribution requirements and consult with an academic advisor concerning specific course selection. A minimum of 60 credit hours is required for an Associate of Arts degree.

GENERAL EDUCATION COURSE REQUIREMENTS

Group I: English Composition (6 hrs total required)	Credit (Contact) Hours
ENG 111 English or ENG 121 English	3.0 (3.0)
ENG 112 English or ENG 122 English	3.0 (3.0)
Group II: Science & Mathematics (8 hrs total required) ^A	Credit (Contact) Hours
MTH 123 College Algebra & Analytical Trig	4.0 (4.0)
Laboratory Science	4.0 (5.0)
GEO 127 Physical Geography	4.0 (5.0) *
Group III: Humanities/Fine Arts (8 hrs total required) ^B	Credit (Contact) Hours
HST 121 History of Western Civilization	3.0 (3.0)
HST 122 History of Western Civilization	3.0 (3.0)
Language, Arts and Humanities elective	3.0 (3.0)
Group IV: Social Science (8 hrs total required) ^C	Credit (Contact) Hours
SOC 123 Introduction to Sociology	3.0 (3.0)
PSY 101 General Psychology	3.0 (3.0)
American Government Requirement ^D	
PLS 221 American Government & Politics	3.0 (3.0)

Total Required Credit (Contact) Hours 36.0 (38.0) **

Group V: Electives (24 hrs needed) ^E	Credit (Contact) Hours
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Recommended electives:

Program of Study:

BUS 123 Principles of Accounting I	4.0 (4.0)
BUS 124 Principles of Accounting II	4.0 (4.0)
BUS 121 Introduction to Business	3.0 (3.0)
ECN 231 Economics (Micro)	3.0 (3.0)
ECN 232 Economics (Macro)	3.0 (3.0)
MTH 223 Statistical Methods	4.0 (4.0)

Social Sciences:

ANP 121 Cultural Anthropology	3.0 (3.0)
GEO 125 Geography	3.0 (3.0)
GEO 126 Cultural Geography	3.0 (3.0)
HST 221 US History	3.0 (3.0)
HST 222 US History	3.0 (3.0)
HST 225 Twentieth Century US History	3.0 (3.0)

HST 227 Contemporary American Problems	3.0 (3.0)
PLS 228 International Relations	3.0 (3.0)
PLS 230 Comparative Government	3.0 (3.0)
PLS 222 State and Local Government	3.0 (3.0)
PSY 241 Social Psychology	3.0 (3.0)
SOC 230 Social Problems	3.0 (3.0)

Other electives:

PHL125 Language and Reason	3.0 (3.0)
PHL 225 Philosophy	3.0 (3.0)
SPE 121 Speech Communications	3.0 (3.0)
Any other PLS, PSY, SOC course	

Notes:

- * General education groups I-IV satisfy ACC graduation requirements and Michigan Transfer Agreement (MTA).
- ** Excess credits from the general education groups apply to elective credit.
- A Course selection should be determined in consultation with an Academic Advisor and chosen transfer institution/program requirements.
- B Courses may include two (2) different academical disciplines from the following humanities and fine arts prefixes: (ART, ENG, FRN, GER, GRA, HUM, LTN, MUS, PFA, PHL, SPE, SPN).
- C Courses may include two (2) different academical disciplines from the following social science prefixes: (ANP, ECN, EDU, GEO, HST, PLS, PSY, SOC).
- D Students may choose either three (3) credits in Political Science (PLS 221 American Government and Politics or PLS 222 State and Local Government) or six (6) credits in US History (HST 221 and HST 222) to fulfill the American Government requirement.
- E Electives should be selected to fulfill transfer institution requirements, area concentrations (major or minor), or student interest. It is strongly recommended that foreign language preparation begin as soon as possible.

Economics Associate of Arts (AA) Program Outline

FIRST YEAR

First Semester	Credit (Contact) Hrs	Second Semester	Credit (Contact) Hrs
ENG 111 English or ENG 121 English.....	3.0 (3.0)	ENG 112 English or ENG 122 English	3.0 (3.0)
HST 121 History of Western Civilization.....	3.0 (3.0)	HST 122 History of Western Civilization	3.0 (3.0)
MTH 123 College Algebra & Analytical Trig	4.0 (4.0)	Laboratory Science	4.0 (5.0)
ECN 231 Economics (Micro)	3.0 (3.0)	ECN 232 Economics (Macro)	3.0 (3.0)
BUS 123 Accounting I.....	4.0 (4.0)	BUS 124 Accounting II.....	4.0 (4.0)
	<hr/>		<hr/>
	17.0 (17.0)		17.0 (18.0)

SECOND YEAR

First Semester	Credit (Contact) Hrs	Second Semester	Credit (Contact) Hrs
PSY 101 General Psychology	3.0 (3.0)	GEO 126 Cultural Anthropology	3.0 (3.0)
PLS 221 American Government & Politics	3.0 (3.0)	SOC 123 Introduction to Sociology	3.0 (3.0)
Language, Arts and Humanities elective	3.0 (3.0)	Recommended electives	9.0 (9.0)
GEO 127 Physical Geography	4.0 (5.0)		<hr/>
	<hr/>		15.0 (15.0)
	13.0 (14.0)		

Associate in Arts Degree (AA) Concentration in
EDUCATION — ELEMENTARY
Program Number: 13.1202

This is a suggested program of study that may be altered to meet individual goals and transfer plans. It is intended for students who want to work in the educational field, are considering an Associate in Arts (AA) degree, or intending to transfer to obtain a bachelor's degree or advanced degree in education. 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 are required for the Associate in Arts degree.

General Education Course Requirements

Group I: English Composition (6 hrs total)	Credit(Contact) Hours
ENG 111 English & ENG 112 English	6.0 (6.0)
OR	
ENG 121 English & ENG 122 English	

Group II: Math/Science (8 hrs total)	Credit(Contact) Hours
MTH 113 Intermediate Algebra or higher ¹	4.0 (4.0)
BIO 114 Introduction to Biology ^{1, 2}	4.0 (3.0)
BIO 114 Introduction to Biology Lab	0.0 (2.0)
GEO 127 Physical Geography	4.0 (5.0)

Group III: Humanities/Fine Arts (8 hrs total)	Credit(Contact) Hours
HST 121 & HST 122 History of Western Civilization	6.0 (6.0)
SPE 121 Speech Communication	3.0 (3.0)

Group IV: Social Science (8 hrs total)	Credit(Contact) Hours
PSY 101 General Psychology	3.0 (3.0)
PSY 226 Developmental Psychology	3.0 (3.0)
SOC 123 Introduction to Sociology	3.0 (3.0)
American Government Requirement ³	
HST 221 & HST 222 United States History	6.0 (6.0)

Total Credit (Contact) Hours * 42.0 * (44.0) *

Group V: Program of Study Electives (30 hrs total) ^{4, *}	Credit(Contact) Hours
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Recommended Electives ⁴	
EDU 121 Introduction to Education	3.0 (3.0)

Social Awareness	
EDU 220 Multicultural Education	3.0 (3.0)
OR	
SOC 210 Social Inequality: Race, Class & Gender	3.0 (3.0)

Math/Science	
MTH 111 & MTH 117 Math for the Elementary School Teacher I & II	6.0 (6.0)
PHS 113 Physical Science & Lab	4.0 (4.0)

Other Suggested Electives ⁴

ANP 121 Cultural Anthropology	3.0 (3.0)
ANP 239 Religions of the World	3.0 (3.0)
ART 246 Art for Classroom Teachers	3.0 (3.0)
ECN 231/232 Economics I & II	6.0 (6.0)
GEO 126 Cultural Geography	3.0 (3.0)
ENG 223/224 American Literature I & II	6.0 (6.0)
ENG 242 Children's Literature	3.0 (3.0)
MUS 228 Music in the Elementary Classroom	3.0 (3.0)
PHL 225 Philosophy	3.0 (3.0)
PHL 228 Introduction to Ethics	3.0 (3.0)
PSY 242 Abnormal Psychology	3.0 (3.0)
SOC 225 Sociology of Gender and Sex Roles	3.0 (3.0)
SOC 227 Sociology of Marriage & Family	3.0 (3.0)
SOC 230 Social Problems	3.0 (3.0)

TOTAL HOURS * 18.0 * (18.0) *

* Excess credits from general education groups, i.e. Groups I-IV, apply to elective category.

¹ It is strongly advised that you work with your advisor to help you determine the transfer institution/program requirements.

² This course meets the lab science requirement.

³ Students may choose either 6 credits in U.S. History (HST 221 and 222) or 3 credits in Political Science (PLS 221 or 222) to fulfill the American Government Requirement. However, the History sequence is strongly suggested for students interested in applying to Elementary Education programs.

⁴ Electives should be selected to fulfill transfer institution requirements, area of concentration (major or minor), or student's interest.

⁵ Completing the general education groups I-IV satisfies graduation and MTA, Michigan Transfer Agreement (12 hours required in Math/Science), requirements.

Associate in Arts Degree (AA) in
EDUCATION — SECONDARY
Program Number: 13.1205

This is a suggested program of study that may be altered to meet individual goals and transfer plans. It is intended for students who want to work in the educational field, are considering an Associate in Arts (AA) degree, or intending to transfer to obtain a bachelor's degree or advanced degree in secondary education. 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 are required for the Associate in Arts degree.

General Education Course Requirements

Group I: English Composition (6 hrs total)	Credit (Contact) Hours
ENG 111 English & ENG 112 English	6.0 (6.0)
OR	
ENG 121 English & ENG 122 English	
Group II: Math/Science (8 hrs total)	
MTH 113 Intermediate Algebra or higher ¹	4.0 (4.0)
BIO 114 Introduction to Biology ^{1, 2}	4.0 (3.0)
BIO 114 Introduction to Biology Lab	0.0 (2.0)
GEO 127 Physical Geography ¹	4.0 (5.0)
Group III: Humanities/Fine Arts (8 hrs total)	
HST 121 & HST 122 History of Western Civilization	6.0 (6.0)
SPE 121 Speech Communication	3.0 (3.0)
Group IV: Social Sciences (8 hrs total)	
PSY 101 General Psychology	3.0 (3.0)
PSY 226 Developmental Psychology	3.0 (3.0)
SOC 123 Introduction to Sociology	3.0 (3.0)
American Government Requirement ^{3, 4}	
PLS 221 American Government & Politics	3.0 (3.0)

Total Credit (Contact) Hours ^{5 *} 39.0 * (41.0) *

Group V: Program of Study Electives (30 hrs total) ^{4 *}	Credit (Contact) Hours
Recommended Electives ⁴	
EDU 121 Introduction to Education	3.0 (3.0)
Social Awareness	
EDU 220 Multicultural Education	3.0 (3.0)
OR	
SOC 210 Social Inequality: Race, Class & Gender	

Other Suggested Electives ⁴

Subject specific to the area in which you would like to teach ^{1,4}

ANP 239 Religions of the World	3.0 (3.0)
ENG 242 Children's Literature	3.0 (3.0)
GEO 126 Cultural Geography	3.0 (3.0)
PHL 125 Language & Reason	3.0 (3.0)
PHL 225 Philosophy	3.0 (3.0)
PHL 228 Introduction to Ethics	3.0 (3.0)
SOC 225 Sociology of Gender and Sex Roles	3.0 (3.0)
SOC 227 Sociology of Marriage and Family	3.0 (3.0)
SOC 230 Social Problems	3.0 (3.0)

TOTAL HOURS * 21.0 * (21.0) *

* Excess credits from general education groups, i.e. Groups I-IV, apply to elective category.

¹ It is strongly advised that you work with your advisor to help you determine the transfer institution/program requirements.

² This course meets the lab science requirement.

³ Students may choose either 6 credits in U.S. History (HST 221 and 222) or 3 credits in Political Science (PLS 221 or 222) to fulfill the American Government Requirement.

⁴ Electives should be selected to fulfill transfer institution requirements, area of concentration (major or minor), or student's interest.

⁵ Completing the general education groups I-IV satisfies graduation and MTA, Michigan Transfer Agreement (12 hours required in Math/Science), requirements.

Associate in Arts Degree (AA) in
EDUCATION — VOCATIONAL
Program Number: 13.1320

This program prepares students to transfer to a vocational teacher education program using the technical electives as a teaching minor. This is a suggested program of study which may be altered to meet individual goals and transfer plans. Students should refer to the description of Alpena Community College 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 Arts degree.

FIRST YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
ENG 111 English or ENG 121 English.....	3.0(3.0)	ENG 112 English or ENG 122 English	3.0(3.0)
EDU 121 Introduction to Education	3.0(3.0)	PSY 101 General Psychology	3.0(3.0)
MTH 113 Intermediate Algebra or MTH 115 Applied Algebra & Trig I.....	4.0 or 5.0(4.0 or 6.0)	PHY 111 Applied Physics or PHS 113 Intro to Physical Science.....	3.0 or 4.0(4.0 or 5.0)
Technical Electives A	8.0(8.0)	Technical Electives ^A	8.0(8.0)
	<hr/>		<hr/>
	18.0 or 19.0(18.0 or 20.0)		17.0 or 18.0(18.0 or 19.0)

SECOND YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
PLS 221 American Government & Politics	3.0(3.0)	Social Science Elective	3.0(3.0)
SPE 121 Speech Communication.....	3.0(3.0)	Humanities/Fine Arts Requirement.....	4.0(4.0-5.0)
Humanities/Fine Arts Requirement.....	4.0(4.0-5.0)	Technical Electives ^A	6.0(6.0)
Technical Electives ^A	8.0(8.0)		<hr/>
	<hr/>		13.0(13.0-14.0)
	18.0(18.0-19.0)		

^A Technical electives will change depending on area of concentration and the specific four-year transfer institution's requirements. Normally 30 credits of technical electives are required. Consult your Alpena Community College academic advisor.

Vocational Certification: In addition to the necessary academic preparation, a minimum of 4,000 hours of recent and relevant work experience is necessary to receive a vocational teaching certificate in the State of Michigan.

Associate in Applied Science Degree (AAS) in
ELECTRICAL MAINTENANCE TECHNICIAN
Program Number: 46.0302

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 and linear electronics.

BASIC CORE COURSES

Courses	Credit(Contact) Hrs
APP 106M Industrial Safety ^B	0.5(0.5)
APP 100E Electrical Studies for Trades ^B	3.0(4.0)
MTH 110 Technical Math I or MTH 115 Applied Algebra and Trig	3.0 or 5.0(4.0 or 6.0)
Total Core Course Hours	6.5 or 8.5(8.5 or 10.5)

BASIC TECHNICAL COURSES

Courses	Credit(Contact) Hrs	Courses	Credit(Contact) Hrs
APP 102E Residential Wiring & Blueprint Reading ^B	3.0(4.0)	APP 122E Digital Electronics for Electricians ^B	3.0(4.0)
APP 103E Comm. & Ind. Wiring	3.0(4.0)	APP 123E Linear Electronics for Electricians ^B	3.0(4.0)
APP 104E AC/DC Fundamentals ^B	3.0(4.0)	CIS 120 Intro to Microcomputers.....	3.0(4.0)
APP 107E Specialty Wiring ^B	3.0(4.0)	Technical/Business Elective ^B	3.0(3.0-3.0)
APP 111E Electric Motor Control ^B	3.0(4.0)		
APP 114E Programmable Controllers ^B	3.0(4.0)		
APP 115E National Electric Code App. ^B	4.0(4.0)	Total Technical Course Hours	34.0(42.0-43.0)

GENERAL EDUCATION COURSES

Courses	Credit(Contact) Hrs	Courses	Credit(Contact) Hrs
ENG 111 English or ENG 120 Applied Communications	3.0(3.0)	American Government Requirement ^A	3.0 or 6.0(3.0 or 6.0)
ENG 112 English or ENG 123 Technical Communications	3.0(3.0)	General Electives	8.0(8.0)
SPE 123 Public Communication.....	3.0(3.0)		
		Total General Education Hours	20.0 or 23.0(20.0 or 23.0)

^A Choose either three credits in Political Science (PLS 221 or 222 or six credits in U.S. History (HST 221 and 222).

^B Included in occupational specialty; GPA of 2.0 or higher must be maintained in the area of occupational specialty.

Associate in Arts Degree (AA) Concentration in
FINE ARTS
 Program Number: 50.0101

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 a student to pursue a bachelor's degree in fine arts, design, and related areas. Students should refer to the descriptions of Alpena Community College graduation requirements (page 44) and degree distribution requirements (page 53) and consult with an academic advisor concerning specific course selections.

FIRST YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
ENG 111 or ENG 121 English.....	3.0(3.0)	ENG 112 English or ENG 122 English	3.0(3.0)
Science/Math Requirement ^A	4.0-5.0(4.0-5.0)	Laboratory Science.....	4.0(4.0)
HST 121 History of Western Civ. or		HST 122 History of Western Civ. or	
HUM 241 Humanities.....	3.0-4.0	HUM 242 Humanities	3.0-4.0(3.0-4.0)
ART 127 Basic Drawing.....	3.0(4.0)	ART 123 Design I	3.0(4.0)
ART 221 Computer Generated Imaging	3.0(4.0)	ART 100 Photography I	3.0(4.0)
	<hr/>		<hr/>
	16.0-18.0(18.0-20.0)		16.0-17.0(18.0-19.0)

SECOND YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
PLS 221 American Government & Politics or		Social Science Requirement	3.0(3.0)
PLS 222 State and Local Government ^B	3.0(3.0)	ART 124 Design II.....	3.0(4.0)
Social Sciences Requirement	3.0(3.0)	ART 230 Sculpture II, ART 226 Ceramics II	
ART 222 Computer Generated Imaging II or		or ART 246 Art for the Classroom	
ART 200 Photography II	3.0(4.0)	Teacher.....	3.0-4.0(4.0)
ART 225 Ceramics I or ART 229 Sculpture....	3.0(4.0)	ART Elective.....	3.0(4.0)
ART 223 Painting I.....	3.0(4.0)	Elective	3.0(3.0)
	<hr/>		<hr/>
	15.0(18.0)		15.0-16.0(18.0)

^A It is strongly recommended that transfer students determine mathematics requirements at the university or art institute to which they will transfer. Students are encouraged to complete MTH 121 College Algebra before transferring. It is also recommended that students who intend to transfer work closely with an academic advisor to plan a successful program for the chosen institution.

^B Fulfills American Government Requirement.

Associate in Science (AS) Concentration in
GENERAL SCIENCES
Program Number: 30.0101

This is a degree 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 the degree requirements (page 44), as well as the Associate in Science degree distribution requirements (page 54) of this catalog. By working closely with your Alpena Community College 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 counselors 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 also earn an associate of 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 in the following programs:

Pre-Occupational Therapy (Program Number 51.2306)

Pre-Physical Therapy (Program Number 51.2308)

Pre-Radiology Technology (Program Number 51.0907).

See also page 160 for a cooperative program in Radiography.

Associate in General Studies (AGS) Concentration in
GENERAL STUDIES
Program Number: 24.0102

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 56 of this catalog. Students should consult an academic advisor concerning final course selection.

Associate in Arts Degree (AA) Concentration in
GEOGRAPHY
Program Number: 45.0701

This is a suggested program of study for specialized interest in the subject of geography that may be altered to meet individual goals and transfer plans. Students should refer to the Alpena Community College graduation requirements and degree distribution requirements and consult with an academic advisor concerning specific course selection. A minimum of 60 credit hours is required for an Associate of Arts degree.

General Education Course Requirements

Group I: English Composition (6 hrs total required)	Credit (Contact) Hours
ENG 111 English or ENG 121 English	3.0 (3.0)
ENG 112 English or ENG 122 English	3.0 (3.0)
Group II: Science & Mathematics (8 hrs total required) ^A	Credit (Contact) Hours
MTH 113 Intermediate Algebra	4.0 (4.0)
PHS 113 Introduction to Physical Science	4.0 (5.0)
GEO 127 Physical Geography	4.0 (5.0) *
Group III: Humanities/Fine Arts (8 hrs total required) ^B	Credit (Contact) Hours
HST 121 History of Western Civilization	3.0 (3.0)
HST 122 History of Western Civilization	3.0 (3.0)
Language, Arts and Humanities elective	3.0 (3.0)
Group IV: Social Science (8 hrs total required) ^C	Credit (Contact) Hours
SOC 123 Introduction to Sociology	3.0 (3.0)
ECN 232 Economics (Macro)	3.0 (3.0)
American Government Requirement ^D	Credit (Contact) Hours
PLS 221 American Government & Politics	3.0 (3.0)

Total Required Credit (Contact) Hours 36.0 (38.0) **

Group V: Electives (24 hrs needed) ^E	Credit (Contact) Hours
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Recommended electives:

Program of Study:

GEO 127 Physical Geography	4.0 (5.0)
GEO 126 Cultural Geography	3.0 (3.0)
GEO 151 Introduction to GIS	1.5 (2.0)
GEO 152 Advanced GIS	1.5 (2.0)

Social Sciences:

ANP 121 Cultural Anthropology	3.0 (3.0)
ANP 229 Anthropology of North American Indians	3.0 (3.0)
ANP 239 Religions of the World	3.0 (3.0)
ANP 240 Archeology	3.0 (4.0)
ANP 257 Underwater Archeology	3.0 (3.0)
ECN 231 Economics (Micro)	3.0 (3.0)
HST 224 History of Michigan	3.0 (3.0)

HST 225 Twentieth Century US History	3.0 (3.0)
HST 227 Contemporary American Problems	3.0 (3.0)
HST 228 Civil War	3.0 (3.0)
PSY 101 General Psychology	3.0 (3.0)

Other electives:

BIO 114 Introduction to Biological Science (or higher)	4.0 (5.0)
CEM 100 Introductory Chemistry (or higher)	5.0 (4.0)
MTH 223 Statistical Methods	4.0 (4.0)
PHL125 Language and Reason	3.0 (3.0)
PHL 225 Philosophy	3.0 (3.0)
SPE 121 Speech Communications	3.0 (3.0)
SPE 123 Public Communication	3.0 (3.0)
Any other PLS, PSY, SOC course	

* General education groups I-IV satisfy ACC graduation requirements and Michigan Transfer Agreement (MTA).

** Excess credits from the general education groups apply to elective credit.

A Course selection should be determined in consultation with an Academic Advisor and chosen transfer institution/program requirements.

B Courses may include two (2) different academical disciplines from the following humanities and fine arts prefixes: (ART, ENG, FRN, GER, GRA, HUM, LTN, MUS, PFA, PHL, SPE, SPN).

C Courses may include two (2) different academical disciplines from the following social science prefixes: (ANP, ECN, EDU, GEO, HST, PLS, PSY, SOC).

D Students may choose either three (3) credits in Political Science (PLS 221 American Government and Politics or PLS 222 State and Local Government) or six (6) credits in US History (HST 221 and HST 222) to fulfill the American Government requirement.

E Electives should be selected to fulfill transfer institution requirements, area concentrations (major or minor), or student interest. It is strongly recommended that foreign language preparation begin as soon as possible.

Geography Program Outline

FIRST YEAR

First Semester	Credit (Contact) Hrs	Second Semester	Credit (Contact) Hrs
ENG 111 English or ENG 121 English.....	3.0 (3.0)	ENG 112 English or ENG 122 English.....	3.0 (3.0)
HST 121 History of Western Civilization.....	3.0 (3.0)	HST 122 History of Western Civilization.....	3.0 (3.0)
MTH 113 Intermediate Algebra.....	4.0 (4.0)	GEO 126 Cultural Geography.....	3.0 (3.0)
PHS 113 Introduction to Physical Science.....	4.0 (5.0)	PLS 221 American Government & Politics.....	3.0 (3.0)
	_____	Recommended elective	3.0 (3.0)
	14.0 (15.0)		_____
			15.0 (15.0)

SECOND YEAR

First Semester	Credit (Contact) Hrs	Second Semester	Credit (Contact) Hrs
PSY 101 General Psychology	3.0 (3.0)	ANP 121 Cultural Anthropology.....	3.0 (3.0)
ECN 232 Economics (Macro) or ECN 231 Economics (Micro).....	3.0 (3.0)	SOC 123 Introduction to Sociology	3.0 (3.0)
Language, Arts and Humanities elective	3.0 (3.0)	GEO 151 Introduction to GIS	1.5 (2.0)
GEO 127 Physical Geography	4.0 (5.0)	GEO 152 Advanced GIS	1.5 (2.0)
Recommended elective	3.0 (3.0)	Recommended electives.....	6.0 (6.0)
	_____		_____
	16.0 (17.0)		15.0 (16.0)

Certificate (C) in
HEALTH CARE ASSISTANT — NURSING ASSISTANT
Program Number: 17.0602

The Health Care Assistant Certificate program is designed to provide the basic knowledge and skills necessary to provide holistic care to promote physical, psychological, social, and spiritual well-being for people with diverse but relatively stable health needs. Students will gain knowledge and skills in providing person-focused care, such as assisting with grooming, supporting participation in social/recreational activities, and helping maintain mobility. The general focus of this program is caring for clients with physical care needs and/or dementia. Students will acquire competencies in English language usage, basic computer proficiency, and discipline specific mathematics. This certificate program is designed to provide students with the skills necessary to function as a Health Care Assistant in long term, home, and acute care settings. Upon successful completion of the HEA components of the program the student will be able to sit for the state licensure examination.

Credit(Contact) Hrs

CIS 120 Intro to Microcomputers	3.0(4.0)
ENG 111 English	3.0(3.0)
NUR 133 Dosage Calculations	1.5(1.5)
HEA 107 Health Care Assistant.....	6.9(6.9)
HEA 107LC Health Care Assistant Lab	0.8(2.4)
HEA 113 Health Care Assistant Clinical	0.8(2.4)
<hr/>	
16.0(20.2)	

Associate in Arts Degree (AA) Concentration in
HISTORY
Program Number: 54.0101

This is a suggested program of study for specialized interest in the subject of history that may be altered to meet individual goals and transfer plans. Students should refer to the Alpena Community College graduation requirements and degree distribution requirements and consult with an academic advisor concerning specific course selection. A minimum of 60 credit hours is required for an Associate of Arts degree.

General Education Course Requirements

Group I: English Composition (6 hrs total required)	Credit (Contact) Hrs
ENG 111 English or ENG 121 English	3.0 (3.0)
ENG 112 English or ENG 122 English	3.0 (3.0)

Group II: Science & Mathematics (8 hrs total required) ^A	Credit (Contact) Hrs
MTH 113 Intermediate Algebra	4.0 (4.0)
Laboratory Science	4.0 (5.0)
GEO 127 Physical Geography	4.0 (5.0)*

Group III: Humanities/Fine Arts (8 hrs total required) ^B	
HST 121 History of Western Civilization	3.0 (3.0)
HST 122 History of Western Civilization	3.0 (3.0)
Language, Arts and Humanities elective	3.0 (3.0)

Group IV: Social Science (8 hrs total required) ^C	
SOC 123 Introduction to Sociology	3.0 (3.0)
PSY 101 General Psychology	3.0 (3.0)
ECN 232 Economics (Macro) or ECN 231 Economics (Micro)	3.0 (3.0)
American Government Requirement ^D	
HST 221 US History	3.0 (3.0)
HST 222 US History	3.0 (3.0)

Total Required Credit (Contact) Hours * 42.0 (44.0) **

Group V: Electives (18 hrs needed) ^E

Recommended electives:

Program of Study:

HST 224 History of Michigan	3.0 (3.0)
HST 225 Twentieth Century US History	3.0 (3.0)
HST 227 Contemporary American Problems	3.0 (3.0)
HST 228 Civil War	3.0 (3.0)
Or any ANP course	

Social Sciences:

ANP 121 Cultural Anthropology	3.0 (3.0)
ANP 240 Archeology	3.0 (4.0)
ECN 231 Economics (Micro)	3.0 (3.0)
ECN 232 Economics (Macro)	3.0 (3.0)
GEO 125 Geography	3.0 (3.0)

GEO 126 Cultural Geography	3.0 (3.0)
PLS 222 State and Local Government	3.0 (3.0)
PLS 228 International Relations	3.0 (3.0)
PLS 230 Comparative Government	3.0 (3.0)
PSY 241 Social Psychology	3.0 (3.0)
SOC 230 Social Problems	3.0 (3.0)

Other electives:

MTH 223 Statistical Methods	4.0 (4.0)
PHL125 Language and Reason	3.0 (3.0)
PHL 225 Philosophy	3.0 (3.0)
SPE 121 Speech Communications	3.0 (3.0)
Any other PLS, PSY, SOC course	

* General education groups I-IV satisfy ACC graduation requirements and Michigan Transfer Agreement (MTA).

** Excess credits from the general education groups apply to elective credit.

A Course selection should be determined in consultation with an Academic Advisor and chosen transfer institution/program requirements.

B Courses may include two (2) different academical disciplines from the following humanities and fine arts prefixes: (ART, ENG, FRN, GER, GRA, HUM, LTN, MUS, PFA, PHL, SPE, SPN).

C Courses may include two (2) different academical disciplines from the following social science prefixes: (ANP, ECN, EDU, GEO, HST, PLS, PSY, SOC).

D Students may choose either three (3) credits in Political Science (PLS 221 American Government and Politics or PLS 222 State and Local Government) or six (6) credits in US History (HST 221 and HST 222) to fulfill the American Government requirement.

E Electives should be selected to fulfill transfer institution requirements, area concentrations (major or minor), or student interest. It is strongly recommended that foreign language preparation begin as soon as possible.

History Program Outline

FIRST YEAR

First Semester	Credit (Contact) Hrs	Second Semester	Credit (Contact) Hrs
ENG 111 English or ENG 121 English.....	3.0 (3.0)	ENG 112 English or ENG 122 English.....	3.0 (3.0)
HST 121 History of Western Civilization.....	3.0 (3.0)	HST 122 History of Western Civilization.....	3.0 (3.0)
MTH 113 Intermediate Algebra.....	4.0 (4.0)	Laboratory Science.....	4.0 (5.0)
HST 221 US History	3.0 (3.0)	SOC 123 Introduction to Sociology	3.0 (3.0)
	_____	HST 222 US History	3.0 (3.0)
	13.0 (13.0)		_____
			16.0 (17.0)

SECOND YEAR

First Semester	Credit (Contact) Hrs	Second Semester	Credit (Contact) Hrs
PSY 101 General Psychology	3.0 (3.0)	GEO 126 Cultural Anthropology	3.0 (3.0)
ECN 232 Economics (Macro) or		Recommended electives	12.0 (12.0)
ECN 231 Economics (Micro)	3.0 (3.0)		_____
Language, Arts and Humanities elective	3.0 (3.0)		15.0(15.0)
GEO 127 Physical Geography	4.0 (5.0)		
Recommended elective	3.0 (3.0)		

	16.0(17.0)		

Associate in Applied Science Degree (AAS) Concentration in
INDUSTRIAL SALES
Program Number: 52.1804

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.

FIRST YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
ENG 120 Applied Communications or ENG 111 English or ENG 121 English.....	3.0(3.0)	ECN 231 Economics ((Micro).....	3.0(3.0)
IND 110 Industrial Organizations.....	3.0(3.0)	APP 122M Machine Repair	2.5(4.0)
MFG 120 Print Interpretation & Processes	3.0(4.0)	MFG 100 Machinery's Handbook.....	3.0(4.0)
SPE 121 Speech Communications.....	3.0(3.0)	BUS 122 Personal Selling	3.0(3.0)
BUS 123 Principles of Accounting I.....	4.0(4.0)	MTH 115 Appl. Algebra & Trig	5.0(6.0)

	16.0(17.0)		16.5(20.0)

SECOND YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
CIS 120 Intro to Microcomputers	3.0(4.0)	BUS 249 Principles of Negotiation	3.0(3.0)
BUS 221 Business Law	3.0(3.0)	BUS 222 Business Law	3.0(3.0)
BUS 241 Principles of Marketing	3.0(3.0)	PLS 221 American Government & Politics or PLS 222 State and Local Government	3.0(3.0)
APP 100E Electrical Studies for Trades	3.0(4.0)	BUS 255 Business Application Software	3.0(4.0)
APP 124M Apprentice Hydraulics.....	2.5(4.0)	ENG 123 Technical Communications.....	3.0(3.0)
	_____		_____
14.5(18.0)			15.0(16.0)

Certificate (C) in
INDUSTRIAL TECHNOLOGY
Program Number: 15.0699

This program is designed to give students the basis for overall knowledge for employment into entry level positions for 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.

First Semester	Credit (Contact) Hrs	Second Semester	Credit (Contact) Hrs
APP 100E Electrical Studies for Trades	3.0 (4.0)	APP 104E AC/DC Fundamentals.....	3.0 (4.0)
MTH 110 Technical Math I.....	3.0 (2.0)	CIS 120 Intro to Microcomputers.....	3.0 (4.0)
MTH 110L Technical Math Lab.....	0.0 (2.0)	SDE 201 Job Search Strategies	1.0 (1.0)
APP 106M Industrial Safety	0.5 (0.5)	MFG 122 Manufacturing Processes	3.0 (3.0)
MFG 120 Print Interpretation & Processes	3.0 (2.0)		
MFG 120L Print Interpretation & Processes			
Lab.....	0.0 (2.0)		
	<hr/>		<hr/>
	9.5 (12.5)		10.0 (12.0)

Total Certificate: 19.5 credits hours, 24.5 contact hours.

Associate in Applied Science Degree (AAS) in
LAW ENFORCEMENT
 Program Number: 43.0103

This program is designed for the career-focused student whose intent is to attend a police academy by applying to either a state or local law enforcement agency or to a privately-run police academy. This degree will prepare the student academically for the police academy experience but will not replace its training. ^C

FIRST YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
ENG 111 or ENG 121 English.....	3.0 (3.0)	ENG 112 or ENG 122 English.....	3.0 (3.0)
CIS 120 Intro. to Microcomputers	3.0 (4.0)	CJ 223 Police Administration ^B	3.0 (3.0)
CJ 121 Intro. to Criminal Justice ^B	3.0 (3.0)	CJ 232 Intro to Computer Forensics and Cyber Crime	3.0 (4.0)
CJ 231 Intro. to Corrections.....	3.0 (3.0)	American Government Requirement ^A	3.0 (3.0)
BUS 115 Foundation in Personal Finance	1.0 (1.0)	SPE 121 Speech Communication.....	3.0 (3.0)
BUS 116 Foundation in Personal Finance	1.0 (1.0)		
BUS 117 Foundation in Personal Finance	1.0 (1.0)		
			15.0 (16.0)
	15.0 (16.0)		

SECOND YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
CJ 220 Juvenile Delinquency ^B	3.0 (3.0)	CJ 110 Criminal Justice Physical Ed. ^B	2.0 (3.0)
CJ 221 Criminal Law ^B	3.0 (3.0)	CJ 119 Introduction to Homeland Security ^B ...	3.0 (3.0)
CJ 224 Police Operations ^B	3.0 (3.0)	CJ 211 Ethics in Criminal Justice ^B	3.0 (3.0)
CJ 229 Criminal Investigation ^B	4.0 (4.0)	CJ 222 Criminal Procedure ^B	3.0 (3.0)
CJ 234 Multicultural Law Enforcement.....	3.0 (3.0)	CJ 233 Community Policing ^B	3.0 (3.0)
		PSY 101 General Psychology	3.0 (3.0)
	16.0 (16.0)		17.0 (18.0)

- ^A Choose either three credits in Political Science (PLS 221 or 222) or six credits of U.S. History (HST 221 and 222).
- ^B Included in occupational specialty; GPA of 2.0 or higher must be maintained in the area of occupational specialty.
- ^C Alpena Community College and Kirtland Regional Police Academy offer a cooperative program that allows Michigan Commission on Law Enforcement Standards prerequisite college credits required for admission to a police academy to be completed at Alpena Community College. Students who successfully complete the three-semester Police Academy option at Alpena Community College and meet the admission requirements of Kirtland Regional Police Academy will be admitted to this Police Academy. Students seeking entry into this program should consult with Michael Roy, Criminal Justice Program Director.

Associate in Arts Degree (AA) Concentration in
LIBERAL ARTS — GENERAL
Program Number: 24.0101

This is a suggested program of study which may be altered to meet individual goals and transfer plans. Students should refer to the descriptions of Alpena Community College graduation requirements (page 44) and AA degree distribution requirements (page 53) and consult with an academic advisor concerning specific course selection. A minimum total of 60 credits is required for the Associate in Arts degree.

FIRST YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
ENG 111 English or ENG 121 English.....	3.0(3.0)	ENG 112 English or ENG 122 English.....	3.0(3.0)
Fine Arts	3.0 or 4.0(4.0 or 5.0)	Fine Arts or Literature.....	3.0 or 4.0(4.0 or 5.0)
Sciences/Math Requirement	4.0-5.0(4.0-5.0)	Laboratory Science.....	4.0(4.0)
HST 121 History of Western Civilization.....	3.0(3.0)	HST 122 History of Western Civilization	3.0(3.0)
Elective	3.0(3.0)	Elective	3.0(3.0)
	<hr/>		<hr/>
	16.0-18.0(17.0-19.0)		16.0-17.0(17.0-18.0)

SECOND YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
Fine Arts or Literature	3.0 or 4.0(4.0-5.0)	Fine Arts or Literature.....	3.0 or 4.0(4.0-5.0)
PLS 221 American Government & Politics ^A ..	3.0(3.0)	Social Science Requirement	3.0(3.0)
Social Science Requirement.....	3.0(3.0)	Electives	9.0(9.0)
Electives.....	6.0(6.0)		<hr/>
	<hr/>		15.0-16.0(16.0-17.0)
	15.0-16.0(16.0-17.0)		

^A Fulfills American Government Requirement.

Listed elsewhere in this Programs of Study section are AA transfer degrees in the following areas of concentration: Anthropology; Business Information Systems — Executive Secretary; Criminal Justice; Economics; Education — Elementary; Geography; History; Political Science; Pre-Law; and Psychology.

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 in the following:

Business Administration — General (Program Number 52.0201)

English (Program Number 23.0101)

Social Sciences (Program Number 45.0101)

Certificate (C) in
MANUFACTURING TECHNOLOGY, BASIC
Program Number: 48.0501

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.

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
MFG 101 Machining Processes I ^B	4.0(6.0)	MFG 102 Machining Processes II ^B	6.0(10.0)
MFG 120 Print Interpretation & Processes ^B ...	3.0(4.0)	MTH 112 Technical Math II	3.0(4.0)
MTH 110 Technical Math I ^B	3.0(4.0)	Technical Elective ^{A B}	2.0-4.0(2.0-4.0)
MET 200 Material Science ^A	3.0(4.0)		
			11.0 or 13.0(16.0 or 18.0)
	13.0(18.0)		

^A Technical electives will consist of manufacturing-related courses such as, but not limited to: AutoCAD and Welding Manufacturing Process, Summer Co-op. See your program advisor to determine an applicable course.

^B Included in occupational specialty; GPA of 2.0 or higher must be maintained in the area of occupational specialty.

An Associate in Applied Science Degree (AAS) in CNC Manufacturing Technology can be earned by completing the above program and the Advanced CAD/CAM certificate program and the following courses:

Course	Credit(Contact) Hrs
ENG 120 Applied Communications or	
ENG 111 English.....	3.0(3.0)
ENG 123 Technical Communications or	
ENG 112 English.....	3.0(3.0)
PHY 111 Applied Physics	3.0(4.0)
PLS 221 American Government & Politics	3.0(3.0)
	12.0(13.0)

Associate in Applied Science (AAS) in
MARINE TECHNOLOGY
 Program Number: 49.0309

This program is designed for students interested in careers working on Great Lakes, ocean-based research vessels, or in industries related to the blue economy with particular emphasis on ROV (Remote Operated Vehicle) operations and applied robotics. The program features an on-water component, coursework related to ocean issues and underwater archeology, skilled trades required to design and build an ROV, and the opportunity for an internship between the first and second year of the program. Networking opportunities with public and private sector employers will be provided, along with a capstone project leading to competition in the national ROV competition. The program will emphasize project-based learning activities appealing to employers across a range of related industries.

FIRST YEAR

Summer Semester Credit(Contact) Hrs

MRT 110 Intro to Careers on the Water ^G..... 2.0 (3.0)

2.0 (3.0)

Fall Semester Credit(Contact) Hrs

*MTH 110 Technical Math ^A OR

 *MTH 113 Intermediate Algebra ^A 3.0-4.0 (4.0)

*ENG 111 English ^B OR

 *ENG 120 Applied Communication ^B 3.0 (3.0)

APP 106M Industrial Safety ^G 0.5 (0.5)

IND 120 Industrial Networking ^G 3.0 (4.0)

*APP 100E Electrical Studies for Trade ^G 3.0 (4.0)

MRT 101 Intro to Submersible Robotics

 With Build ^G 3.0 (4.0)

15.5-16.5 (19.5)

Spring Semester Credit(Contact) Hrs

*MTH 112 Technical Math II ^A OR

 *MTH 122 Plane Trigonometry ^A 3.0 (3.0-4.0)

*ENG 112 English ^B OR

 *ENG 123 Technical Communication ^B 3.0 (3.0)

*CAD 150 3D Modeling 3.0 (4.0)

*APP 114E Programmable Controllers ^G 3.0 (4.0)

*APP 123E Linear Electronics for
 Electricians ^G 3.0 (4.0)

15.0 (18.0-19.0)

SECOND YEAR

Summer Credit (Contact) Hrs

MRT 210 ROV Piloting ^G 2.0 (3.0)

Summer Internship (Optional)

Credit (Contact) Hrs

Work experience - in degree description ^C 0 (0.0)

Fall Semester Credit(Contact) Hrs

*PHY 111 Applied Physics ^D OR

 *PHY 121 General College

 Physics ^D 3.0-4.0 (4.0- 6.0)

MFG 101 Machining Processes I ^G 4.0 (6.0)

*IND 229 Hydraulic & Pneumatic Power ^G 3.0 (4.0)

*CAD 220 Machine Design ^G 3.5 (5.0)

*APP 107E Specialty Wiring ^G 3.0 (4.0)

16.5-17.5 (23.0-25.0)

Spring Semester Credit(Contact) Hrs

CAD 270 Capstone Project ^G 3.5 (5.0)

*ELE 220 PC Base Data Acq. & Control ^G 3.0 (4.0)

GEO 151 Intro to GIS 1.5 (2.0)

*GEO 152 Advanced GIS 1.5 (2.0)

American Gov. Requirement ^E 3.0 or 6.0 (3.0 or 6.0)

Technical Elective ^{F, G} 3.0 (4.0)

15.5 or 18.5 (20.0 or 23.0)

* Prerequisites and/or corequisites are required for these courses.

^A Students who plan to transfer to a 4-year institution should complete MTH 113 and MTH 122 or higher. Please see academic advisor for details.

^B Students who plan to transfer to a 4-year institution should complete ENG 111 or ENG 112 or higher. Please see academic advisor for details.

^C See course description regarding internship.

- ^D Students who plan to transfer to a 4-year institution should complete PHY 121. Please see academic advisor for details.
- ^E Choose either three credits in Political Science (PLS221 or 222) or six credits in U.S. History (HST 221 and 222).
- ^F Technical electives include any course with the following prefixes which are listed in the course description section of this catalog:
- | | |
|--|--|
| APP 104E AC & DC Fundamentals | *MRT 201 Research Diver: Theory and Practice |
| APP 111E Electric Motor Control | *PEH 104 Open Water Diver |
| APP 128M Rigging & Weight Estimating | *PEH 105 Advanced Open Water Diver |
| *CNS 170 PC Repair & Maintenance | GIS (Geographic Information System) possible |
| HST 140 United by Water: Underwater Archaeology and Maritime History | transfer from Northwestern |
- ^G Included in occupational specialty; GPA of 2.0 or higher must be maintained in the area of occupational specialty.

Associate in Applied Science Degree (AAS) in
MARKETING
Program Number: 52.1401

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.

FIRST YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
ENG 111 English or ENG 121 English.....	3.0(3.0)	ENG 112 English or ENG 122 English	3.0(3.0)
BUS 125 Business Mathematics or Mathematics Elective ^B	3.0 or 4.0(3.0 or 4.0)	BUS 124 Principles of Accounting II ^B	4.0(4.0)
BUS 121 Introduction to Business ^B	3.0(3.0)	BUS 241 Principles of Marketing ^B	3.0(3.0)
BUS 123 Principles of Accounting I ^B	4.0(4.0)	BUS 255 Business Application Software ^B	3.0(4.0)
CIS 120 Intro to Microcomputers ^B	3.0(4.0)	American Govt. Requirement ^A	3.0 or 6.0(3.0-6.0)
			16.0 or 19.0(17.0 or 20.0)
	16.0 or 17.0(17.0 or 18.0)		

SECOND YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
BUS 221 Business Law ^B	3.0(3.0)	BUS 222 Business Law ^B	3.0(3.0)
ECN 231 Economics (Micro)	3.0(3.0)	ECN 232 Economics (Macro)	3.0(3.0)
BUS 122 Personal Selling ^B	3.0(3.0)	SPE 121 Speech Communications	3.0(3.0)
BUS 229 Advertising ^B	3.0(3.0)	CIS 240 Multimedia Presentations ^B	3.0(4.0)
PSY 101 General Psychology	3.0(3.0)	CIS 241 Intro Web Design & Mngmnt. ^B	3.0(4.0)
	15.0(15.0)		15.0(17.0)

Total Program Credits: 62 to 66. Total Program Contact Hours: 66 to 70.

^A Choose either three credits in Political Science (PLS 221 or 222) or six credits in U.S. History (HST 221 and 222).

^B Included in occupational specialty; average GPA of 2.0 or higher must be maintained in the area of occupational specialty.

Associate in Science Degree (AS) Concentration in
MATHEMATICS
 Program Number: 27.0101

This is a suggested program of study which may be altered to meet individual goals and transfer plans. Students should refer to the descriptions of Alpena Community College graduation requirements (page 44) and AS degree distribution requirements (page 54) and consult with an academic advisor concerning specific course selection. A minimum total of 60 credits is required for the Associate in Science degree.

FIRST YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
ENG 111 English or ENG 121 English.....	3.0(3.0)	ENG 112 English or ENG 122 English.....	3.0(3.0)
MTH 131 Analytic Geometry & Calculus	5.0(5.0)	MTH 132 Analytic Geometry & Calculus.....	5.0(5.0)
Laboratory Science Requirement	4.0(4.0)	Science Elective ^C	4.0(4.0)
Non-Science Elective	3.0-4.0(3.0-4.0)	Non-Science Elective	3.0-4.0(3.0-4.0)
	—————		—————
	15.0-16.0(15.0-16.0)		15.0-16.0(15.0-16.0)

SECOND YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
MTH 231 Analytic Geometry & Calculus	5.0(5.0)	MTH 232 Differential Equations.....	4.0(4.0)
American Govt. Req. ^{A B}	3.0 or 6.0(3.0 or 6.0)	Science Elective ^C	4.0(4.0)
Science Elective ^C	4.0(4.0)	Non-Science Elective	4.0(4.0)
Humanities/Fine Arts Req. ^B	3.0-4.0(4.0-5.0)	Humanities/Fine Arts & Social Science Requirements ^B	3.0-4.0(3.0-4.0)
	—————		—————
	15.0-19.0(16.0-20.0)		15.0-16.0(15.0-16.0)

^A Choose either three credits in Political Science (PLS 221 or 222) or six credits in U.S. History (HST 221 and 222) to fulfill requirement.

^B A total of 10 semester credits are required in combination from Group III Social Science and Group IV Humanities/Fine Arts, 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.

^C Students are encouraged to select electives in science which will lead to a minor at a transfer school.

Associate in Applied Science Degree (AAS) in
MECHANICAL DESIGN TECHNOLOGY
 Program Number: 15.1302

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. Two technical electives allow 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 for this option.

FIRST YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
MTH 110 Technical Math I or		MTH 112 Technical Math II or	
MTH 113 Intermediate Algebra.....	3.0 or 4.0(4.0)	MTH 122 Plane Trigonometry ^C	3.0(3.0 or 4.0)
MFG 101 Machining Processes I ^A	4.0(6.0)	PHY 111 Applied Physics ^D	3.0(4.0)
MFG 120 Print Interpretation and Process ^A	3.0(4.0)	CAD 150 3D Modeling ^A	3.0 (4.0)
APP 100E Electrical Studies ^A	3.0(4.0)	CIS 171 Spreadsheets I ^A	1.0(1.25)
EGR 122 Intro to Engineering ^A	1.0(1.0)	CIS 172 Spreadsheets II ^A	1.0(1.25)
	————	CIS 173 Spreadsheets III ^A	1.0(1.25)
	14.0 or 15.0(19.0)	American Govt. Req.....	3.0 or 6.0(3.0 or 6.0)
			————
			15.0 or 18.0 (17.75 to 20.75)

SECOND YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
ENG 111 English or ENG 120 Applied		ENG 112 English or ENG 123 Technical	
Communications, or ENG 121 English.....	3.0(3.0)	Communication or ENG 122 English.....	3.0(3.0)
MET 200 Material Science ^A	3.0(4.0)	IND 225 Strength of Materials ^A	4.0(5.0)
CAD 220 Machine Design ^A	3.5(5.0)	CAD 250 Advanced 3D Model. ^A	3.5(5.0)
IND 229 Hydraulic & Pneumatic Power ^A	3.0(4.0)	CAD 270 Capstone Project ^A	3.5(5.0)
Technical Elective ^{A E}	3.0(4.0)	Technical Elective ^{A E}	3.0(4.0)
	————		————
	15.5 (20.0)		17.0(23.0)

- ^A Included in occupational specialty: GPA of 2.0 or higher must be maintained in the area of occupational specialty.
- ^B These courses are normally offered in sequence during a semester.
- ^C Students who plan to transfer to a 4-year institution should complete MTH 113 and MTH 122 or higher. Please see academic advisor for details.
- ^D Will be waived if student successfully completes PHY 121 General College Physics.
- ^E Technical elective: choose from the following: APP 104E, APP 106M, APP 111E, APP 114E, APP 123E, ELE 220, WLD 123, MFG 102, MFG 122, MFG 201, MFG 210, MFG 204, MFG 220, SPE 123, CEM 100.

NOTE: Since technical programs are lab-intensive, credit hours for each semester and program completion are usually higher than for non-technical programs; however, it should be taken into consideration that a great percentage of student work may be completed during scheduled lab hours.

Associate in Applied Science Degree (AAS)
MEDICAL ASSISTANT
 Program Number: 51.0801

This program provides a balanced blend of administrative and clinical courses to prepare the student for entry level medical assisting. This allied health care profession offers work primarily in ambulatory settings such as medical offices and clinics. Supervised internships at physician's offices are required, and prior to placement, the student must submit evidence of good health including up-to-date immunizations and tuberculin screening results. A background check may also be required. A medical assistant's responsibilities include but are not limited to the administrative duties of handling correspondence, scheduling patients, transcribing dictation, maintaining medical records, obtaining medical codes, and insurance billing procedures to the clinical duties of taking vital signs, sterilizing instruments, performing routine office laboratory procedures and tests, obtaining EKG readouts, and assisting patients with understanding treatment instructions. Medical assistants must also demonstrate professionalism and effective communication skills.

FIRST YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
BIS 100 Computer Keyboarding.....	1.0(2.0)	BIO 110 Essn. of Anatomy and Physiology ^B ..	4.0(5.0)
BIS 147 Medical Office Transcription ^B	4.0(6.0)	BIS 162 Med. Office Computer Apps ^B	1.5(2.0)
BIS 160 Medical Terminology ^B	4.0(4.0)	BIS 164 Medical Office Ins. Billing ^B	3.0(4.0)
BIS 163 Medical Office ICD Coding ^B	4.0(4.0)	BIS 165 Medical Office Procedures ^B	4.0(4.0)
BIS 168 Medical Office CPT Coding ^B	3.0(4.0)	BIS 167 Medical Ethics and Law for Health Professionals ^B	3.0(3.0)
	16.0(20.0)	BIS 170 Electronic Health Record ^B	1.5(2.0)
			17.0(20.0)

Summer Internship	Credit(Contact) Hrs
BIS 220 Med. Asst. Admin. Practicum ^B	2.0(4.0)

SECOND YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
ENG 111 English or ENG 121 English.....	3.0(3.0)	ENG 112 English or ENG 122 English	3.0(3.0)
MED 222 Medication Administration ^B	3.0(3.0)	MED 224 Medical Asst. Clinical Practice ^B ...	6.0(12.0)
MED 223 Medical Asst. Clinical Lab ^B	7.5(9.0)	PSY 101 General Psychology	3.0(3.0)
CIS 120 Intro to Microcomputers ^{**B}	3.0(4.0)	American Govt. Req. ^A	3.0 or 6.0(3.0 or 6.0)
	16.5(19.0)		15.0 or 18.0(21.0 or 24.0)

Total Program Credits: 66.5 or 69.5. Total Program Contact Hours: 84.0 or 87.0.

^A Choose either three credits in Political Science (PLS 221 or 222) or six credits in U.S. History (HST 221 and 222).

^B Included in occupational specialty: A grade of 2.0 or higher must be earned in each occupational specialty course.

^{*} Any person convicted of a felony will not be allowed to write the certification exam for medical assistant.

^{**} Prerequisite: CIS 110 and CIS 111, or equivalent skills, or instructor permission.

Students must complete 100% of the competencies required for the program in order to complete the degree regardless of course grades achieved. Competencies missed in a course will need to be made up by retaking the course before the student may proceed with internship BIS 220 and the MED courses.

Associate in Applied Science Degree (AAS) Concentration in
MILLWRIGHT TECHNICIAN
Program Number: 48.0507

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 a 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.

BASIC CORE COURSES

Course	Credit(Contact) Hrs	Course	Credit(Contact) Hrs
APP 106M Industrial Safety	0.5(0.5)	APP 128M Rigging & Weight Estimating	1.5(2.0)
APP 100E Electrical Studies for Trades	3.0(4.0)	APP 223M Predictive & Prevent. Maint.	2.5(4.0)
MTH 110 Technical Math I	3.0(4.0)	WLD 123 SMAW Welding Processes or	
APP 121M Apprentice Blueprint Reading		WLD 124 GMAW & FCAW Welding	
or MFG 120 Print Interpretation &		Processes	4.0(6.0)
Processes	3.0(4.0)	APP 102E Residential Wiring and Blueprint	
APP 124M Apprentice Hydraulics.....	2.5(4.0)	Reading	3.0(4.0)
APP 122M Machine Repair	2.5(4.0)	APP 103E Commercial and Ind. Wiring	3.0(4.0)
APP 129M Apprentice Pneumatics.....	1.5(2.0)	Computer Elective.....	3.0(3.0)
APP 125M Apprentice Machine Shop or MFG 101			
Machining Processes I	2.5 or 4.0(4.0 or 6.0)		

TECHNICAL SPECIALTY ELECTIVES (8 CREDIT HOURS MINIMUM)

Course	Credit(Contact) Hrs	Course	Credit(Contact) Hrs
APP 111E Electric Motor Control	3.0(4.0)	MFG 102 Machining Processes II	6.0(10.0)
APP 114E Programmable Controllers.....	3.0(4.0)	MFG 201 Introduction to Computer	
APP 290M Millwright Internship	3.0(3.0)	Numerical Control.....	6.0(10.0)

GENERAL EDUCATION COURSES

Course	Credit(Contact) Hrs	Course	Credit(Contact) Hrs
ENG 111 English or ENG 120 Applied		SPE 123 Public Communication	3.0(3.0)
Communication.....	3.0(3.0)	PLS 221 American Government & Politics or	
ENG 112 English or ENG 123 Technical		PLS 222 State and Local Government	3.0(3.0)
Communication.....	3.0(3.0)	General Elective	3.0(3.0)

Associate in Science Degree (AS) Concentration in
NATURAL SCIENCES
 Program Number: 40.0101

This is a suggested program of study which may be altered to meet individual goals and transfer plans. Students should refer to the descriptions of Alpena Community College graduation requirements (page 44) and AS degree distribution requirements (page 54) and consult with an academic advisor concerning specific course selection. A minimum total of 60 credits are required for the Associate in Science degree.

FIRST YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
ENG 111 English or ENG 121 English.....	3.0(3.0)	ENG 112 English or ENG 122 English	3.0(3.0)
CEM 121 General & Inorganic Chem.....	4.0(7.0)	CEM 122 Inorganic Chemistry & Qualitative Analysis	4.0(7.0)
BIO 210 Introduction to Botany	4.0(6.0)	BIO 211 General Zoology	4.0(5.0)
Math Elective.....	3.0-5.0(4.0-5.0)	Math Elective	3.0-5.0(4.0-5.0)
	14.0-16.0(20.0-21.0)		14.0-16.0(19.0-20.0)

SECOND YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
CEM 221 Organic Chemistry	4.0(6.0)	BIO 203 Human Physiology	3.0(5.0)
PHY 121 General College Physics	4.0(6.0)	CEM 222 Organic Chemistry	4.0(6.0)
American Govt. Req. ^A	3.0 or 6.0(3.0 or 6.0)	PHY 122 General College Physics.....	4.0(6.0)
Humanities/Fine Arts Req. ^B	3.0-4.0(4.0-5.0)	Humanities/Fine Arts & Social Science Requirement ^B	3.0-4.0(4.0-5.0)
	14.0-18.0(19.0-23.0)		14.0-15.0(21.0-22.0)

^A Choose either three credits in Political Science (PLS 221 or 222) or six credits in U.S. History (HST 221 and 222).

^B A total of 10 semester credits are required in combination from Group III Social Sciences and Group IV Humanities/Fine Arts 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.

Certificate (C) in
NETWORK ADMINISTRATION
 Program Number: 11.1001

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 perform maintenance and troubleshooting activities associated with Information Technology (IT) equipment and software. The program helps prepare students for industry certification.

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
CIS 140 Intro to Microsoft Client OS	3.0(4.0)	BUS 248 Business Communications	3.0(3.0)
CNS 150 Networking Fundamentals.....	3.0(4.0)	CIS 241 Intro to Web Design Management	3.0(4.0)
CNS 151 Network Comm. Cabling	3.0(4.0)	CNS 155 Intro to Routing and Switching.....	3.0(4.0)
CNS 170 PC Repair and Maintenance	4.0(5.0)	CNS 180 Intro to Microsoft Server	3.0(4.0)
ENG 111 English or ENG 121 English.....	3.0(3.0)		
			12.0(15.0)
	16.0(20.0)		

Associate in Applied Science Degree (AAS) in
NETWORK ADMINISTRATION
 Program Number: 11.1001

This program prepares students for employment as network administrators, consultants, or support professionals in Local Area Network (LAN) environments. Successful completion will equip students with the skills and knowledge to plan, install and maintain LANs, as well as to perform maintenance and troubleshooting activities associated with Information Technology (IT) equipment and software. The program helps prepare students for industry certification.

FIRST YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
CIS 140 Intro to Microsoft Client OS ^B	3.0(4.0)	BUS 248 Business Communications	3.0(3.0)
CNS 150 Networking Fundamentals ^B	3.0(4.0)	CIS 241 Intro to Web Design Management	3.0(4.0)
CNS 151 Network Comm. Cabling ^B	3.0(4.0)	CNS 155 Intro to Routing and Switching.....	3.0(4.0)
CNS 170 PC Repair and Maintenance	4.0(5.0)	CNS 180 Intro to Microsoft Server	3.0(4.0)
ENG 111 English or ENG 121 English.....	3.0(3.0)	ENG 112 English or ENG 122 English	3.0(3.0)
			15.0(18.0)
	16.0(20.0)		

SECOND YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
BUS 262 Project Management ^B	3.0(4.0)	CIS 295 IT Professional Practice Mgmt. ^B	3.0(4.0)
CIS 204 Object Oriented Programming ^B	3.0(4.0)	CIS 258 Intro to Enterprise Database ^B	3.0(4.0)
CNS 240 Open Source Networking ^B	3.0(4.0)	CNS 220 Advanced Microsoft Server ^B	3.0(4.0)
CNS 210 Microsoft Network Management ^B ...	3.0(4.0)	CNS 215 Intro to Virtualization ^B	3.0(4.0)
CNS 230 Information Security ^B	3.0(4.0)	American Govt. Req. ^A	3.0 or 6.0(3.0 or 6.0)
			15.0 or 18.0(19.0 or 22.0)
	15.0(20.0)		

^A Choose either three credits in Political Science (PLS 221 or 222) or six credits in U.S. History (HST 221 and 222) to fulfill the American Government requirement.

^B Included in occupational specialty: GPA of 2.0 or higher must be maintained in the area of occupational specialty.

NURSING PROGRAM INFORMATION

Alpena Community College (ACC) offers two program options in nursing; both programs are approved by the Michigan State Board of Nursing. During the Pre-Nursing Curriculum the student will complete 12.5 credits of course work including, CEM 111 and CEM 111L, BIO 201 and BIO 201L, ENG 111, and NUR 133 (Dosage Calculation). The Practical Nursing Certificate Program (Level I) includes two semesters with 16 students admitted each fall and spring semester. The Associate Degree Nursing Program (Registered Nursing) (Level II) includes all Level I course work, plus two additional semesters of study leading to an associate in applied science degree. Sixteen students will be admitted to Level II each fall and spring semester.

The nursing curriculum at ACC is designed to promote career mobility and to offer qualified students alternative educational tracks according to their career goals. Two entry and two exit points are available to nursing students. Graduates are prepared to write the National Council Licensure Examination (NCLEX) and to assume entry-level staff positions in health care delivery systems. Graduates can also articulate into a Bachelor of Science in Nursing (BSN) completion program at four-year institutions in Michigan or other states. Also students who meet criteria can concurrently enroll in UM-Flint as a guest student and take courses aimed at preparing them to continue on with a BSN completion program after graduation from ACC.

Admission Criteria

1. Nursing Program applicants who will be new students at Alpena Community College must apply to ACC prior to applying to the Nursing Program.
2. Students entering at either level must have a high school diploma or General Education Degree (GED).
3. If any courses were taken at another college or university, official transcripts must be sent to the ACC Registrar's office for determination of equivalent course and transfer credit. The deadline for submission of transcripts is March 1 for fall admission and October 1 for spring admission.
4. All prerequisite courses and general education co-requisites must have a minimum grade of 2.0, "C", or higher with a combined grade point average (GPA) of 3.0, "B", to be eligible for consideration for an opening in Level I or Level II of the Nursing Program.
5. Prerequisites may only be repeated once. Withdrawals will be counted as an attempt of taking the class. The highest grade in the course is used in calculating the student's GPA.
6. Science courses that are older than five years from the date the student formally begins the program will be evaluated on an individual basis.
7. Students are required to submit background check information from the Michigan State Police and child abuse/neglect central registry clearance from the State of Michigan Department of Human Services with their application to the program. This will be at the student's expense and must be completed two weeks prior to the deadline for application.

8. The Nursing Program must meet legal and contractual agency requirements and students will not be admitted to the Nursing Program or be allowed to continue in the Nursing Program if clinical requirements cannot be met.
9. Students should be aware that the Michigan Board of Nursing may deny a license to an applicant who has been convicted of a felony or certain misdemeanors or is addicted to drugs or alcohol. Alpena Community College 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.
10. All students must attend a mandatory nursing program orientation when accepted into the program. Failure to meet Nursing Program deadlines for admission or to attend the orientation session will result in forfeiting placement in the program.
11. Please be aware that meeting minimum requirements does not guarantee an opening in either Level I or Level II of the Nursing Program.
12. Students accepted for both Level I and Level II Nursing Programs are required to bring the following documentation to their orientation session:
 - A physical exam form signed by a physician, physician assistant, or nurse practitioner
 - Proof that Hepatitis B immunization series has been initiated or a signed release form stating the reason for noncompliance of this requirement
 - Proof of any other applicable vaccines which may be required by clinical sites
 - Proof of a current TB test
 - A current Health Care Provider Card (American Heart Association) or Professional Rescuer Card (American Red Cross)
 - Results of a mandatory drug screen from Rapid Results in Alpena (or the equivalent from another approved screening source) within the last 30 days

Nursing Program Selection Process, Level I:

1. Alpena Community College admits students to the Nursing Program under a Selective Admission Process. The criteria for admission will be based on:
 - GPA of prerequisite courses.
 - Composite score of a standardized admission exam: Assessment Technologies Institutes Test of Essential Academic Skills (TEAS™). This exam is administered at the student's expense and can be repeated only once to improve the score. Arrangements to take the exam should be made through the Testing Center at Alpena Community College prior to the admission application deadline.
 - Number of credits taken at Alpena Community College.
 - Previously earned degrees.
 - Previously documented healthcare work experience.
 - Number of previous semesters a student has applied to the Nursing Program.
2. Students will be admitted twice per year.
3. Students may apply during their last semester of prerequisite coursework.

4. Applications will be available to pick up at the Alpena campus on the second floor of the Natural Resource Center (NRC) in the Nursing Program secretary's office (NRC 202) and also on the bulletin board.
5. Application deadlines will be posted on the bulletin board on the second floor of NRC near the nursing office.
6. Students that are not admitted must reapply.
7. In the event that more than one student with the same score is eligible to be admitted to the nursing program competitively admission to the program will be based on:
 - a. Application date at the point when all prerequisite courses were completed and
 - b. The date in which the completed application was submitted to the nursing office.

Students may exit the program at the end of Level I and are eligible to sit for the NCLEX-PN exam.

Students who continue on to the Level II program (within two consecutive semesters) are encouraged to sit for the NCLEX-PN exam but can be admitted as progressing students.

Level I students must state their intent, in writing, to continue on to Level II by October 15th or March 15th of their second semester.

Nursing Program Selection Process, Level II:

Students, who complete the Level I program with a combined GPA of 3.0, and declare their intent to continue to Level II prior to the deadline, will be granted admission to the Level II program in the first available semester after graduation.

For students who exit after Level I of the program and do not return within two consecutive semesters, and students coming from other programs, selection preference for remaining seats will be based on the following criteria:

1. Documentation of 6 months of full time equivalent hours (1040 hours) as an LPN within the last two years.
2. Proof of a current unencumbered license.
3. GPA of prerequisite courses.
4. GPA of nursing courses.
5. Composite score of a standardized admission exam: Assessment Technologies Institute LPN-Step Test. This exam is administered at the student's expense and can be repeated only once to improve the score. Arrangements to take the exam should be made through the Testing Center at Alpena Community College prior to the admission application deadline.
6. Number of credits taken at Alpena Community College.
7. Previously earned degrees.

Certificate (C) in
NURSING, LICENSED PRACTICAL
 Program Number: 51.1613

Alpena Community College offers two nursing program options: a one-year certificate program (Level I), and an Associate of Applied Science (AAS) degree (Level II). Both programs have full approval by the State of Michigan Board of Nursing. Upon successful completion of Level I and with the approval of the Board of Nursing, graduates are eligible to take the NCLEX-PN for LPN licensure.

PREREQUISITES

Course	Credit(Contact) Hrs	Course	Credit(Contact) Hrs
CEM 111 General Chemistry or CEM 221	4.0 (4.0)	BIO 201 Anatomy	4.0 (2.0)
CEM 111L General Chemistry Lab	0.0 (3.0)	BIO 201L Anatomy Lab	0.0 (3.0)
ENG 111 English or ENG 121 English.....	3.0 (3.0)	NUR 133 Dosage Calculations.....	1.5 (1.5)
		Prerequisites Total	12.5 (16.5)

FIRST SEMESTER COURSES

Course	Credit(Contact) Hrs	Course	Credit(Contact) Hrs
BIO 203 Physiology.....	4.0 (2.0)	NUR 142 Medical Surgical Nursing I	
BIO 203 Lab	0.0 (3.0)	Theory	2.5 (2.5)
NUR 140 Foundations of Nursing Theory	3.0 (3.0)	NUR 143 Medical Surgical Nursing Clinical	
NUR 140LC Foundations of Nursing Lab	1.0 (3.0)	I (Long Term Care Facility)	2.0 (6.0)
		Semester Total	12.5 (19.5)

SECOND SEMESTER COURSES

Course	Credit(Contact) Hrs	Course	Credit(Contact) Hrs
NUR 135 PN Transition to Practice		NUR 152LC OB/Reproductive Health/Peds	
(7 week course).....	1.0 (1.0)	Lab	0.5 (1.5)
NUR 150 Medical Surgical Nursing II		NUR 153 OB/Reproductive Health/Peds	
Theory.....	2.5 (2.5)	Clinical	1.0 (3.0)
NUR 150LC Medical Surgical Nursing II		NUR 158 Pharmacology	3.0 (3.0)
Lab.....	0.5 (1.5)	NUR 157 Medical Surgical Nursing Clinical	
NUR 151 Medical Surgical Nursing Clinical		III Acute Care Setting: Team	
II Acute Care Setting: Primary Care	1.5 (4.5)	Functioning	1.5 (4.5)
NUR 152 OB/Reproductive Health/Peds		Semester Total	13.5 (23.5)
Theory.....	2.0 (2.0)		

Total LPN Certificate 38.5 (59.5)

All prerequisite courses must have a C or higher and a combined GPA of 3.0 in prerequisite courses to be eligible.

Students selected to the Nursing Program must attend a mandatory 2-day orientation session prior to the start of the program.

Students should be aware that meeting minimum requirements does not guarantee an opening in either level. The Nursing Program has its own application forms and processes. Forms are available in the Nursing Office. Alpena Community College's Nursing Program is a candidate for accreditation from the Accreditation Commission for Education in Nursing (ACEN). www.acenursing.org.

Students may exit the program at the end of Level I and are eligible to sit for the NCLEX-PN exam.

Associate in Applied Science (AAS) Concentration in
NURSING, REGISTERED
Program Number: 51.1601

Alpena Community College offers two nursing program options: a one-year certificate program (Level I), and an Associate of Applied Science (AAS) degree (Level II). Both programs have full approval by the State of Michigan Board of Nursing. Upon successful completion of Level II and with the approval of the Board of Nursing, graduates are eligible to take the NCLEX-PN for RN licensure.

FIRST SEMESTER

Course	Credit(Contact) Hrs	Course	Credit(Contact) Hrs
BIO 140 Microbiology for Health Sciences....	3.0 (3.0)	NUR 242 Advanced Parent /Child Nursing	
BIO 140L Lab or BIO 227L	0.0 (2.0)	Theory	2.5 (2.5)
NUR 240 Advanced Medical Surgical		NUR 242LC Advanced Parent/Child	
Theory I	2.0 (2.0)	Nursing Lab.....	0.4 (1.2)
NUR 240LC Advanced Medical Surgical		NUR 243 Advance Parent/Child Nursing	
Lab I Skills Lab and IV Medications	0.5 (1.5)	Clinical	1.1 (3.3)
NUR 241 Advanced Medical Surgical		NUR 244 Physical Assessment	1.0 (1.0)
Clinical I Orientation to RN role/skills	1.5 (4.5)	NUR 244LC Physical Assessment Lab	1.0 (3.0)
		Semester Total	13.0 (24.0)

SECOND SEMESTER

Course	Credit(Contact) Hrs	Course	Credit(Contact) Hrs
PLS 221/222 Political Science	3.0 (3.0)	NUR 250 Medical Surgical Nursing	
ENG 112 English	3.0 (3.0)	Clinical II Coordination of Care.....	1.5 (4.5)
NUR 249 Advanced Medical Surgical		NUR 252 Psychiatric Nursing Theory.....	2.0 (2.0)
Nursing Theory II	2.0 (2.0)	NUR 253 Psychiatric Nursing Clinical	1.5 (4.5)
NUR 249LC Advanced Medical Surgical		NUR 255 Nursing Leadership	1.5 (1.5)
Nursing Lab II.....	0.5 (1.5)	NUR 257 Medical Surgical Nursing	
		Clinical III Team Leading	1.5 (4.5)
		Semester Total	16.5 (26.5)

Total LPN Certificate Courses: 38.5(59.5)

Registered Nursing Courses: 29.5(50.5)

Total AAS Degree: 68.0(110.0)

Prerequisites: All courses from Level I Nursing Program must be completed including prerequisites. In addition ENG 112 and PLS 221/222 can be taken as pre-requisite or co-requisite courses for the Associate Degree Program. All prerequisite courses must have a C or higher and a combined GPA of 3.0 in prerequisite courses to be eligible.

Students selected to the Nursing Program must attend a mandatory 2-day orientation session prior to the start of the program.

Students should be aware that meeting minimum requirements does not guarantee an opening in either level. In addition to meeting general education course requirements, LPN applicants for Level II openings are required to have a current, unrestricted Michigan license.

LPNs who obtained practical nurse education at ACC or another school or college may also apply.

The Nursing Program has its own application forms and processes. Forms are available in the Nursing Office.

Alpena Community College's Nursing Program is a candidate for accreditation from the Accreditation Commission for Education in Nursing (ACEN). www.acenursing.org.

Associate in Science Degree (AS) Concentration in
PHYSICS
 Program Number: 40.0801

This is a suggested program of study which may be altered to meet individual goals and transfer plans. Students should refer to the descriptions of Alpena Community College graduation requirements (page 44) and AS degree distribution requirements (page 54) and consult with an academic advisor concerning specific course selection. A minimum total of 60 credits is required for the Associate in Science degree.

FIRST YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
ENG 111 English or ENG 121 English.....	3.0(3.0)	ENG 112 English or ENG 122 English	3.0(3.0)
CEM 121 General & Inorganic Chemistry.....	4.0(7.0)	CEM 122 Inorganic Chemistry & Qualitative	
MTH 131 Analytic Geometry/Calculus	5.0(5.0)	Analysis.....	4.0(7.0)
Non-Science Elective.....	3.0-4.0(3.0-4.0)	MTH 132 Analytic Geometry & Calculus.....	5.0(5.0)
	_____	MTH 221 C++ Programming	3.0(4.0)
	15.0-16.0(18.0-19.0)		_____
			15.0(19.0)

SECOND YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
American Govt. Req. ^{A B}	3.0 or 6.0(3.0 or 6.0)	MTH 232 Differential Equations.....	4.0(4.0)
MTH 231 Analytic Geometry & Calculus	5.0(5.0)	PHY 222 Physics.....	5.0(7.0)
PHY 221 Physics	5.0(7.0)	Non-Science Elective	3.0-4.0(3.0-4.0)
Humanities/Fine Arts Req. ^B	3.0-4.0(4.0-5.0)	Humanities/Fine Arts & Social Science	
	_____	Requirement ^B	3.0-4.0(4.0-5.0)
	16.0-20.0(19.0-23.0)		_____
			15.0-17.0(18.0-20.0)

^A Choose either three credits in Political Science (PLS 221 or 222) or six credits in U.S. History (HST 221 and 222).

^B A total of 10 semester credits are required in combination from Group III Social Sciences and Group IV Humanities/Fine Arts 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.

Associate in Arts Degree (AA) Concentration in
POLITICAL SCIENCE
Program Number: 45.1001

This is a suggested program of study for specialized interest in the subject of political science that may be altered to meet individual goals and transfer plans. Students should refer to the Alpena Community College graduation requirements and degree distribution requirements and consult with an academic advisor concerning specific course selection. A minimum of 60 credit hours is required for an Associate of Arts degree.

General Education Course Requirements

Group I: English Composition (6 hrs total required)	Credit (Contact) Hours
ENG 111 English or ENG 121 English	3.0 (3.0)
ENG 112 English or ENG 122 English	3.0 (3.0)

Group II: Science & Mathematics (8 hrs total required) ^A	Credit (Contact) Hours
MTH 113 Intermediate Algebra	4.0 (4.0)
Laboratory Science	4.0 (5.0)
GEO 127 Physical Geography	4.0 (5.0) *

Group III: Humanities/Fine Arts (8 hrs total required) ^B	Credit (Contact) Hours
HST 121 History of Western Civilization	3.0 (3.0)
HST 122 History of Western Civilization	3.0 (3.0)
Language, Arts and Humanities elective	3.0 (3.0)

Group IV: Social Science (8 hrs total required) ^C	Credit (Contact) Hours
SOC 123 Introduction to Sociology	3.0 (3.0)
PSY 101 General Psychology	3.0 (3.0)
ECN 232 Economics (Macro) or ECN 231 (Micro)	3.0 (3.0)
American Government Requirement ^D	
PLS 221 American Government & Politics	3.0 (3.0)

Total Required Credit (Contact) Hours 39.0 (41.0) **

Group V: Electives (21 hrs total required) ^E	Credit (Contact) Hours
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Recommended electives:

Program of Study:

PLS 222 State and Local Government	3.0 (3.0)
PLS 228 International Relations	3.0 (3.0)
PLS 230 Comparative Government	3.0 (3.0)
HST 221 US History	3.0 (3.0)
HST 222 US History	3.0 (3.0)
HST 225 20th Century History	3.0 (3.0)
HST 227 Contemporary American Problems	3.0 (3.0)

Social Sciences:

ANP 121 Cultural Anthropology	3.0 (3.0)
ECN 231 Economics (Micro)	3.0 (4.0)
ECN 232 Economics (Macro)	3.0 (3.0)

GEO 125 Geography	3.0 (3.0)
GEO 126 Cultural Geography	3.0 (3.0)
PSY 241 Social Psychology	3.0 (3.0)
SOC 230 Social Problems	3.0 (3.0)

Other electives:

MTH 223 Statistical Methods	4.0 (4.0)
PHL125 Language and Reason	3.0 (3.0)
PHL 225 Philosophy	3.0 (3.0)
SPE 121 Speech Communications	3.0 (3.0)
Any other higher level HST, PSY, SOC course	

* General education groups I-IV satisfy ACC graduation requirements and Michigan Transfer Agreement (MTA).

** Excess credits from the general education groups apply to elective credit.

A Course selection should be determined in consultation with an Academic Advisor and chosen transfer institution/program requirements.

B Courses may include two (2) different academical disciplines from the following humanities and fine arts prefixes: (ART, ENG, FRN, GER, GRA, HUM, LTN, MUS, PFA, PHL, SPE, SPN).

C Courses may include two (2) different academical disciplines from the following social science prefixes: (ANP, ECN, EDU, GEO, HST, PLS, PSY, SOC).

D Students may choose either three (3) credits in Political Science (PLS 221 American Government and Politics or PLS 222 State and Local Government) or six (6) credits in US History (HST 221 and HST 222) to fulfill the American Government requirement.

E Electives should be selected to fulfill transfer institution requirements, area concentrations (major or minor), or student interest. It is strongly recommended that foreign language preparation begin as soon as possible.

POLITICAL SCIENCE ASSOCIATE OF ARTS (AA) PROGRAM OUTLINE

FIRST YEAR

First Semester	Credit (Contact) Hrs	Second Semester	Credit (Contact) Hrs
ENG 111 English or ENG 121 English.....	3.0 (3.0)	ENG 112 English or ENG 122 English	3.0 (3.0)
HST 121 History of Western Civilization.....	3.0 (3.0)	HST 122 History of Western Civilization	3.0 (3.0)
MTH 113 Intermediate Algebra	4.0 (4.0)	Laboratory Science	4.0 (5.0)
PLS 221 American Government & Politics	3.0 (3.0)	ECN 232 Economics (Macro) or	
PSY 101 General Psychology	3.0 (3.0)	ECN 231 Economics (Micro)	3.0 (3.0)
		Recommended elective	3.0 (3.0)
	16.0 (16.0)		16.0 (17.0)

SECOND YEAR

First Semester	Credit (Contact) Hrs	Second Semester	Credit (Contact) Hrs
GEO 127 Physical Geography	4.0 (5.0)	Recommended electives	15.0 (15.0)
Language, Arts and Humanities elective	3.0 (3.0)		
SOC 123 Introduction to Sociology	3.0 (3.0)		15.0 (15.0)
Recommended elective	3.0 (3.0)		
	13.0 (14.0)		

Associate in Science Degree (AS) Concentration in
PRE-CONSTRUCTION MANAGEMENT
Program Number: 15.0101

FIRST YEAR

First Semester	Credit (Contact) Hrs	Second Semester	Credit (Contact) Hrs
ENG 111 English or ENG 120		ENG 112 English or ENG 123	
Applied Communications	3.0(3.0)	Technical Communication	3.0(3.0)
Cultural Enrichment.....	3.0(3.0)	MTH 122 Plane Trigonometry	3.0(3.0)
MTH 113 Intermediate Algebra.....	4.0(4.0)	CEM 111 General Chemistry	4.0(7.0)
CON 121 Aggregates	3.5(4.9)	CON 124 Concrete Mix Proportioning	4.0(6.0)
CON 123 Cementitious Materials.....	1.5(2.1)	CST 112 Building Construction Analysis	3.0(3.0)
	<hr/>		<hr/>
	15.0(17.0)		17.0(22.0)

SUMMER ONE

Credit (Contact) Hrs
Cultural Enrichment..... 3.0(3.0)
Social Awareness..... 3.0(3.0)
SPE 123 Public Communication..... 3.0(3.0)
<hr/>
9.0(9.0)

SECOND YEAR

First Semester	Credit (Contact) Hrs	Second Semester	Credit (Contact) Hrs
MTH 130 Calculus for Business/Social Sciences	4.0(4.0)	BUS 127 Principles of Management	3.0(3.0)
CON 221 Placed Concrete I.....	4.0(6.0)	CON 222 Placed Concrete II.....	4.0(6.0)
CON 223 Concrete Masonry Production **.....	4.0(6.0)	CON 226 Concrete Troubleshooting & Repair.....	2.0(2.0)
CON 227 Construction Inspection.....	2.0(2.0)	ECN 232 Economics (MACRO).....	3.0(3.0)
PHY 121 General College Physics	4.0(6.0)	BUS 241 Principles of Marketing	3.0(3.0)
	<hr/>		<hr/>
	18.0(24.0)		15.0(17.0)

SUMMER TWO

Credit (Contact) Hrs
Social Awareness..... 3.0(3.0)
Cultural Enrichment..... 3.0(3.0)
<hr/>
6.0(6.0)

** Or CON 231 and CON 232

Associate in Science Degree (AS) Concentration in

PRE-DENTAL

Program Number: 51.1101

PRE-MEDICINE

Program Number: 51.1102

This is a suggested program of study which may be altered to meet individual goals and transfer plans. It is suitable for students interested in pre-dental or pre-medical studies. Students should refer to the descriptions of Alpena Community College graduation requirements (page 44) and AS degree distribution requirements (page 54) and consult with an academic advisor concerning specific course selection. A minimum total of 60 credits is required for the Associate in Science degree.

FIRST YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
ENG 111 English or ENG 121 English.....	3.0(3.0)	ENG 112 English or ENG 122 English	3.0(3.0)
BIO 210 Introduction to Botany	4.0(6.0)	BIO 211 General Zoology	4.0(5.0)
CEM 121 General & Inorganic Chemistry.....	4.0(7.0)	CEM 122 Inorganic Chemistry/Qualitative	
		Analysis.....	4.0(7.0)
	11.0(16.0)	MTH 131 Analytical Geometry and Calc I	5.0(5.0)
			16.0(20.0)

SECOND YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
CEM 221 Organic Chemistry	4.0(6.0)	CEM 222 Organic Chemistry	4.0(6.0)
PHY 121 General College Physics	4.0(6.0)	MTH 223 Statistical Methods	4.0(4.0)
American Govt. Req. ^{A B}	3.0 or 6.0(3.0 or 6.0)	PHY 122 General College Physics.....	4.0(6.0)
Humanities/Fine Arts Req. ^B	3.0-4.0(4.0-5.0)	Humanities/Fine Arts or Social Science	
		Requirement ^B	3.0-4.0(4.0-5.0)
	14.0-18.0(18.0-23.0)		15.0-16.0(20.0-21.0)

^A Choose either three credits in Political Science (PLS 221 or 222) or six credits in U.S. History (HST 221 and 222).

^B A total of 10 semester credits are required in combination from Group III Social Science and Group IV Humanities/Fine Arts, 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.

Associate in Science (AS) Concentration in
PRE-ENGINEERING
Program Number: 14.0101

An engineering transfer program acceptable to each of the engineering colleges in Michigan has been prepared by the Engineering College — Community College Liaison Committee. A brochure describing this transfer agreement is available from your engineering advisor or from the Office of the Dean of any of the engineering colleges. This suggested program of study may be altered to meet individual goals and transfer plans. Students should refer to the descriptions of Alpena Community College graduation requirements (page 44) and AS degree distribution requirements (page 54) and consult with an academic advisor concerning specific course selection. A minimum total of 60 credits is required for the Associate in Science degree.

FIRST YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
ENG 111 English or ENG 121 English.....	3.0(3.0)	ENG 112 English or ENG 122 English	3.0(3.0)
MTH 131 Analytic Geometry & Calc.....	5.0(5.0)	MTH 132 Analytic Geometry & Calc.	5.0(5.0)
CEM 121 General & Inorganic Chem.....	4.0(7.0)	MTH 221 C++ Programming	3.0(4.0)
EGR 122 Introduction to Engineering	1.0(1.0)	EGR 125 Engineering Graphics	4.0(6.0)
Humanities/Fine Arts Requirement ^B	3.0(4.0-5.0)	PLS 221 American Government & Politics ^A ...	3.0(3.0)
	<hr/>		<hr/>
	16.0(20.0-21.0)		18.0(21.0)

SECOND YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
MTH 231 Analytic Geometry & Calc.....	5.0(5.0)	MTH 232 Differential Equations.....	4.0(4.0)
PHY 221 Physics	5.0(7.0)	PHY 222 Physics.....	5.0(7.0)
HUM 241 Humanities.....	4.0(4.0)	EGR 222 Mechanics of Materials	4.0(4.0)
EGR 221 Statics.....	3.0(3.0)	EGR 231 Dynamics.....	4.0(4.0)
	<hr/>		<hr/>
	17.0(19.0)		17.0(19.0)

Chemical engineering requires more chemistry. Contact an advisor for further information.

Students entering college who have already completed MTH 131 and/or MTH 132 should take more Humanities and Social Science courses.

^A Fulfills American Government Requirement.

^B A total of 10 semester credits are required in combination from Group III Social Science and Group IV Humanities/Fine Arts, 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.

Associate in Science (AS) Concentration in
PRE-FISHERIES AND WILDLIFE MANAGEMENT
 Program Number: 26.0101

This is a suggested program of study which may be altered to meet individual needs and transfer plans. Students should refer to the descriptions of Alpena Community College graduation requirements (page 44) and AS degree distribution requirements (page 54) and consult with an academic advisor concerning specific course selection. A minimum total of 60 credits is required for the Associate in Science degree.

FIRST YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
ENG 111 English or ENG 121 English.....	3.0(3.0)	ENG 112 English or ENG 122 English.....	3.0(3.0)
CEM 111 General Chemistry.....	4.0 (7.0)	CEM 112 Organic and Biochemistry	4.0 (7.0)
BIO 129 Field Biology.....	3.0(4.0)	BIO 162 General College Biology II.....	4.0(5.0)
BIO 161 General College Biology I.....	4.0(5.0)	BIO 207 Wildlife & Fisheries Conservation	3.0(3.0)
MTH 121 College Algebra	4.0(4.0)	MTH 223 Statistical Methods	4.0(4.0)
	14.0 (18.0)		18.0(22.0)

SECOND YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
BIO 210 Introduction to Botany	4.0(6.0)	BIO 211 Zoology	4.0(6.0)
PHY 121 General College Physics	4.0(6.0)	American Govt. Req. ^{A, B}	3.0 or 6.0(3.0 or 6.0)
MTH 119 Introduction to Computers.....	3.0(3.0)	GEO 151 & 152 GIS	3.0(4.0)
Humanities/Fine Arts Req. ^B	3.0-4.0(3.0-5.0)	Humanities/Fine Arts & Social Sciences Requirement ^B	3.0-4.0(3.0-5.0)
GEO 125 Geography.....	3.0 (3.0)		
	17.0-18.0(19.0-24.0)		14.0-18.0(18.0-23.0)

^A Choose either three credits in Political Science (PLS 221 or 222) or six credits in U.S. History (HST 221 and 222)

^B A total of 10 semester credits are required in combination from Group III Social Science and Group IV Humanities/Fine Arts, 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.

Associate in Arts Degree (AA) Concentration**PRE-LAW**

Program Number: 22.0001

This is a suggested program of study for specialized interest in the subject of Pre-Law that may be altered to meet individual goals and transfer plans. Students should refer to the Alpena Community College graduation requirements and degree distribution requirements and consult with an academic advisor concerning specific course selection. A minimum of 60 credit hours is required for an Associate of Arts degree.

General Education Course Requirements

Group I: English Composition (6 hrs total required)	Credit (Contact) Hours
ENG 111 English or ENG 121 English	3.0 (3.0)
ENG 112 English or ENG 122 English	3.0 (3.0)

Group II: Science & Mathematics (8 hrs total required) ^A	Credit (Contact) Hours
MTH 113 Intermediate Algebra	4.0 (4.0)
Laboratory Science	4.0 (5.0)
GEO 127 Physical Geography	4.0 (5.0) *

Group III: Humanities/Fine Arts (8 hrs total required) ^B	Credit (Contact) Hours
HST 121 History of Western Civilization	3.0 (3.0)
HST 122 History of Western Civilization	3.0 (3.0)
Language, Arts and Humanities elective	3.0 (3.0)

Group IV: Social Science (8 hrs total required) ^C	Credit (Contact) Hours
SOC 123 Introduction to Sociology	3.0 (3.0)
PSY 101 General Psychology	3.0 (3.0)
ECN 232 Economics (Macro) or ECN 231 (Micro)	3.0 (3.0)
American Government Requirement ^D	
PLS 221 American Government & Politics	3.0 (3.0)

Total Required Credit (Contact) Hours 39.0 (41.0) **

Group V: Electives (21 hrs total required) ^E	Credit (Contact) Hours
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Recommended electives:**Program of Study:**

PLS 222 State and Local Government	3.0 (3.0)
PLS 228 International Relations	3.0 (3.0)
PLS 230 Comparative Government	3.0 (3.0)
HST 221 US History	3.0 (3.0)
HST 222 US History	3.0 (3.0)
HST 225 20th Century History	3.0 (3.0)
HST 227 Contemporary American Problems	3.0 (3.0)

Social Sciences:

ANP 121 Cultural Anthropology	3.0 (3.0)
ECN 231 Economics (Micro)	3.0 (3.0)
ECN 232 Economics (Macro)	3.0 (3.0)
GEO 125 Geography	3.0 (3.0)

GEO 126 Cultural Geography	3.0 (3.0)
PSY 241 Social Psychology	3.0 (3.0)
SOC 230 Social Problems	3.0 (3.0)

Other electives:

MTH 223 Statistical Methods	4.0 (4.0)
PHL125 Language and Reason	3.0 (3.0)
PHL 225 Philosophy	3.0 (3.0)
SPE 121 Speech Communications	3.0 (3.0)
BUS 123 Principles of Accounting I	4.0 (4.0)
Any other higher level HST, PSY, SOC course	

* General education groups I-IV satisfy ACC graduation requirements and Michigan Transfer Agreement (MTA).

** Excess credits from the general education groups apply to elective credit.

A Course selection should be determined in consultation with an Academic Advisor and chosen transfer institution/program requirements.

B Courses may include two (2) different academical disciplines from the following humanities and fine arts prefixes: (ART, ENG, FRN, GER, GRA, HUM, LTN, MUS, PFA, PHL, SPE, SPN).

C Courses may include two (2) different academical disciplines from the following social science prefixes: (ANP, ECN, EDU, GEO, HST, PLS, PSY, SOC).

D Students may choose either three (3) credits in Political Science (PLS 221 American Government and Politics or PLS 222 State and Local Government) or six (6) credits in US History (HST 221 and HST 222) to fulfill the American Government requirement.

E Electives should be selected to fulfill transfer institution requirements, area concentrations (major or minor), or student interest. It is strongly recommended that foreign language preparation begin as soon as possible.

PRE-LAW ASSOCIATE OF ARTS (AA) PROGRAM OUTLINE

FIRST YEAR

First Semester	Credit (Contact) Hrs	Second Semester	Credit (Contact) Hrs
ENG 111 English or ENG 121 English.....	3.0 (3.0)	ENG 112 English or ENG 122 English	3.0 (3.0)
HST 121 History of Western Civilization.....	3.0 (3.0)	HST 122 History of Western Civilization	3.0 (3.0)
MTH 113 Intermediate Algebra	4.0 (4.0)	Laboratory Science	4.0 (5.0)
PLS 221 American Government & Politics	3.0 (3.0)	ECN 232 Economics (Macro) or	
PSY 101 General Psychology	3.0 (3.0)	ECN 231 Economics (Micro).....	3.0 (3.0)
		Recommended elective	3.0 (3.0)
	16.0 (16.0)		16.0 (17.0)

SECOND YEAR

First Semester	Credit (Contact) Hrs	Second Semester	Credit (Contact) Hrs
GEO 127 Physical Geography	4.0 (5.0)	HST 222 US History	3.0 (3.0)
HST 221 US History.....	3.0 (3.0)	SOC 123 Introduction to Sociology	3.0 (3.0)
Language, Arts and Humanities elective	3.0 (3.0)	SPE 121 Speech Communications	3.0 (3.0)
BUS 123 Principles of Accounting I.....	4.0 (4.0)	Recommended electives	5.0 (5.0)
ECN 231 Economics (Micro) or ECN 232 Economics (Macro)	3.0 (3.0)		14.0 (14.0)
	17.0 (18.0)		

Associate in Science Degree (AS) Concentration in
PRE-MEDICAL TECHNOLOGY
 Program Number: 51.1005

This is a suggested program of study which may be altered to meet individual goals and transfer plans. Students should refer to the descriptions of Alpena Community College graduation requirements (page 44) and AS degree distribution requirements (page 54) and consult with an academic advisor concerning specific course selection. A minimum total of 60 credits is required for the Associate in Science degree.

FIRST YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
ENG 111 English or ENG 121 English.....	3.0(3.0)	ENG 112 English or ENG 122 English.....	3.0(3.0)
CEM 121 General & Inorganic Chem.....	4.0(7.0)	MTH 123 College Algebra.....	4.0(4.0)
BIO 210 Intro to Botany	4.0(6.0)	BIO 211 General Zoology	4.0(5.0)
MTH 122 Plane Trigonometry.....	3.0(3.0)	CEM 122 General and Inorganic Chem	4.0(7.0)
	<hr/>		<hr/>
	14.0(19.0)		15.0(19.0)

SECOND YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
American Govt. Req. ^A	3.0 or 6.0(3.0 or 6.0)	CEM 222 Organic Chemistry.....	4.0(6.0)
BIO 201 Human Anatomy	4.0(5.0)	PHY 122 General College Physics.....	4.0(6.0)
CEM 221 Organic Chemistry	4.0(6.0)	Humanities/Fine Arts & Social Science	
PHY 121 General College Physics	4.0(6.0)	Requirement ^B	3.0-4.0(4.0-5.0)
	<hr/>	Elective	3.0(3.0)
	15.0 or 18.0(20.0 or 23.0)		<hr/>
			14.0-15.0(19.0-20.0)

^A Choose either three credits in Political Science (PLS 221 or 222) or six credits in U.S. History (HST 221 and 222).

^B A total of 10 semester credits are required in combination from Group III Social Science and Group IV Humanities/Fine Arts, 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.

See also page 134 for a cooperative 2+2 program in medical technology with Ferris State University.

Associate in Science Degree (AS) Concentration

PRE-PHARMACY

Program Number: 51.1103

This is a suggested program of study which may be altered to meet individual goals and transfer plans. Students should refer to the descriptions of Alpena Community College graduation requirements (page 44) and AS degree distribution requirements (page 54) and consult with an academic advisor concerning specific course selection. A minimum total of 60 credits is required for the Associate in Science degree.

FIRST YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
ENG 111 English or ENG 121 English.....	3.0(3.0)	ENG 112 English or ENG 122 English	3.0(3.0)
CEM 121 General & Inorganic Chemistry.....	4.0(7.0)	CEM 122 Inorganic Chemistry &	
MTH 131 Analytic Geometry & Calculus	5.0(5.0)	Qualitative Analysis	4.0(7.0)
BIO 114 Intro to Biological Science or		MTH 223 Statistical Methods	4.0(4.0)
BIO 210 Introduction to Botany	4.0(5.0)	HST 221 U.S. History	3.0(3.0)
	<hr/>		<hr/>
	16.0(20.0)		14.0(17.0)

SECOND YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
CEM 221 Organic Chemistry	4.0(6.0)	CEM 222 Organic Chemistry	4.0(6.0)
ECN 231 Economics.....	3.0(3.0)	PSY 101 General Psychology or	
BIO 227 Microbiology.....	4.0(6.0)	SOC 123 Sociology	3.0(3.0)
HST 222 U.S. History	3.0(3.0)	SPE 121 Speech Communication or	
	<hr/>	SPE 123 Public Communication	3.0(3.0)
	14.0(18.0)	Humanities/Fine Arts 200-lvl	
		elective ^A	3.0-4.0(4.0-5.0)
		Elective	3.0(3.0)
			<hr/>
			16.0-17.0(19.0-20.0)

^A A total of 10 semester credits are required in combination from Group III Social Science and Group IV Humanities/Fine Arts, 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.

Associate in Science Degree (AS) Concentration in
PRE-VETERINARY
 Program Number: 51.1104

This is a suggested program of study which may be altered to meet individual goals and transfer plans. Students should refer to the descriptions of Alpena Community College graduation requirements (page 44) and AS degree distribution requirements (page 54) and consult with an academic advisor concerning specific course selection. A minimum total of 60 credits is required for the Associate in Science degree.

FIRST YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
ENG 111 English or ENG 121 English.....	3.0(3.0)	ENG 112 English or ENG 122 English.....	3.0(3.0)
BIO 114 Intro to Biological Science	4.0(5.0)	BIO 211 General Zoology	4.0(5.0)
CEM 121 General & Inorganic Chemistry.....	4.0(7.0)	CEM 122 Inorganic Chemistry & Qualitative Analysis	4.0(7.0)
MTH 122 Plane Trigonometry.....	3.0(3.0)	MTH 123 College Algebra & Analytic Trigonometry	4.0(4.0)
Humanities/Fine Arts/Social Science Elective	3.0(4.0-5.0)		
	<u>17.0(22.0-23.0)</u>		<u>15.0(19.0)</u>

SECOND YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
CEM 221 Organic Chemistry	4.0(6.0)	CEM 222 Organic Chemistry	4.0(6.0)
BIO 201 Human Anatomy	4.0(5.0)	BIO 227 Microbiology	4.0(6.0)
PHY 121 General College Physics	4.0(6.0)	PHY 122 General College Physics.....	4.0(6.0)
American Govt. Req. ^A	3.0 or 6.0(3.0 or 6.0)	Humanities/Fine Arts Req. ^B	3.0-4.0(4.0-5.0)
	<u>15.0 or 18.0(20.0 or 23.0)</u>		<u>15.0-16.0(22.0-23.0)</u>

^A Choose either three credits in Political Science (PLS 221 or 222) or six credits in U.S. History (HST 221 and 222)

^B See page 60. A total of 10 semester credits are required in combination from Group III Social Science and Group IV Humanities/Fine Arts, 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.

Associate in Arts Degree (AA) Concentration in
PSYCHOLOGY
Program Number: 42.0101

This is a suggested program of courses relevant for studying psychology or counseling. It is intended for students who want to work in the field of psychology or counseling, are considering an Associate in Arts (AA) degree, or intending to transfer to obtain a bachelor's degree or advanced degree in psychology or counseling. 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 Arts degree.

General Education Course Requirements

Group I: English Composition (6 hrs total required)	Credit(Contact) Hours
ENG 111 English or ENG 121 English	3.0 (3.0)
ENG 112 English or ENG 122 English	3.0 (3.0)

Group II: Science & Mathematics (8 hrs total required)	Credit(Contact) Hours
MTH 223 Statistical Methods ¹	4.0 (4.0)
GEO 127 Physical Geography and GEO 127 Physical Geography Lab ^{1,2}	4.0 (4.0)

Group III: Humanities (9 hrs total required) ³	Credit(Contact) Hours
SPE 121 Speech Communications	3.0 (3.0)
HST 121 History of Western Civilization	3.0 (3.0)
HST 122 History of Western Civilization	3.0 (3.0)

Group IV: Social Science (9 hrs total required) ³	Credit(Contact) Hours
PSY 101 General Psychology	3.0 (3.0)
SOC 123 Introduction to Sociology	3.0 (3.0)
PLS 221 American Government & Politics ⁴	3.0 (3.0)

Group V: Electives (30 hrs total required) ⁵	Credit(Contact) Hours
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Program of Study Electives

PSY 226 Developmental Psychology	3.0 (3.0)
PSY 230 Human Sexuality	3.0 (3.0)
PSY 241 Social Psychology	3.0 (3.0)
PSY 242 Abnormal Psychology	3.0 (3.0)

Other Suggested Electives

ANP 121 Cultural Anthropology	3.0 (3.0)
BIO 114 Introduction to Biology and BIO 114L Intro to Biology Lab	4.0 (4.0)
ECN 232 Macro Economics	3.0 (3.0)
HST 227 Contemporary American Problems	3.0 (3.0)
SOC 210 Social Inequality: Race, Class and Gender	3.0 (3.0)
SOC 227 Sociology of Marriage & Family	3.0 (3.0)

Total Credit (Contact) Hours Required 60.0 (60.0)

¹ It is strongly advised that you work with your advisor to help you determine the transfer institution/program requirements.

² This course meets the lab science requirement.

³ Excess credits from the general education groups apply to elective category.

- ⁴ Students may choose either 6 credits in U.S. History (HST 221 and 222) or 3 credits in Political Science (PLS 221 or 222) to fulfill the American Government Requirement.
- ⁵ Electives should be selected to fulfill transfer institution requirements, area of concentration (major or minor), or student's interest.
- * Completing the general education groups I-IV with the addition of BIO 114 and BIO 114L satisfies the MTA requirements.

Associate in Science Degree (AS) in
PSYCHOLOGY
Program Number: 42.0201

This is a suggested program of study that 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. It is intended for students who want to work in the field of psychology, are considering an Associate in Science (AS) degree, or intending to transfer to obtain a bachelor's degree or advanced degree in psychology. The Associate in Science in Psychology places an increased emphasis on the role of mathematics and biological factors in psychological phenomena. It is intended to provide a foundation for a variety of psychological areas of study including but not limited to clinical psychology, cognitive psychology, experimental psychology, forensic psychology, health psychology, physiological psychology, and neuropsychology.

General Education Course Requirements

Group I: English Composition (6 hours total required)	Credit(Contact) Hours
ENG 111 English or ENG 121 English	3.0 (3.0)
ENG 112 English or ENG 122 English	3.0 (3.0)

Group II: Science & Mathematics (20 hours total required) ¹	Credit(Contact) Hours
MTH 121 College Algebra ²	4.0 (4.0)
MTH 223 Statistical Methods ²	4.0 (4.0)
BIO 161 General College Biology I and BIO 161 Gen. College Biology Lab ^{2,3}	4.0 (4.0)
BIO 162 General College Biology II and BIO 162 Gen. College Biology Lab ²	4.0 (4.0)
GEO 127 Physical Geography and GEO 127L Physical Geography Lab ²	4.0 (4.0)

Group III: Social Science (9 hours total required) ¹	Credit(Contact) Hours
PLS 221 American Government & Politics ⁴	3.0 (3.0)
PSY 101 General Psychology	3.0 (3.0)
SOC 123 Introduction to Sociology	3.0 (3.0)

Group IV: Humanities/Fine Arts (9 hours total required) ¹	Credit(Contact) Hours
SPE 121 Speech Communications	3.0 (3.0)
HST 121 History of Western Civilization	3.0 (3.0)
HST 122 History of Western Civilization	3.0 (3.0)

Group V: Electives (18 hours total required) ⁵	Credit(Contact) Hours
<u>Program of Study Electives</u>	
PSY 226 Developmental Psychology	3.0 (3.0)
PSY 230 Human Sexuality	3.0 (3.0)
PSY 241 Social Psychology	3.0 (3.0)
PSY 242 Abnormal Psychology	3.0 (3.0)
<u>Other Suggested Electives</u>	
ANP 121 Cultural Anthropology	3.0 (3.0)
CEM 111 and CEM 111L General Chemistry and lab OR CEM 121 and CEM 121L General and Inorganic Chemistry and lab	4.0-5.0 (4.0-5.0)
ECN 232 Macro Economics	3.0 (3.0)
HST 227 Contemporary American Problems	3.0 (3.0)
SOC 210 Social Inequality: Race, Class, & Gender	3.0 (3.0)
SOC 227 Sociology of Marriage and Family	3.0 (3.0)

GRAND TOTAL CREDIT (CONTACT) HOURS: 60.0 (60.0)

- ¹ Excess credits from the general education groups apply to Elective category.
- ² It is strongly advised that you work with your advisor to help you determine the transfer institution requirements.
- ³ This course meets the lab science requirement.
- ⁴ Students may choose either six (6) credits in US History (HST 221 and HST 222) or three (3) credits in Political Science (PLS 221 American Government or PLS 222 State and Local Politics) to fulfill the American Government requirement.
- ⁵ Electives should be selected to fulfill transfer institution requirements, area of concentration (major or minor), or student's interest.
- ^{*} NOTE: Completing the general education groups I-IV satisfies the Michigan Transfer Agreement (MTA) requirements.

Certificate (C) or Associate in Applied Science Degree (AAS) in
SMALL BUSINESS MANAGEMENT
Program Number: 52.0701 (C) or 52.0703 (AAS)

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. However, a student may obtain an Associate in Applied Science degree by completing the requirements listed below and ENG 111, 112 English and PLS 221 American Government & Politics, plus electives to total 62 hours.

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
BUS 121 Introduction to Business A	3.0(3.0)	BUS 131 Applied Accounting A	3.0(4.0)
BUS 122 Personal Selling A	3.0(3.0)	BUS 125 Business Math A.....	3.0(3.0)
BUS 128 Small Business Management A	3.0(3.0)	Computer Elective C	3.0(3.0-4.0)
BUS 221 Business Law A	3.0(3.0)	Electives D	6.0(6.0)
CIS 151, 152, 153 Word Processing I, II, III B	3.0(3.75)		15.0(16.0-17.0)
ECN 231 Economics (Micro)	3.0(3.0)		
	18.0(18.75)		

- ^A Included in occupational specialty.
^B Waived for any student having the equivalent of one year of typewriting.
^C Choose from the following suggested computer electives:
BUS 257 Computerized Accounting Systems
CIS 120 Introduction to Microcomputers
MTH 119 Introduction to Computers — Programming
^D Choose from the following recommended electives:
BUS 123 Principles of Accounting I
BUS 234 Office Management
BUS 241 Principles of Marketing
BUS 242 Principles of Retailing
BUS 248 Business Communications
CIS 171 Spreadsheets I
CIS 172 Spreadsheets II
CIS 173 Spreadsheets III

Associate in Arts Degree (AA) Concentration in
SOCIOLOGY
Program Number: 45.1101

This is a suggested program of study that may be altered to meet individual goals and transfer plans. It is intended for students who are considering an Associate in Arts (AA) degree, or intending to transfer to obtain a bachelor's degree or advanced degree in Sociology or Social Work. 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 are required for the Associate in Arts degree.

General Education Course Requirements

Group I: English Composition (6 hrs total)	Credit (Contact) Hours
ENG 111 English or ENG 121 English	3.0 (3.0)
ENG 112 English or ENG 122 English	3.0 (3.0)
Group II: Math/Science (8 hrs total)	Credit (Contact) Hours
MTH 223 Statistical Methods ¹	4.0 (4.0)
GEO 127 Physical Geography and GEO 127L Physical Geography Lab ^{1,2}	4.0 (4.0)
Group III: Humanities/Fine Arts (9 hrs total) ³	Credit (Contact) Hours
SPE 121 Speech Communications	3.0 (3.0)
HST 121 History of Western Civilization	3.0 (3.0)
HST 122 History of Western Civilization	3.0 (3.0)
Group IV: Social Science (9 hrs total)	Credit (Contact) Hours
PSY 101 General Psychology	3.0 (3.0)
SOC 123 Introduction to Sociology	3.0 (3.0)
PLS 221 American Government & Politics ⁴	3.0 (3.0)
Group V: Program of Study Electives (30 hrs total) ^{4*}	Credit (Contact) Hours
<u>Program of Study Electives</u>	
SOC 210 Social Inequality: Race, Class, Gender	3.0 (3.0)
SOC 227 Sociology of Marriage and Family	3.0 (3.0)
<u>Other Suggested Electives</u>	
ANP 121 Cultural Anthropology	3.0 (3.0)
BIO 114 Intro to Biological Science and BIO 114L Intro to Biological Science Lab	4.0 (4.0)
ECN 232 Macro Economics	3.0 (3.0)
HST 227 Contemporary American Problems	3.0 (3.0)
PSY 226 Developmental Psychology	3.0 (3.0)
PSY 230 Human Sexuality	3.0 (3.0)
PSY 241 Social Psychology	3.0 (3.0)
PSY 242 Abnormal Psychology	3.0 (3.0)

TOTAL Credit (Contact) Hours 60.0 (60.0)

¹ It is strongly advised that you work with your advisor to help you determine the transfer institution/program requirements.

² This course meets the lab science requirement.

³ Excess credits from the general education groups apply to elective category.

- ⁴ Students may choose either 6 credits in U.S. History (HST 221 and 222) or 3 credits in Political Science (PLS 221 or 222) to fulfill the American Government Requirement.
- ⁵ Electives should be selected to fulfill transfer institution requirements, area of concentration (major or minor), or student's interest.
- * Completing the general education groups I-IV with the addition of BIO 114 and BIO 114L satisfies the MTA requirements.

Certificate (C) in
UTILITY TECHNICIAN
Program Number: 46.0303

This two-semester program has been developed to meet the utility industry's need for trained, entry-level employees. It is the only college certificate program offered in Michigan designed specifically to prepare men and women to install and repair business and residential electrical, telephone, and telegraph transmission systems. Students complete 38 credit hours of practical theory and hands-on training using actual equipment and materials in classroom, laboratory, and field settings.

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
APP 106M Industrial Safety ^B	0.5 (0.5)	UTT 201 Test Equip./Troubleshooting ^B	1.0 (1.0)
APP 100E Electrical Studies for Trades ^B	3.0 (4.0)	UTT 202 Transformer Fundamentals ^B	2.0 (3.0)
MTH 110 Technical Math I or MTH 115		UTT 204 System Design and Operation ^B	4.0 (4.0)
App. Algebra and Trig. I.....	3.0 or 5.0 (4.0 or 6.0)	UTT 206 Equipment/Vehicle Operation ^B	2.0 (3.0)
UTT 101 Intro to the Utility Industry ^B	0.5 (0.5)	UTT 207 Environmental Concerns of the	
UTT 102 Climbing Elevated Work Sites ^B	1.0 (1.0)	Utility Industry ^B	1.0 (1.0)
UTT 103 Overhead Construction ^B	1.0 (1.0)	UTT 208 Climbing & Working in Elevated	
UTT 110 Utility/Line Mechanics Lab.....	6.0 (10.5)	Work Sites ^B	2.0 (2.0)
UTT 203 Underground Construction ^B	2.0 (2.0)	UTT 210 Utility/Line Mechanic Lab ^B	5.0 (9.0)
SDE 201 Job Search Strategies	1.0 (1.0)	PEH 263 Workplace First Aid/CPR/AED	1.0 (1.0)
	18.0 or 20.0 (24.5 to 26.5)		18.0 (24.0)

Total Course Credit Hours: 36.0 to 38.0. Total Course Contact Hours: 48.5 to 50.5.

Students must be able to climb 40-foot power poles to successfully complete the first semester.

Each student is expected to supply the following equipment for his/her use:

- Hard hat
- Lineman belt, safety strap and climbers
- Rain wear
- Safety glasses
- Various hand tools required by the trade
- Work shoes
- Approximate cost: \$1,800

^B Included in occupational specialty: GPA of 2.0 or higher must be maintained in the area of occupational specialty.

Advanced Certificate (C) in
UTILITY TECHNICIAN
Program Number: 46.0303

This one-semester curriculum prepares students to enter the Lineworker's Apprenticeship Program with Consumers Energy. Students are required to complete the Basic certificate and department approval is required to enroll in UTT 221, UTT 222, UTT 223, and UTT 224, which are typically held at the Consumers Energy Training Facility in Marshall, Michigan. Interested students should contact the Utility Technology advisors at Alpena Community College for more information.

BASIC CERTIFICATE

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
APP 106M Industrial Safety ^B	0.5(0.5)	UTT 201 Test Equip./Troubleshooting ^B	1.0(1.0)
APP 100E Electrical Studies for Trades ^B	3.0(4.0)	UTT 202 Transformer Fundamentals ^B	2.0(3.0)
MTH 110 Technical Math I or MTH 115		UTT 204 System Design and Operation ^B	4.0(4.0)
App. Algebra and Trig. I.....	3.0 or 5.0(4.0 or 6.0)	UTT 206 Equipment/Vehicle Operation ^B	2.0(3.0)
UTT 101 Intro to the Utility Industry ^B	0.5(0.5)	UTT 207 Environmental Concerns of the	
UTT 102 Climbing Elevated Work Sites ^B	1.0(1.0)	Utility Industry ^B	1.0(1.0)
UTT 103 Overhead Construction ^B	1.0(1.0)	UTT 208 Climbing & Working in Elevated	
UTT 110 Utility/Line Mechanics Lab.....	6.0(10.5)	Work Sites ^B	2.0(2.0)
UTT 203 Underground Construction ^B	2.0(2.0)	UTT 210 Utility/Line Mechanic Lab ^B	5.0(9.0)
SDE 201 Job Search Strategies	1.0(1.0)	PEH 263 Workplace First Aid/CPR/AED	1.0(1.0)
	<hr/>		<hr/>
	18.0 or 20.0 (24.5 to 26.5)		18.0(24.0)

Total Basic Certificate Course Credit Hours: 36.0 to 38.0.
Total Basic Certificate Course Contact Hours: 48.5 to 50.5.

ADVANCED CERTIFICATE

First Semester	Credit(Contact) Hrs
UTT 221 Lineworker Orientation ^A	1.5(2.0)
UTT 222 Electric Basic Line Climbing ^A	4.0(6.0)
UTT 223 Ground-Utility Worker ^A	5.0(8.0)
UTT 224 Energized Secondary Worker ^A	5.0(8.0)

Total Advanced Certificate Course Credit Hours: 15.5.
Total Advanced Certificate Course Contact Hours: 24.0.

^A Included in occupational specialty: GPA of 3.5 or higher must be maintained in the area of occupational specialty.

^B Included in occupational specialty: GPA of 2.0 or higher must be maintained in the area of occupational specialty.

Associate in Applied Science Degree (AAS) in
UTILITY TECHNOLOGY
 Program Number: 46.0303

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.

FIRST YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
APP 106M Industrial Safety ^B	0.5(0.5)	UTT 201 Test Equip./Troubleshooting ^B	1.0(1.0)
APP 100E Electrical Studies for Trades ^B	3.0(4.0)	UTT 202 Transformer Fundamentals ^B	2.0(3.0)
MTH 110 Technical Math I or MTH 115		UTT 204 System Design and Operation ^B	4.0(4.0)
App. Algebra and Trig. I.....	3.0 or 5.0(4.0 or 6.0)	UTT 206 Equipment/Vehicle Operation ^B	2.0(3.0)
UTT 101 Intro to the Utility Industry ^B	0.5(0.5)	UTT 207 Environmental Concerns of the	
UTT 102 Climbing Elevated Work Sites ^B	1.0(1.0)	Utility Industry ^B	1.0(1.0)
UTT 103 Overhead Construction ^B	1.0(1.0)	UTT 208 Climbing & Working in Elevated	
UTT 110 Utility/Line Mechanics Lab.....	6.0(10.5)	Work Sites ^B	2.0(2.0)
UTT 203 Underground Construction ^B	2.0(2.0)	UTT 210 Utility/Line Mechanic Lab ^B	5.0(9.0)
SDE 201 Job Search Strategies.....	1.0(1.0)	PEH 263 Workplace First Aid/CPR/AED	1.0(1.0)
	18.0 or 20.0(24.5 or 26.5)		18.0(24.0)

SECOND YEAR

First Semester	CrHrs	Second Semester	CrHrs
APP 107E Specialty Wiring ^B	3.0(4.0)	APP 104E AC/DC Fundamentals ^B	3.0(4.0)
CIS 120 Introduction to Microcomputers	3.0(4.0)	ENG 112 English or ENG 123 Technical	
ENG 111 English or ENG 120 Applied		Communication	3.0(3.0)
Communications	3.0(3.0)	American Govt. Req. ^A	3.0 or 6.0(3.0 or 6.0)
SPE 123 Public Communication.....	3.0(3.0)	EPT 230 Poly-Phase Metering ^B	3.0(4.0)
	12.0(14.0)		12.0 or 15.0(14.0 or 17.0)

Students must be able to climb 40-foot power poles to successfully complete the first semester.

Each student is expected to supply the following equipment for his/her use:

- Hard hat
- Lineman belt, safety strap and climbers
- Rain wear
- Safety glasses
- Various hand tools required by the trade
- Work shoes
- Approximate cost: \$1,800

^A Choose either three credits in Political Science (PLS 221 or 222) or six credits of U.S. History (HST 221 and 222).

^B Included in occupational specialty: GPA of 2.0 or higher must be maintained in the area of occupational specialty.

Certificate (C) in
WELDING FABRICATION
Program Number: 48.0508

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 assemblies. Students enrolled in this certificate program will be prepared to take the American Welding Society (AWS) Level I and Level II welding certification tests.

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
WLD 123 SMAW Welding Processes ^A	4.0(6.0)	CAD Elective ^{A B}	3.0(4.0)
MET 200 Material Science ^A	3.0(4.0)	WLD 124 GMAW & FCAW Welding	
MFG 101 Machining Processes I ^A	4.0(6.0)	Processes ^A	4.0(6.0)
MFG 120 Print Interpretation & Processes ^A ...	3.0(4.0)	WLD 240 Gas Tungsten Arc/Pipe Welding ^A ..	4.0(6.0)
MTH 110 Technical Math I	3.0(4.0)	WLD 242 Welding Fabrication ^A	3.0(5.0)
	17.0(24.0)		14.0(21.0)

^A Included in occupational specialty; GPA of 2.0 or higher must be maintained in the area of occupational specialty.

^B CAD Elective: CAD 132 AutoCAD Fundamentals and CAD 135 Intermediate AutoCAD or CAD 150 3D Modeling.

CAD 150 3D Modeling recommended for students who wish to pursue the Welding Technology AAS degree or the CAD/CAM Technology (Welding option) AAS degree.

Students with current American Welding Society (AWS) Entry Level Welder (Level I) and/or AWS Advanced Welder (Level II) certifications or students with a current AWS D1.1-96 Structural Welding certification will receive credit for the applicable welding course(s). See program advisor for details.

Associate in Applied Science Degree (AAS) in
WELDING TECHNOLOGY
 Program Number: 48.0508

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.

FIRST YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
MFG 101 Machining Processes I ^B	4.0(6.0)	CAD 150 3D Modeling ^B	3.0(4.0)
MFG 120 Print Interpretation & Processes ^B	3.0(4.0)	WLD 124 GMAW & FCAW Welding Processes ^B	4.0(6.0)
MTH 110 Technical Math I or MTH 113 Intermediate Algebra	3.0(4.0)	MTH 112 Technical Math II or MTH 122 Plane Trigonometry	3.0(3.0 or 4.0)
WLD 123 SMAW Welding Processes ^B	4.0(6.0)	WLD 240 Gas Tungsten Arc/Pipe Welding ^B ..	4.0(6.0)
MET 200 Material Science ^B	3.0(4.0)	WLD 242 Welding Fabrication ^B	3.0(5.0)
	17.0(24.0)		17.0(24.0 or 25.0)

SECOND YEAR

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
ENG 120 Technical Communications or ENG 111 English	3.0(3.0)	ENG 123 Technical Communications or ENG 112 English	3.0(3.0)
WLD 250 Advanced Pipe Welding ^B	5.0(8.0)	WLD 252 Specialty Welding & Testing Procedures ^B	5.0(8.0)
PLS 221 American Government & Politics ^A ..	3.0(3.0)	General Elective	3.0(3.0)
APP 100E Electrical Studies for Trades	3.0(4.0)	PHY 111 Applied Physics	3.0(4.0)
	14.0(18.0)		14.0(18.0)

^A Fulfills American Government Requirement.

^B Included in occupational specialty; GPA of 2.0 or higher must be maintained in the area of occupational specialty.

Students should meet with the welding program advisor when registering for courses or planning to transfer for additional information and course recommendations.

Cooperative Program with
BAY DE NOC COMMUNITY COLLEGE

Associate in Applied Science Degree (AAS) in
WATER RESOURCE MANAGEMENT

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 Douglas Huizenga at (989) 358-7362 before registering for classes.

TO BE TAKEN AT ALPENA COMMUNITY COLLEGE

First Semester	Credit(Contact) Hrs	Second Semester	Credit(Contact) Hrs
CEM 111 General Chemistry or CEM 121		CEM 112 Organic & Biochem or CEM 122	
General & Inorganic Chemistry	4.0-5.0(8.0)	Inorganic Chem & Qualitative Analysis.....	4.0(7.0)
ENG 111 English or ENG 121 English.....	3.0(3.0)	ENG 123 Technical Communications.....	3.0(3.0)
MTH 121 College Algebra or higher	4.0(4.0)	PEH Physical Education & Health	
PLS 221 American Government & Politics or		Fitness Elective	2.0(3.0)
PLS 222 State and Local Government	3.0(7.0)	SPE 121 Speech Communication or SPE 123	
	_____	Public Communication	3.0(3.0)
	14.0-15.0(22.0)		_____
			12.0(16.0)

Cooperative Programs with
DELTA COLLEGE

Associate in Applied Science Degree (AAS) in
DENTAL HYGIENE

TO BE TAKEN AT ACC

Course	Credit(Contact) Hrs
BIO 201 Human Anatomy	4.0(5.0)
BIO 203 Human Physiology	4.0(5.0)
BIO 227 Microbiology	4.0(6.0)
ENG 111 English	3.0(3.0)
ENG 112 English	3.0(3.0)
PLS 221 American Government & Politics	3.0(3.0)
PSY 101 General Psychology	3.0(3.0)
SOC 123 Sociology	3.0(3.0)
SPE 121 Speech	3.0(3.0)

COURSES TAKEN AT DELTA

Course	Credit Hrs
DH 100 Dental Hygiene Professional	1.0
DH 101 Dental Anatomy	2.0

Total General Education Credits 33.0

For more information visit Delta's website at www.delta.edu

Dental Hygiene Professional Course Sequence at Delta College

(All Dental Hygiene classes must be taken in sequence.)

FIRST YEAR

Fall Semester Only (18 credits)

DH 110 Dental Infection Control	2.0
DA 111 Oral Examinations	1.0
DH 112 Medical Assessment/Emergencies	2.0
DH 114 Oral Health	2.0
DH 115 Clinical Techniques	5.0
DH 116 Preventive Nutrition	3.0
DH 118 Head and Neck Anatomy	3.0

Winter Semester Only (16 credits)

DH 120 Periodontics I	3.0
DH 121 Dental Hygiene Seminar I	2.0
DH 122 Oral Histology and Embryology	3.0
DH 123 Dental Radiography	2.0
DH 124 Pharmacology for Dental Hygiene	2.0
DH 123L Dental Radiography Lab	1.0
DH 125 Clinical Dental Hygiene I	4.0
LW 206A Occupational Wellness I	1.0

Spring Semester Only (6.5 credits)

DH 130 Management of Dental Pain	3.0
DH 131 Dental Hygiene Seminar II	1.0
DH 135 Clinical Dental Hygiene II	3.0
LW 206B Occupational Wellness II	0.5

SECOND YEAR

Fall Semester Only (17.5 credits)

DH 210 Periodontics II	2.0
DH 213 Oral Pathology	3.0
DH 214 Dental Materials	4.0
DH 215 Clinical Dental Hygiene II	6.0
DH 216 Community Dentistry I.....	2.0
LW 206C Occupational Wellness III.....	0.5

Winter Semester Only (11 credits)

DH 222 Case Study Documentation.....	1.0
DH 225 Clinical Dental Hygiene IV	6.0
DH 227 Community Dentistry II.....	1.0
DH 228 Dental Hygiene Seminar III.....	1.0
DH 229 Seminar on Practical Exam II	2.0

Note: All courses require a minimum of a “C” (2.0) or better.

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 Mike Roy, ACC Criminal Justice Instructor, at (989) 358-7208 or roym@alpenacc.edu.

Cooperative Programs with **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.

Cooperative Programs with **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 COMMUNITY COLLEGE

Associate in Applied Science Degree (AAS) in
RADIOGRAPHY

Alpena Community College and Mid Michigan Community College in Harrison offer a cooperative program that includes program prerequisite course work required for this program to be completed at ACC. Successful graduates will be eligible to apply for the certification examination offered by the American Registry of Radiographic Technologists. Career opportunities include work in hospitals and clinics as part of the medical team specializing in the use of X-rays for diagnosis and treatment.

Enrollment is limited and careful planning is required, so students seeking entry into this program should consult with the ACC Student Services Office at (989) 358-7277 before registering for any classes.

To be taken at Alpena Community College:

Prerequisite Courses	Credit(Contact) Hrs	Additional Courses	Credit(Contact) Hrs
ENG 111 or ENG 121 English.....	3.0(3.0)	BIO 203 Human Physiology	4.0(5.0)
BIO 201 Human Anatomy	4.0(5.0)	PSY 101 General Psychology	3.0(3.0)
MTH 102 Elementary Algebra or higher	5.0(5.0)	SPE 121 Speech Communication or SPE 123	
CEM 100 Intro to Chemistry or higher	5.0(7.0)	Public Communication	3.0(3.0)
BIS 160 Medical Terminology	4.0(4.0)	PEH 263 Workplace First Aid/CPR/AED	1.0(1.0)
CIS 120 Intro to Microcomputers or MTH			
119 Intro to Computers-Prog.	3.0(3.0-4.0)		13.0(14.0)
	24.0(27.0-28.0)		

Nine credits at Alpena Community College in two social science disciplines or take Mid Michigan Community College course SSC 200 The Social Sciences and Contemporary America. These courses are not required for acceptance into the MMCC radiography program but it is recommended that students consult with the ACC radiography academic advisor to determine social science course options.

ACC HUM 241 Humanities or nine credits at ACC in humanities (with at least three credits at the 200 level) or six credits at ACC in humanities AND three credits in fine arts (one of which is a 200-level course) or take Mid Michigan Community College course HUM 200 Modernity and Culture. These courses are not required for acceptance into the MMCC radiography program but it is recommended that students consult with the ACC radiography academic advisor to determine humanities/fine arts course options.

Science courses must have been completed within five years of the date the student formally begins the program. All courses must have a grade of “C” or better to transfer except BIO 201 and 203 (Anatomy and Physiology), which must have a grade of B- or better to transfer. Cumulative GPA for prerequisite courses must be 2.5 or above, and these courses may only be repeated one time except under special circumstances.

To be taken at Mid Michigan Community College

Following successful completion of the above courses at ACC, specified radiography courses must be taken from Mid Michigan Community College over three semesters, and a year-long clinical internship completed at Alpena Regional Medical Center.

Cooperative Programs with **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 forecastings, 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.

For more information on these cooperative programs please contact:

Michele Tippman

Madeline Briggs University Center, Room 143
(989) 358-7302; tippmanm@northwood.edu

Or contact the Northwood University Main Campus Admissions Office:
Toll free: (800) 622-9000

Cooperative Program with
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 1-800-522-6775 at the Spring Arbor University — 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 1-800-522-6775 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's 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: <http://umflint.edu/node/300>

For more information about the UM-Flint BSN Program in Alpena, visit acc.umflint.edu or contact:

Theresa Stevens
UM-Flint Recruitment Coordinator
810-237-6600
tmsteven@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

Alpena Community College
MADLINE 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 Huron Shores Campus, Oscoda, 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 Office of Academic Affairs at (989) 358-7212 or (989) 358-7219.

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 starting on page 169. For more information, please contact the following university representatives who have regular office hours:

Michele Tippman

Madeline Briggs University Center, Room 143
(989) 358-7302
tippmanm@northwood.edu

Theresa Stevens

UM-Flint Nursing Advisor
(810) 237-6600
tmsteven@umflint.edu

ACC University Center Degree Programs

ACC Graduates and Northwood University

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Or contact the Northwood University Main Campus Admissions Office toll free: (800) 622-9000.

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+, Linux+, Security+, CNA or CCNA — to graduate from the CIT program. Additional certifications are encouraged.

University of Michigan-Flint

Bachelor's 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.

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Theresa Stevens

UM-Flint Recruitment Coordinator

(810) 237-6600

tmsteven@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	2	3
BUS 123	PRINCIPLES OF ACCOUNTING I	4(4-0)
Normal	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.		
Prerequisite:	6	TH 102 or equivalent.

1. Subject abbreviation & course number — This is a Business Administration course, freshman 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 four hours a week in lecture, with no lab hours or recitation, 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 (see page 25).
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 (SUM).
5. Course Description — This describes the content of the course.
6. Prerequisite/Corequisite — 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. Corequisites 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 ANTHROPOLOGY3(3-0)

Normally Offered: F, SP

Introduces the comparative study of human adaptations. Cultural patterns ranging from band to modern nations are considered. Emphasis is given to the dynamic nature of culture by using the record of prehistory, history and contemporary societies.

ANP 229 ANTHROPOLOGY OF THE NORTH AMERICAN INDIAN....3(3-0)

Normally Offered: SP (even years)

This survey course covers culture areas and culture types, one representative Native American group from each culture area at the time of contact, the current status of each representative group, Pan-Indian Cultural Tracks, and current Native American issues.

ANP 239 RELIGIONS OF THE WORLD3(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 ARCHAEOLOGY3(.5-3.5)

Normally Offered: SU

Introduction to field and laboratory archaeology methods. Students will participate in field survey and site excavation in the Alpena area. Excavation control, photography, and recording is emphasized. Artifact analysis and cataloging done when weather limits field activity.

ANP 257 UNDERWATER ARCHAEOLOGY3(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 TRADES3(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 Technical Math I.

APP 103E COMMERCIAL & INDUSTRIAL WIRING3(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 AND DC FUNDAMENTALS3(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 Electrical Studies for Trades and MTH 110 Technical Math I.

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 Electrical Studies for Trades and MTH 110 Technical Math I.

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 Technical Math I or permission of instructor.

APP 114E PROGRAMMABLE CONTROLLERS3(2-2)

Normally Offered: SP

Course content includes programmable controller operations, programming, and their applications in industry.

Prerequisite: APP 100E, MTH 110 Technical Math I, 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 ELECTRICIANS3(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 devices and trouble shooting will be stressed in the laboratory.

Prerequisite: Linear Electronics for electro-mechanical technicians or satisfactory grade on placement test or instructor permission.

APP 123E LINEAR ELECTRONICS FOR ELECTRICIANS3(2-2)

Normally Offered: SP

Stresses, in the laboratory, trouble shooting 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.

Corequisite: APP 100E.

APPRENTICE — MILLWRIGHT

APP 106M INDUSTRIAL SAFETY.....5(.5-0)

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.

APP 121M APPRENTICE BLUEPRINT READING3(2-2)

Normally Offered: F (2015) or MFG 120

This course provides the student with a basic working knowledge of the alphabet of lines, three-views 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 REPAIR2.5(1-3)

Normally Offered: SP (2014)

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-HYDRAULICS2.5(1-3)

Normally Offered: F (2016)

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 SHOP2.5(1-3)

Normally Offered: SP (2015) or MFG 101

Students will receive instructions on shop safety, measuring instruments, layout tools, lathes, milling machines, grinders, and saws. They will also receive instructions on physics of metal cutting (speeds and feeds) and cutting tool materials.

APP 128M RIGGING AND WEIGHT ESTIMATING1.5(1-1)

Normally Offered: F (2014)

Provides the student with the basic working knowledge of rigging and weight estimating.

APP 129M APPRENTICE PNEUMATICS.....1.5(1-1)

Normally Offered: F (2014)

This course provides the student with a basic working knowledge of pumps, air compressors, and pneumatics.

APP 223M PREDICTIVE AND PREVENTATIVE MAINTENANCE3(1-3)

Normally Offered: F (2016)

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 100 PHOTOGRAPHY I3(2-2)

Normally Offered: F, SP

This course offers an introduction to the basic technical skills of photography as a creative medium for personal expression. Students must provide a 35mm and/or a digital camera.

ART 123 DESIGN I.....3(0-4)

Normally Offered: F, SP

Promotes concern for the structure of environment and for the structure of contemporary graphic communication. This foundation course develops the student's ability to perceive and to sense the potential of various materials with regard to two-dimensional translation.

ART 124 DESIGN II.....3(0-4)

Normally Offered: F, SP

Promotes concern for developing perception of environment, but the emphasis is on the three-dimensional aspects of design and structure.

Prerequisite: ART 123 or permission of instructor.

ART 127 BASIC DRAWING I.....3(0-4)

Normally Offered: F, SP

Approaches drawing through development of awareness and knowledge and experience of art elements (space, line, shape, texture, value, and color). It develops confidence and ability to draw through varied drawing activities (contour, gesture, upside-down, memory, life, and perspective). The use of varied media (ex. pencil, charcoal, India ink, markers, watercolor), knowledge of styles and techniques will intermix with artists of the past and artists of today, and the opportunity to express one's self.

ART 128 BASIC DRAWING II.....3(0-4)

Normally Offered: SP

Continues ART 127, Basic Drawing I and the drawing process with emphasis on creativity, originality and message within production; also, more emphasis on observing and drawing the human form, proportion and perspective.

Prerequisite: ART 127 or permission of instructor.

ART 200 PHOTOGRAPHY II.....3(2-2)

Normally Offered: F, SP

During this course students will draw on skills learned in Photography I. Student will explore various subjects and styles by variations of their own work and the study of works by other photographers. Emphasis will be put on developing a unique insight into the subject and processes of photography. Projects will consist of "shooting assignments" that have been developed to aid students in "polishing" their skills and sharpening their awareness of the visual world around them.

Prerequisite: ART 100.

ART 221 COMPUTER GENERATED IMAGES.....3(0-4)

Normally Offered: F, SP

This course is intended to introduce the student to the image editing capabilities of a computer program called Adobe Photoshop. Using this program and either a Macintosh computer or Windows PC (in-class work will be done on Macintosh computers), student will be able to manipulate, repair and enlarge existing photographs or create images completely within the computer itself. Students will also create original images from “composite photos” and use the program’s ability to generate images that may not necessarily “exist in reality.”

ART 222 COMPUTER GENERATED IMAGES II.....3(2-2)

Normally Offered: F, SP

During this course students will continue to hone skills learned in CGI I as well as being introduced to more advanced techniques. Assignments will be developed with the input of the student and instructor to develop skills that will allow each individual student to achieve their desired goals.

Prerequisite: ART 221.

ART 223 PAINTING I.....3(0-4)

Normally Offered: F, SP

Considers basic problems and methods of dealing with painting. Emphasis is on various media, techniques, composition and expression. Students explore watercolor, acrylic and oil paint.

ART 224 PAINTING II3(0-4)

Normally Offered: SP

Continues and expands use of materials and techniques of Painting I and painting primarily in medium of choice or combination of media. Emphasis is on skill development in medium, knowledge of color, creativity and originality.

Prerequisite: ART 223 or permission of instructor.

ART 225 CERAMICS I3(0-4)

Normally Offered: F, SP, SU

Presents the aesthetic but focuses on technical know-how regarding the art of hand built ceramics. Students are provided with aesthetic challenges of material and form.

ART 226 CERAMICS II.....3(0-4)

Normally Offered: F, SP (Individual Study)

Continues Ceramics I, with more emphasis on throwing than hand-built forms. Students experiment with different clay bodies and glazes. Functional forms dominate the course, but improvised forms are encouraged.

ART 229 SCULPTURE I.....3(2-2)

Normally Offered: F, SP

Each student will be exposed to a number of traditional processes used to create three-dimensional art. Each process will introduce the student to a different aspect of sculpture, giving the student a well-rounded 3-D experience. Exploring 3-D form and space through individual creative experiences working with various sculpture media.

ART 230 SCULPTURE II3(2-2)

Normally Offered: F (Individual Study), SP (Individual Study)

Each student will be exposed to a number of traditional and nontraditional processes to create three-dimensional forms that build on techniques, skills, and methods learned in Sculpture I. Through visual exploration of other artists’ work, students will gain insight into the ideas and concepts involved in creating sculpture.

ART 233 PAINTING III.....3(0-4)

Normally Offered: F (Individual Study), SP (Individual Study)

Continues Painting II, with greater emphasis on the development of idea and the exploration of content and media. Students work with unconventional materials (colored ferro concrete, fiberglass, foam rubber, etc.) and traditional materials.

Prerequisite: ART 224 or instructor consent.

ART 234 PAINTING IV3(0-4)

Normally Offered: F (Individual Study), SP (Individual Study)

Continues Painting III, but students concentrate on selected media, personal direction and experimentation.

ART 235 CERAMICS III.....3(0-4)

Normally Offered: F (Individual Study), SP (Individual Study)

Continues Ceramics II, however, closer tolerances are required with regard to covered containers and uniformity of repeat forms. Combined (thrown and hand-built) sculptural designs are encouraged. Students develop new glazes using three basic oxides and compounds.

ART 236 CERAMICS IV3(0-4)

Normally Offered: F (Individual Study), SP (Individual Study)

Continues Ceramics III, with emphasis on developing self-direction. The students extend themselves aesthetically and technically without sacrificing the constants (definition of a craft). While meaningless experimentation and gimmicks are discouraged, students are rewarded for efforts in personal expression that are sound, with regard to aesthetics and craftsmanship.

ART 246 ART FOR THE CLASSROOM TEACHER.....4(2-2)

Normally Offered: F

This course is for future elementary teachers who will learn to create an artistic environment in the regular classroom. Visual arts will be associated or connected with various areas of the curriculum. Students will learn that every child learns by a variety of techniques and methods. Students will be expected to use and develop their creative abilities and continually adapt to various ages and skill levels. A variety of techniques and materials will challenge students as possible lessons are selected.

AMERICAN SIGN LANGUAGE

ASL 121 AMERICAN SIGN LANGUAGE4.0(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.

ASL 122 AMERICAN SIGN LANGUAGE II4.0(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 115 AUTO BODY REPAIR17(10-20)

Normally Offered: F

Orients the trainee to the automotive body repair trade. Both classroom and lab are used to present topics of auto body and chassis construction. Skills are developed in the areas of removing, replacing and straightening of body panels and fenders. Painting and trim work are also covered. Meets six hours a day, five days per week.

AUT 116 AUTO BODY REPAIR17(10-20)

Normally Offered: SP

Continues instruction in damage pattern, analyzing procedures and cost estimating. Advanced study in painting and straightening of panels are covered. Meets six hours a day, five days per week.

Prerequisite: AUT 115.

AUT 118 AUTOMOTIVE FUNDAMENTALS.....4(3-3)

Normally Offered: F

Introduces the beginning student to the automobile and shop area. Automotive terminology, nomenclature and specifications will be covered. Routine under-hood, under-car maintenance and services will be studied and performed. Automotive lab safety, along with environmental concerns will be emphasized during the course. While there are no prerequisites for this course, a strong interest in the automotive field, along with a desire to learn more about the auto and technical areas surrounding it, will be helpful.

AUT 119 AUTOMOTIVE BRAKE SYSTEMS5(2-6)

Normally Offered: F

Provides the student with the necessary skills and understanding to diagnose, repair and maintain automobile and light truck braking systems. Hydraulic theory, brake operating principles, construction, maintenance, machining, overhaul procedures and anti-lock service will be studied and performed by the student. Repeated practice on different makes and models will allow the student to become proficient. Emphasis will be placed on safety and liability incurred to those performing such repair.

AUT 122 AUTOMOTIVE AIR, FUEL & EMISSIONS SYSTEMS4(2-4)

Normally Offered: SU

Provides the student with fundamentals necessary to understand the theory, construction, operation, diagnosis and service of air, fuel and emissions systems. Automotive terminology, nomenclature and specifications will be covered. Theory of operation, diagnosis, disassembly, reassembly and adjustments of components will be covered. Environmental, safety and legal concerns will be emphasized along with a study of alternative fuels. The relationship between the fuel/emissions systems and such other engine systems as ignition, electrical, cooling and mechanical systems will be studied.

AUT 123 AUTOMOTIVE SUSPENSION, STEERING & ALIGNMENT5(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.

**AUT 124 AUTOMOTIVE ELECTRICAL & ELECTRONICS
SYSTEMS I5(2-6)**

Normally Offered: F

Provides the student with the necessary technical knowledge and manual skills to diagnose, repair and maintain the automotive electrical and electronic systems. Electron theory, system operating principles, construction, maintenance and repair of the various components are included. General diagnosis, wiring diagrams, battery, starting, charging and ignition systems will be covered.

**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's permission.

AUT 201 COMPUTERIZED ENGINE CONTROLS4(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's permission.

AUT 202 ENGINE PERFORMANCE DIAGNOSIS & TUNE-UP.....5(2-6)

Normally Offered: SP

Helps the student relate the mechanical portion of the engine to the fuel, ignition, emission and computer systems of the engine. "Engine performance" is determined by all of the above systems working together smoothly. Various pieces of diagnostic equipment will be used as well as dynamometer and road testing.

Corequisite: AUT 122.

**AUT 203 AUTOMOTIVE MANUAL TRANSMISSION &
DRIVE LINES.....4(2-4)**

Normally Offered: SP (even years)

Provides the student with technical knowledge and skills needed to maintain, diagnose, and repair manual power trains. All component parts from the flywheel to the axles on front and rear wheel drive manual transmission automobiles will be studied. Operating principles, power flow, failure analysis, and major and minor repair procedures will be emphasized. Three-speed, four-speed, and overdrive manual transmissions and power trains will be the focus of attention.

AUT 205 AUTOMOTIVE CLIMATE CONTROL3(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 206 AUTOMATIC TRANSMISSIONS5(2-6)

Normally Offered: SP (odd years)

Provides the student with technical knowledge necessary to maintain, diagnose, and repair automatic transmissions and transaxles. Operating principles of power flow, failure analysis, and major and minor repair procedures will be studied and practiced. Three-speed and four-speed automatic overdrive transmissions and transaxles will be studied.

AUT 221 ENGINE REPAIR AND 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.

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 PHYSIOLOGY4(3-2)

Normally Offered: F, SP

This course addresses the principles of human anatomy and physiology as related to medical assisting. 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 on the principles of biology, including a survey of life forms on planet Earth and coverage on classification, basic cytology, plant and animal forms, and physiology, classical and molecular genetics, paleontology, evolution, ecology, and life zones.

Prerequisite: Enrollment in ENG 102 Basic English or eligibility placement in ENG 111 English or higher.

BIO 129 INTRODUCTION TO FIELD BIOLOGY3(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 SCIENCES3(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 I4(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 Intro to Biological Science or equivalent; eligibility placement in ENG 111 English and CEM 111 General Chemistry or CEM 100 Introductory Chemistry (as a corequisite).

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 Intro to Biological Science, or BIO 161 General College Biology I, or equivalent; eligibility for placement in ENG 111 English.

BIO 200 ANATOMY & PHYSIOLOGY FOR ALLIED HEALTH6(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 ANATOMY4(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 PHYSIOLOGY4(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 Human Anatomy and CEM 111 General Chemistry or equivalent.

BIO 207 WILDLIFE & FISHERIES MANAGEMENT3(3-0)

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: MTH 102; high school biology 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 ZOOLOGY4(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 BOTANY3(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.

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 MICROBIOLOGY4(3-3)

Normally Offered: F, 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 PATHOPHYSIOLOGY4(4-0)

Normally Offered: F

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

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

Foundations in Personal Finance (Developing Your Skills) course assists 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

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.

BUS 121 INTRODUCTION TO BUSINESS3(3-0)

Normally Offered: F, SP, SU

Gives students 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, personnel management, labor unions and other business-related topics.

BUS 122 PERSONAL SELLING3(3-0)

Normally Offered: SP

Basic course in 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 I4(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.

Corequisite: BUS 125 or MTH 102 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 MATHEMATICS3(3-0)

Normally Offered: F

Applies fundamental arithmetic processes to the solution of problems arising in a business office. Includes materials covering fractions, decimals, percentages, bank discounts, interest, payrolls, discounts and markups, and annuities and sinking funds.

Prerequisite: MTH 090 or equivalent.

BUS 127 PRINCIPLES OF MANAGEMENT.....3(3-0)

Normally Offered: F, SP

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: F

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.....3(3-0)

Normally Offered: F

Introduces the student to the basic principles of law that are applicable to business transactions. The textbook approach with illustrative cases is used. The law is studied in the following areas: law, court system, civil procedures, administrative law, regulation of business, business torts, business crimes, personal property and bailments, real property, landlord-tenant, and contracts.

BUS 222 BUSINESS LAW.....3(3-0)

Normally Offered: SP

Presents a study of the law relating to contracts, agency, sales, products liability, warranty, bankruptcy, secured transactions, business organizations, partnerships, corporations, labor, employment, environment, computers, and commercial paper.

Prerequisite: BUS 221 or consent of instructor.

BUS 223 INTERMEDIATE ACCOUNTING I4(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 ENTITIES3(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 ACCOUNTING3(3-0)

Normally Offered: SP

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.

BUS 229 ADVERTISING3(3-0)

Normally Offered: On Demand

Covers the basic principles and practices of advertising including media, ad creation, copy and layout design, advertising planning and management, the integration of advertising and the marketing system.

BUS 233 MANAGEMENT AND SUPERVISORY LEADERSHIP3(3-0)

Normally Offered: F

Presents the modern supervisory job in its proper perspective. Topics covered include most effective supervisory approaches; the place of the supervisor in the organization; the basis for good motivation, group member development and sound team effort. The supervisor is discussed in relation to the total management environment, to self-management and to the individual employee in the work group.

BUS 235 PERSONNEL MANAGEMENT3(3-0)

Normally Offered: SP

Provides the foundation for contemporary theory and practices relating to the management of people. Major attention is devoted to the basic personnel processes that are involved in the procurement, development and maintenance of human resources. Emphasis is placed on the role of the departmental supervisors, managers, and their superiors in the management of subordinate personnel according to the objectives and policies of the personnel program of the organization.

BUS 241 PRINCIPLES OF MARKETING3(3-0)

Normally Offered: F, SP

Covers all of 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 COMMUNICATIONS3(3-0)

Normally Offered: SP

Designed to improve all forms of business communication, 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 is changing communication, job applications, integrity and ethics, and legal aspects of communication. Students are required to write many business letters and a business report using word processing software. A part of the research for the business report must take place on the Internet, and a summary of the report will be presented in class using presentation software.

Prerequisite: Ability to keyboard or permission of instructor plus successful completion of ENG 102 or placement in ENG 111, 120, or 121.

BUS 255 BUSINESS APPLICATION SOFTWARE3(2-2)

Normally Offered: SP

A continuation of CIS 120 or MTH 119, this second course goes further into the capabilities of word processing and spreadsheet software for business applications. Students will work with larger documents, advanced graphics, customized templates, enhanced charts and summary data. The use of the software will be integrated with the Internet. Fundamentals of database use will also be taught, with a hands-on approach enabling students to design, build, edit and analyze a database.

Prerequisite: CIS 120 or MTH 119 or permission of instructor.

BUS 257 COMPUTERIZED ACCOUNTING SYSTEMS1.5(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.

BUS 262 PROJECT MANAGEMENT3(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 will include defining a project, creating a budget, defining objectives, evaluation, and the usage of project management software. Instruction will include standards from ANSI, ISO, and the Project Management Institute (PMI).

Prerequisite: ENG 111 or ENG 121, and CIS 120 or instructor permission.

BUSINESS INFORMATION SYSTEMS

BIS 100 COMPUTER KEYBOARDING1(0-2)

Normally Offered: F, SP

Teaches the person with no previous keyboarding training how to touch type using a computer keyboard. Emphasis is on using proper techniques to touch type the alpha, numeric and symbol keys. Students will also learn how to efficiently use the special keys found on a computer keyboard and how to touch type the numeric keypad.

BIS 101 KEYBOARD SKILLBUILDING1(0-2)

Normally Offered: F, SP, SU

Allows students to develop keyboarding skills to levels desired by the individual student. Emphasis is on learning correct techniques and improving accuracy by identifying error patterns, with a resulting improvement in speed. The course may be repeated to attain desired speed and accuracy goals.

Prerequisite: BIS 100 with a grade of 2.0 or higher, or correct operation of all keys by touch and the ability to type 30 words per minute on a three-minute timed typing with three errors or less, or permission of instructor.

**BIS 140 PROOFREADING AND EDITING FOR BUSINESS
PROFESSIONALS3(2-2)**

Normally Offered: F (2014), SP (2016)

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 techniques for editing and proofreading, particularly as applied to electronic documents.

Prerequisite: ENG 111, or qualifying COMPASS score.

BIS 147 MEDICAL OFFICE TRANSCRIPTION.....4(2-4)

Normally Offered: F

Introduces the profession of medical office transcription. In this course, the student transcribes a broad range of transcription based on actual medical records-including chart notes, history and physical reports, consultations, office procedure notes, x-ray reports, progress notes, and letters through/by listening to a variety of voices/dictation by physicians and other health care professionals. The authentic dictation recordings develop speed and accuracy in transcribing medical documents, helping students gain skill in editing and proofreading and increasing their knowledge of medical terminology.

Prerequisite: BIS 160 Medical Terminology or concurrent enrollment.

BIS 160 MEDICAL TERMINOLOGY4(4-0)

Normally Offered: F, SP, SU

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 161 MEDICAL TRANSCRIPTION.....4(2-4)

Normally Offered: F, SP, SU

Introduces the profession of medical transcription. In this course, the student develops transcription competencies for entry-level employment. The student transcribes histories and physicals, operative reports, consultations, discharge summaries and pathology reports in the transcription lab. Students will practice the transcription of medical dictation incorporating English usage and machine transcription skill, medical knowledge, and proofreading and editing skills to meet accuracy and productivity standards.

Corequisite: CIS 151, CIS 152, CIS 153 and BIS 101 or permission of instructor.

Prerequisite: BIS 160 Medical Terminology.

BIS 162 MEDICAL OFFICE COMPUTER APPLICATIONS1.5(1-1)

Normally Offered: SP

Familiarizes the student with scheduling patient appointments, creating superbills, posting charges and payments, producing receipts, completing insurance claim forms and aging accounts receivable with the use of medical office software. Through hands-on experience the student will learn how to operate practice management software in any health care setting.

Corequisite: BIS 101.

BIS 163 MEDICAL OFFICE ICD CODING4(4-0)

Normally Offered: F

This course covers International Classification of Disease coding guidelines for the physician's office. Discussion and hands-on practice will be provided for the basic steps in coding a medical diagnosis. This instruction will include the meaning of formatting, symbols, abbreviations, and notations in the ICD coding handbook and sequencing rules for reporting medical diagnosis codes.

Corequisite: BIS 160 Medical Terminology.

BIS 164 MEDICAL OFFICE INSURANCE BILLING3(2-2)

Normally Offered: SP

Covers legal issues affecting medical insurance claims and release of medical records. Also covers the steps involved to process an insurance claim. Includes discussion of patient confidentiality, signature authorization and the completion of the health insurance claim form. Many classroom activities will assist the student in applying this knowledge.

Prerequisite: BIS 163 Medical Office Coding and placement above MTH 090.

BIS 165 MEDICAL OFFICE PROCEDURES.....4(4-0)

Normally Offered: F, SP

Covers medical administrative office procedures, both traditional and computer related. Includes medical ethics and law, managing medical records, medical correspondence, health insurance and alternative financing plans and billing. A mini-simulation allows students to gain practical experience in the classroom.

**BIS 167 MEDICAL ETHICS AND LAW FOR HEALTH
PROFESSIONALS3(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.

BIS 168 MEDICAL OFFICE CPT CODING.....3(2-2)

Normally Offered: SP

This course covers Current Procedural Terminology coding guidelines for the physician's office. Discussion and hands-on practice will be provided for the basic steps in coding a medical procedure. This instruction will include the meaning of formatting, symbols, abbreviations, and notations in the CPT coding handbook and sequencing rules for reporting medical procedure codes. HCPCS level II codes will also be covered.

Corequisite: BIS 160, BIS 163.

BIS 170 ELECTRONIC HEALTH RECORDS.....1.5(1-1)

Normally Offered: SP

This course familiarizes students with the electronic health record (EHR) and provides hands-on activities that assist the learner to become proficient in using EHR software on the job. Students will gain a thorough understanding of both the terminology of EHR systems and the practical use of such systems in a health-care provider office setting. Some of the topics discussed include problem lists, assessments, prescription/medication management, exam notes, and diagnostic orders and results.

Corequisite: BIS 101.

BIS 173 ADVANCED MEDICAL CODING3(2-2)

Normally Offered: SP (even years)

This course is designed to expand upon and summarize the official guidelines for coding and reporting of complex diagnoses and procedures effecting hospital inpatient and outpatient coding as well as skilled- care facilities. Emphasis is placed on ICD-CM and CPT codes impacting the major body systems, evaluation and management, and surgery section of the coding manuals. The proper translation of a disease and/or procedure into a viable code will be emphasized through theory and interpretation of many case studies.

Prerequisite: BIS 160, BIS 163.

Corequisite: BIS 164, BIO 228.

BIS 220 MEDICAL ASSISTANT ADMINISTRATIVE PRACTICUM2(0-4)

Normally Offered: SUM

Provides a practical education/work experience in a physician's office or health care facility. The student is supervised and evaluated by qualified and licensed medical personnel. The student will have experiences in applying knowledge in performing administrative procedures including reception responsibilities, coding, insurance billing, transcription, release of information, and other related administrative medical office tasks. Development of a professional attitude through interaction with other professionals and consumers in the health care field is encouraged.

Prerequisite: BIO 110, BIS 101, BIS 147, BIS 160, BIS 162, BIS 163, BIS 164, BIS 165, BIS 167, BIS 170, and CIS 120 with a grade of 2.0 or higher for each course. Must be a student in the Medical Assistant program. Students are required to complete physical exam requirements as stated in the Medical Assistant Handbook prior to registration.

BIS 230 BUSINESS OFFICE PROCEDURES3(2-2)

Normally Offered: SP (odd years)

This course is designed to present new office technology and show students how electronic office skills and general business office concepts relate to future office jobs. By the use of an office system, students will apply information processing procedures, such as working with Internet tools, filing and records management systems, telecommunications, teleconferencing, telephone technology, and administrative support functions in the automated office. Additional learning time will be required for operating office equipment at the campus classroom facilities.

Prerequisite: CIS 153 Word Processing III: Special Features or instructor permission.

Corequisite: CIS 173 Spreadsheets III: Data Base Applications or instructor permission.

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 AutoCAD Fundamentals.

CAD 150 3D MODELING3(2-2)

Normally Offered: 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 DESIGN3.5(2-3)

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 and MFG 101.

CAD 222 KINEMATIC DESIGN OF MECHANISMS.....3.5(2-3)

Normally Offered: SP

Concerns the graphical determination, representation, and analysis of machine elements. The course topics include displacement, velocity, gear design, gear trains, cams, and linkages. Student projects will be both manual and CAD based.

Prerequisite: CAD 220, MTH 112 and PHY 111 or equivalent, or consent of instructor.

CAD 250 ADVANCED 3D MODELING3.5(2-3)

Normally Offered: SP

This course enhances the student's 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 3D Modeling.

CAD 270 CAPSTONE PROJECT3.5(2-3)

Normally Offered: SP

This advanced project-based course utilizes each student's diverse skills in a semester-long development of a hands-on 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. Each student is assigned a part of the project with a required written report that is in line with the skills and interests. This course is reserved for sophomore Marine Technology and Mechanical Design Technology majors, but is open to all sophomore students.

Prerequisite: 24 completed hours in Marine Technology or Mechanical Design Technology or instructor permission.

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.

Prerequisite: MTH 102 with a grade of 2.0 or higher or consent of instructor

CEM 111 GENERAL CHEMISTRY4(4-3)

Normally Offered: F, SP, SU

Introduces the study of atomic structure, periodic systems, chemical bonds, stoichiometry, gas laws, liquids and solids, solutions, etc. 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 or consent of instructor.

CEM 112 ORGANIC AND BIOCHEMISTRY4(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 AND INORGANIC CHEMISTRY.....4(4-3)

Normally Offered: F

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 on scientific programs dealing with fundamental chemical principles.

Prerequisite: One unit of high school algebra, geometry and chemistry.

CEM 122 INORGANIC CHEMISTRY & QUALITATIVE ANALYSIS4(4-3)

Normally Offered: SP

Continues CEM 121, with emphasis on the study of chemical kinetics, equilibrium, electrochemistry, chemical thermodynamics, organic chemistry. The principles of ionic equilibria and reaction mechanisms are applied in laboratory study of chemical measurements and the separation and identification of common cations and anions.

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 095 EFFECTIVE READING STRATEGIES & STUDY SKILLS.....3(2-2)

Normally Offered: F, SP

This course focuses on group work in improving reading (comprehension and vocabulary), writing, and study skills (test-taking, time management, memory, concentration, etc.) with emphasis on finding the main idea, evaluating, and reading. The lab component focuses on the needs of each student based on an individual, test-indicated basis.

CSS 098 COLLEGE COMPREHENSION STRATEGIES & STUDY SKILLS3(2-2)

Normally Offered: F, SP

This course is designed to promote an understanding of how knowledge is acquired, how to strengthen those reading skills already possessed, develop new techniques for efficient study, and provide opportunities to practice those strategies in a variety of content areas. College Comprehension and Study Skills focuses on group-work and improving comprehension, vocabulary, rate, writing and study skills, lecture/reading note-taking, listening, memory, concentration, etc., with emphasis on applying learned strategies to the content areas. The lab component focuses on the needs and strengths of each individual student through test-indicated basis.

CSS 100 BECOMING A MASTER STUDENT2(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.

COMPUTER INFORMATION SYSTEMS

CIS 110 COMPUTER ESSENTIALS.....1(.75-.5)

Normally Offered: F

Introduces the computer novice to personal computers that use the most popular operating systems. Topics covered include hardware, software, and selecting computers and software. Students will have a brief introduction to some of the most popular business applications.

CIS 111 COMPUTER OPERATING SYSTEMS1(.75-.5)

Normally Offered: F

Introduces the student to computer operating systems. Allows instruction in any one of a number of specific areas, including but not limited to Windows. Specific goals and topics will be determined by the computer operating system being studied.

Prerequisite: CIS 110 or permission of instructor.

CIS 120 INTRODUCTION TO MICROCOMPUTERS.....3(2-2)

Normally Offered: F, SP, SUM

This course introduces the student to operating systems and software applications of word processing, spreadsheets, databases, and multimedia presentations. Covers file management, using Help and Support, creating and editing 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. Students who have little or no computer experience (open, save, print) are advised to take CIS 110 Computer Essentials before taking this course. Additionally, students who have little experience with folder and file management tasks (expanding, collapsing, creating, copying, moving, and deleting) are advised to take CIS 111 Computer Operating Systems before taking this course.

CIS 140 INTRO TO MICROSOFT CLIENT OS3(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.

Prerequisite: CIS 111 or equivalent skills or instructor permission.

CIS 151* WORD PROCESSING I: BEGINNING1(.75-.5)

Normally Offered: F, SP

Introduces fundamental word processing concepts to students who have little or no word processing knowledge. It covers creating, editing, and formatting documents used personally and in business, including letters, letterheads, memos, reports, newsletters, and templates. Students who cannot touch type 30 words per minute are encouraged to take BIS 100 Computer Keyboarding before this course.

**CIS 152* WORD PROCESSING II: FORMATTING
DOCUMENTS.....1(.75-.5)**

Normally Offered: F, SP

Continues word processing for the student who has successfully completed CIS 151 or the student who can demonstrate previous knowledge of word processing fundamentals and can begin at this intermediate level. Addresses line, paragraph, page and document formatting; outlines; and footnotes and endnotes. Emphasis continues on good layout and design of documents.

Prerequisite: CIS 151 or proficiency exam.

CIS 153* WORD PROCESSING III: SPECIAL FEATURES1(.75-.5)

Normally Offered: F, SP

Continues word processing for the student who has successfully completed CIS 152 or the student who can demonstrate previous knowledge of word processing fundamentals and formatting skills. Exposes students to some of the more advanced features available with a full-featured word processing program, including graphics, tables, columns and macros. Students will be expected to demonstrate good layout and design of documents.

Prerequisite: CIS 152 or proficiency exam.

* Course sequence CIS 151, 152 & 153 prepares students for the Microsoft Office Specialist (MOS) exam to become certified at the core level using Word.

**CIS 171* SPREADSHEETS I: BEGINNING WORKSHEETS &
FORMULAS.....1(.75-.5)**

Normally Offered: SP

Teaches the essential aspects of a Windows-based spreadsheet software program. Students will study formulas and functions and will learn to use the spreadsheet for completing calculations, projecting results of business decisions and producing graphs and charts.

Prerequisite: CIS 110 or equivalent and CIS 111 or equivalent.

CIS 172* SPREADSHEETS II: GRAPHS AND CHARTS.....1(.75-.5)

Normally Offered: SP

Continues teaching the aspects of a Windows-based spreadsheet software program. Students will study the fine points of graph and chart enhancement such as changing colors, fonts and fill patterns, and adding graphics, and will learn to perform a “what-if analysis” using charts.

Prerequisite: CIS 110 or equivalent, CIS 111 or equivalent and CIS 171 or equivalent.

CIS 173* SPREADSHEETS III: DATA BASE APPLICATIONS1(.75-.5)

Normally Offered: SP

Continues teaching the aspects of a Windows-based spreadsheet software program. Students will study the creation, editing and formatting of a database. Other topics include sort, query and finding records.

Prerequisite: CIS 110 or equivalent, CIS 111 or equivalent , CIS 171 or equivalent and CIS 172 or equivalent.

* Course sequence CIS 171, 172 & 173 prepares students for the Microsoft Office Specialist (MOS) exam to become certified at the core and expert levels using Excel.

Prerequisite: CIS 205 or instructor permission.

CIS 206 OBJECT ORIENTED PROGRAMMING3(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.

CIS 240* MULTIMEDIA PRESENTATIONS3(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.

Prerequisite: CIS 111 or instructor permission.

* Course CIS 240 prepares students for the Microsoft Office Specialist (MOS) exam to become certified at the core level using PowerPoint.

CIS 241* INTRODUCTION TO WEB DESIGN AND MANAGEMENT ...3(2-2)

Normally Offered: SP

Teaches students the basics of how to plan, implement, and maintain a comprehensive web site for a company or organization. Cover web site planning, web site and web page design principles, html, web site editor to manage and create web pages/sites, multimedia in a web site, create and enhance images for web sites, integration techniques for web-based databases, and security for a private Intranet for a target audience.

Prerequisite: CIS 151, 152 and 153 Word Processing or instructor permission.

* Course prepares students for the Microsoft Office Specialist (MOS) exam to become certified at the core level using FrontPage.

CIS 250 DESKTOP PUBLISHING3(2-2)

Normally Offered: F (even years)

Introduces the principles, equipment, and skills used in publishing process using PageMaker and WordPerfect. Additional learning time is required to complete the learning activities at the campus facilities.

CIS 258 INTRODUCTION TO ENTERPRISE DATABASE3(2-2)

Normally Offered: SP

Students will learn about the many different database languages deployed in the marketplace. Advanced concepts such as Data Mining, Business Intelligence, Disaster Recovery, Security, and Load Balancing will be introduced. Structured Query Language (SQL) platforms will be used in this class.

Corequisite: CIS 260 or instructor permission.

CIS 260* DATA BASE.....3(2-2)

Normally Offered: F

Gives an overview of database management on a microcomputer. The first part of the class covers creating, modifying, searching, sorting and indexing a database as well as creating and printing reports and labels. The second part of the class covers creating custom screens, using multiple files and using calculations and advanced commands and functions.

Prerequisite: CIS 111 or permission of instructor

* Course CIS 260 prepares students for the Microsoft Office Specialist (MOS) exam to become certified at the core level using ACCESS.

CIS 270 NETWORK ADMINISTRATION.....3(2-2)

Normally Offered: F

This course covers Local Area Network (LAN) administration and uses after the network hardware and network operating systems have been installed. Students working in small teams will administer an operating LAN.

Prerequisite: CIS 160 or permission of instructor.

CIS 280 NETWORK THEORY DESIGN AND INSTALLATION4(2-4)

Normally Offered: SP

This course covers Local Area Network (LAN) fundamentals and terminology. Students will install and configure a LAN. Topics covered include: selection of LAN interface cards, cable, wiring plans, server hardware and operating system software, LAN maintenance, integrating LANs into existing networks and isolating LAN software and hardware problems. Labs should cause all elements to come to life through the many real-world exercises provided during the course of instruction. Most important, though, is the emphasis on gaining skills to start anyone who desires a career in network administration on the road to success.

Prerequisite: CIS 270.

**CIS 281 ADVANCED WORD PROCESSING I: DESIGNING
WITH GRAPHICS & LAYOUTS1(.75-.5)**

Normally Offered: SP

Presents advanced information processing skill development in the areas of graphics, graphical lines, charts, and drawing applications in layouts and document designs, especially when used in columns, tables and reports.

Prerequisite: CIS 153 or proficiency exam.

**CIS 282 ADVANCED WORD PROCESSING II: PRODUCING
LONG DOCUMENTS.....1(.75-.5)**

Normally Offered: SP

Presents advanced information processing skill development in the area of long documents that include charts, tables, tables of contents, tables of illustrations, and indexes.

Prerequisite: CIS 281 or proficiency exam.

**CIS 283 ADVANCED WORD PROCESSING III: MACROS &
MERGES1(.75-.5)**

Normally Offered: SP

Presents advanced information processing skill development in the areas of macros creation, editing and use, as well as merging documents, including letters, labels and templates.

Prerequisite: CIS 282 or proficiency exam.

CIS 295 IT PROFESSIONAL PRACTICE MANAGEMENT3(2-2)

Normally Offered: SP

Students will learn about the ever-changing industry of Information Technology and its impact on and alignment with business objectives. Using concepts from prior classes, students will explore the design and setup of IT departments and procedures in both small and large organizations. Through case studies, scenarios, and role playing, students will have the opportunity to manage a team of IT professionals.

Prerequisite: Minimum of 18 credits in CIS or CNS coursework or instructor permission.

COMPUTER NETWORK SYSTEMS

CNS 150 NETWORKING FUNDAMENTALS3(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.

Corequisite: CIS 140 and CNS 151 or instructor permission.

CNS 151 NETWORK COMMUNICATION CABLING3(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.

CNS 155 INTRODUCTION TO ROUTING AND SWITCHING3(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 AND MAINTENANCE4(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 SERVER3(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 210 MICROSOFT NETWORK MANAGEMENT3(2-2)

Normally Offered: F

This course explores the networking features of a Microsoft Server solution. Students in a lab experience will practice connecting computer systems to the Internet and to other networks. Remote access technologies will also be reviewed in depth. Students will understand how to monitor network health and maintain a more secure network.

Prerequisite: CNS 180 and CNS 150 or instructor permission.

CNS 215 INTRODUCTION TO VIRTUALIZATION3(2-2)

Normally Offered: SP

Students will develop a working understanding of virtualization technologies and current virtualization software packages. The goal of the course is to provide students with the knowledge and skills necessary to develop and manage virtual operating systems and virtual networks in a business/cloud setting.

Prerequisite: CNS 150 and CNS 180.

CNS 220 ADVANCED MICROSOFT SERVER.....3(2-2)

Normally Offered: SP

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 SECURITY3(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.

Corequisite: CNS 150 or instructor permission.

CNS 235 ADVANCED INFORMATION SECURITY3(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.

CNS 240 OPEN SOURCE NETWORKING3(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.

CONCRETE TECHNOLOGY

CON 110 INTRODUCTION TO CONCRETE TECHNOLOGY1(1-0)

Normally Offered: F

Introduces the various divisions of the concrete industry. Course reviews each divisions (Ready Mixed Concrete, Concrete Masonry, Prestress/Precast, Engineering, etc.), and shows the types and needs of employment in each division.

CON 121 AGGREGATES3.5(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.

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, flyash, silica fume, etc. Also included are the production methods and standard tests of cement performance.

CON 124 CONCRETE MIX PROPORTIONING4(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 II4(3-3)

Normally Offered: SP

Continues Placed Concrete I in studying industrial standards including ASTM and 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 CONCRETE3(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.

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.

Corequisite: CON 222.

CON 227 CONSTRUCTION INSPECTION2(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 LAB1(1-0)

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 values. 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: Sophomore standing.

CON 232 CONCRETE PROJECT LAB2(2-0)

Normally Offered: SP

Continues CON 231.

Prerequisite: CON 231.

BLOCKMAKERS WORKSHOP (CON 240-248)

Normally Offered: On Demand

CON 240, 241, 242, 243, 244, and 246 are special intensified one-week courses, specifically designed for persons employed in concrete products production or in a supplier segment of the industry. Courses are offered at various times throughout the calendar year. For specific information on course schedules contact the World Center for Concrete Technology.

CON 241 CONCRETE MASONRY TECHNOLOGY2(2-0)

Normally Offered: On Demand

Deals with aggregate grading and blending, sources of cementitious materials and lightweight aggregates and the many methods of curing. Units are made in a pilot plant. Concrete masonry specifications and the multiple uses of the product are also covered.

CON 242 VIBRAPAC PRODUCTION2(2-0)

Normally Offered: On Demand

Deals with the proper machine adjustments, wiring diagrams, and schematic print reading for large, high production block machines. Students are given troubleshooting problems as practical application to the proper machine adjustment.

Prerequisite: CON 241.

CON 243 EQUIPMENT CONTROLS2(2-0)

Normally Offered: On Demand

Emphasis is on the electrical aspects of a block machine with electrical wiring diagrams and coordination of electrical-mechanical sequences.

Prerequisite: CON 242 or CON 244 or CON 245 and CON 246 or permission of instructor.

CON 244 BESCOPAC PRODUCTION2(2-0)

Normally Offered: On Demand

Presents block production operation, set-up and maintenance with hydraulically-operated block production machines.

CON 245 DYNAPAC-ULTRAPAC PRODUCTION.....2(2-0)

Normally Offered: On Demand

This course deals with a hands-on study of high production 3-, 4-, 5- and 6-at-a-time block machines. Proper machine adjustments, wiring diagrams, schematic print reading, electronics and equipment safety are the primary topics. Students are given troubleshooting problems, both mechanical and electrical, as a practical application of these phases.

CON 246 PRODUCT HANDLING.....2(2-0)

Normally Offered: On Demand

Deals with materials handling aspects of the concrete masonry plant including automatic rack loaders and unloaders, cubing equipment and conveying equipment. In addition to principles, the course includes troubleshooting and practical applications on specific equipment.

CON 247 PRODUCT HANDLING.....2(2-0)

Normally Offered: On Demand

Customized course which focuses on the manufacture of specialty concrete products, including split face masonry, segmental retaining wall units, pigmented masonry, mix design and paving stone units.

CON 248 PREVENTATIVE MAINTENANCE2(2-0)

Normally Offered: On Demand

Students learn and practice preventative maintenance for masonry products equipment. Emphasis on various bearings, hydraulics, beltings for conveyor and general maintenance in a concrete products plant.

CON 249 ADVANCED VIBRAPAC PRODUCTION2(2-0)

Normally Offered: F, SP, SUM

Addresses more hands-on for practical application, both mechanical and electrical. Students are required to change machine to low height, adjust and manufacture product. Electrical sessions include Texas Instruments and Allen Bradley controllers. More concentration is applied to schematic print reading and ladder logic diagnosis.

CON 250 ELECTRONIC CONTROLS2(2-0)

Normally Offered: On Demand

This course includes an in-depth study of electrical wiring and programmable logic controllers. Applications and troubleshooting for both Texas Instruments and Allen Bradley programmable controllers are studied. Practical applications and troubleshooting will be covered on black machines, Besser-Matics and Cubers.

Prerequisite: CON 242 or CON 243 or CON 244 or CON 245 and CON 246 or permission.

CON 271 CONCRETE PIPE TECHNOLOGY.....2(2-0)

Normally Offered: On Demand

Course covers aggregate grading and blending, cementitious materials and the methods of curing used in the manufacturing of concrete pipe. Concrete pipe specifications, testing methods required and the multiple use of the end product are also covered. Lab testing of raw materials and pipe will be completed.

CONSTRUCTION

CST 101 CONSTRUCTION TECHNOLOGY I.....3(3-0)

Normally Offered:

This course is a study of the principles of Construction Technology. This course applies the concepts of Modern Carpentry, engineering and technology utilizing the framework of Green and Sustainability to Residential Construction.

CST 102 CONSTRUCTION TECHNOLOGY II.....3(3-0)

Normally Offered:

This course is a continuation of Construction Technology I. It is the study of the principles of Construction Technology. This course applies the concepts of Modern Carpentry, engineering and technology utilizing the framework of Green and Sustainability to Residential Construction.

CST 112 BUILDING CONSTRUCTION ANALYSIS3(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: SUM

Gives the student opportunity to gain “on-the-job” experience with summer employment in a construction firm or related business during the interval between the freshman and sophomore years.

CST 201 GREEN BUILDING SUSTAINABILITY.....3(3-0)

Normally Offered: On Demand

This is a basic study of the principles of Green Building and Sustainability. Topics will include sustainability, xeriscaping, high performance building, energy efficiency, indoor air quality and environmental stewardship.

CST 214 BLUEPRINT READING AND ESTIMATING.....3(2-2)

Normally Offered: SP

Studies various types of residential and commercial building blueprints. Students analyze and interpret prints as to their content and estimate quantities and cost from excavation to completion.

Contracting with Business and Industry

CWB&I is a cooperative approach to education in which almost any local business or industry can become a training site. Each credit hour earned requires 32 hours of work and a maximum of five ACC credits may be earned. The student trains at a local business or industry under the guidance of a site supervisor and enrolls in ACC courses related to the on-the-job training.

CST 222 ADVANCED GREEN ENERGY SYSTEMS.....3(3-0)

Normally Offered:

This course is the study of the principles of solar, wind, bio-mass fuels, nuclear and alternative energy. This course applies the concepts of advanced Green energy systems utilizing the framework of sustainability to Green Residential and Green Commercial Buildings.

CST 240 SUSTAINABILITY3(3-0)

Normally Offered:

Sustainability is defined, demonstrated and applied, beginning with how the environment and ecosystems work from a scientific perspective, understanding climate and geology, and applying ecological stewardship to improve sustainability in our environment. Students will learn about implementing engineering and technology that focuses on sustainability.

CRIMINAL JUSTICE

CJ 101 CRIMINAL JUSTICE PHYSICAL EDUCATION3(1-2)

Normally Offered: F

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.

CJ 110 CRIMINAL JUSTICE PHYSICAL EDUCATION 2(1-2-0)

Normally Offered: SP

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.

CJ 119 INTRODUCTION TO HOMELAND SECURITY3(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.

CJ 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.

CJ 211 ETHICS IN CRIMINAL JUSTICE3(3-0)

Normally Offered: SP

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.

CJ 220 JUVENILE DELINQUENCY3(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.

CJ 221 CRIMINAL LAW3(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.

CJ 222 CRIMINAL PROCEDURE3(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 CJ 221.

CJ 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.

CJ 224 POLICE OPERATIONS.....3(3-0)

Normally Offered: F

Deals with line functions: patrol operations, investigative divisions, traffic divisions, non-crime functions and basic organization of modern law enforcement agencies.

CJ 227 DEFENSE TACTICS2(1-1)

Normally Offered: SP

Presents methods and techniques of self-defense, disarmament and the use of the baton; fundamentals of personal defense systems as they apply to police work.

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 course.

CJ 229 CRIMINAL INVESTIGATION.....4(3-1)

Normally Offered: F

Introduces criminal investigation procedures, including conduct at crime scenes, collecting evidence, methods used in police laboratories and presentation of evidence in court.

CJ 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: CJ 121, and all students must be at least 18 years of age and have completed the Hepatitis B shot series.

CJ 231 INTRODUCTION TO CORRECTIONS3(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.

CJ 232 INTRODUCTION TO COMPUTER FORENSICS AND 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: CJ 121 and CIS 120; or CJ 121 and CNS 230; or instructor consent

CJ 233 COMMUNITY POLICING3(3-0)

Normally Offered: SP

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.

CJ 234 MULTICULTURAL LAW ENFORCEMENT3(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.

CJ 235 CLIENT RELATIONS IN CORRECTIONS3(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.

CJ 236 CORRECTIONAL CLIENT GROWTH AND DEVELOPMENT3(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.

CJ 237 CORRECTIONAL INSTITUTIONS AND 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.

CJ 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.

CJ 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 STUDIESMAXIMUM 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 time for this type of credit. The concept does not apply to remedial work since that activity is provided by programs in The Learning Center. 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 Dean and the Campus Services Office. The student is responsible for securing proper forms and following written procedures to secure faculty cooperation.

ECONOMICS

ECN 225 MONEY AND BANKING3(3-0)

Normally Offered: On Demand

This course examines the role of money in society and the role of the financial system. Banking fundamentals and monetary policy are reviewed from a macroeconomic viewpoint. Focus is given to the contemporary issues relating to our monetary economic system. Students completing this course will have an enhanced knowledge of public monetary policy and how our banking system operates.

ECN 227 THE INTERNATIONAL POLITICAL ECONOMY3(3-0)

Normally Offered: On Demand

This course introduces students to the interdependence of national and regional issues as they relate to economics, sociology and political science. Study includes interests in the varying ways different regions and cultures throughout the world perceive the global economic institutions (WTO, EU, NAFTA, etc.) that are designed to supplement the management and distribution of our scarce global resources. Completion of this course will enable the student to recognize both the competitive and cooperative nature of international relationships and how they may effect domestic concepts and policies.

Prerequisite: Eligibility placement in MTH 121.

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: Eligibility placement in MTH 113 or instructor permission.

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 examines certain principles of aggregate behavior as suggested by the famous economist John Maynard Keynes and how certain deductions taken from microeconomic behavior effect the entire economy. Students who complete this course will have an improved understanding of our national economy and the critical economic issues of our times.

EDUCATION

EDU 121 INTRODUCTION TO EDUCATION3(3-0)

Normally Offered: F, SP

This is a basic introductory course into the discipline of teacher education. The primary objective of the course is designed to facilitate an understanding of “what it means to become a teacher in today’s society.” The course requires participation in the school environment through a 35-hour service project in which students learn to investigate and understand educational concepts through classroom and personal experience.

EDU 220 MULTICULTURAL EDUCATION3(3-0)

Normally Offered: SP (even years)

Provides a theoretical and empirical overview of educational issues affecting low-income immigrant and U.S.-born minority student populations in an increasingly diverse and changing society. Special attention is given to the transformative practices that enable students to dismantle inequality and struggle for a more democratic society.

Prerequisite: EDU 121 or SOC 123.

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

Introduces the student to the profession of engineering. Topics include engineering colleges and curricula, scholarships and other financial aid, engineering work-study (co-op) programs, work opportunities, salaries, professional responsibilities and engineering registration. Field trips to Alpena area industries that employ engineers acquaint the student with practical applications of engineering.

EGR 221 STATICS3(3-0)

Normally Offered: F

Covers the fundamental principles of mechanics with engineering applications. Topics include forces, moments, machines, structures, friction, hydrostatics and virtual work.

Prerequisite: PHY 221, MTH 231 (may be taken concurrently).

EGR 231 DYNAMICS.....4(4-0)

Normally Offered: SP

Covers the fundamental principles of mechanics where the relationship between the force on an object and its motion is studied. The course emphasizes the study of plane motion, but there will be an introduction to the dynamics of three-dimensional rigid bodies and vibration. The context of this study will be structures and machines that are of concern to engineers. The approach will be to study kinematics and kinetics of particles, systems of particles, and rigid bodies.

Prerequisite: EGR 221 Statics with 2.0 or higher.

ENGLISH

ENG 090 FUNDAMENTALS OF WRITING.....4(4-0)

Normally Offered: F, SP

Provides remedial instruction for college freshmen who have demonstrated very limited ability in communication skills. The major emphasis is on the sentence (including basic usage, vocabulary, grammar, punctuation, and sentence combining skills), leading to the composition of paragraphs.

Corequisite: CSS 095, CSS 100, MTH 090, or instructor permission

Prerequisite: None. E-Write 3 or below.

ENG 102 BASIC ENGLISH4(4-0)

Normally Offered: F, SP

Provides remedial instruction for college freshmen who have demonstrated limited ability in communication skills. Students first learn paragraph development and then expand their writing to longer essay-length writings. Classroom practice and laboratory instruction focus on writing skills to improve students' appropriate use of Standard English in their writing. This course prepares students for entry into the traditional freshman level composition sequence.

ENG 111 ENGLISH3(3-0)

Normally Offered: F, SP, SUM

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: Average competence in reading and writing skills as determined by placement tests. (A minimum of a 12th grade reading level is required for placement in this course.)

ENG 112 ENGLISH3(3-0)

Normally Offered: F, SP, SUM

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 COMMUNICATIONS3(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.

Corequisite: Enrollment in one of the following programs: Automotive Service & Repair, Computer-Aided Drafting & Design, Concrete Technology, Graphic Arts, Machine Tool Technology.

ENG 121 ENGLISH3(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 and writing skills as determined by the English Department and placement tests.

ENG 122 ENGLISH3(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 COMMUNICATION3(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 MYTHOLOGY3(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 LITERATURE3(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 English or ENG 122 English.

ENG 222 BRITISH LITERATURE II3(3-0)

Normally Offered: On Demand

Continues ENG 221 British Literature I.

Prerequisite: ENG 112 English or ENG 122 English.

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.

ENG 224 AMERICAN LITERATURE II3(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 (even years), 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 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.

ELECTRICAL POWER TECHNOLOGY

EPT 230 POLY-PHASE METERING.....3(2-2)

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.

Corequisite: APP 104E.

FRENCH

FRN 121 FRENCH I.....4(4-0)

Normally Offered: F, SP

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: F, 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 French I or two semesters of high school French.

GEOGRAPHY

GEO 125 GEOGRAPHY3(3-0)

Normally Offered: On Demand

Analysis of characteristics and significance of world land form, climate, soils, vegetations, mineral and water resources, as well as tectonic and glaciation forces.

GEO 126 CULTURAL GEOGRAPHY3(3-0)

Normally Offered: SP

Introduction to the theme of human alterations of the natural scene and creation of cultural landscapes from ancient times to the present.

GEO 127 PHYSICAL GEOGRAPHY.....4(3-2)

Normally Offered: F

Analysis of characteristics and significance of world land forms, climate, soils, vegetation, mineral and water resources, as well as tectonic and glaciation forces. This course includes a laboratory component and complies with MTA requirements.

GEO 151 INTRODUCTION TO GIS.....1.5(1-1)

Normally Offered: 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.

Prerequisite: Satisfactory completion of CSS 098 or a COMPASS Reading score of 81 or above.

GEO 152 ADVANCED GIS.....1.5(1-1)

Normally Offered: SP

Continues utilization of GIS technology in an ArcGIS software environment. Previously learned principles are reviewed and their use expanded. More advanced spatial data analysis, editing, and geocoding concepts and methods are introduced. As a final project, students will collect field data using a GPS unit 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 GERMAN4(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 GERMAN4(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 102 NUTRITION3(3-0)

Normally Offered: FA, SP

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 107 HEALTH CARE ASSISTANT6.9(6.9-0)

Normally Offered: F, SP

This course allows the student to develop the basic skills and knowledge required to provide human services to individuals in a home or institutional setting. Topics include resident rights, communication, infection control, safety, personal care, nutrition, psychosocial care, activity planning, care across the lifespan, problem solving and home management.

Corequisite: CIS 120, ENG 111, NUR 133, HEA 107LC, and HEA 113.

HEA 107LC HEALTH CARE ASSISTANT LAB COURSE.....0.8(0-2.4)

Normally Offered: F, SP

This course allows the student to develop and apply the basic skills required to provide human services to individuals in a home or institutional setting. Skills include standard precautions, hygiene care, infection control, safety measures, activities of daily living, nutrition, psycho-social care, problem solving, and home management.

Corequisite: CIS 120, ENG 111, NUR 133, HEA 107, and HEA 113.

HEA 113 HEALTH CARE ASSISTANT CLINICAL..... 0.8(0-0-2.4)

Normally Offered: F, SP

This course allows the student to practice skills obtained in HEA 107 and 107LC in the extended care environment. Proficiency must be demonstrated in real life situations related but not limited to standard precautions, hygiene care, infection control, safety measures, activities of daily living, nutrition, psycho-social care, problem solving, and home management.

Corequisite: CIS 120, ENG 111, NUR 133, HEA 107, and HEA 107LC.

HISTORY

HST 121 HISTORY OF WESTERN CIVILIZATION.....3(3-0)

Normally Offered: F

Studies the emergence of Europe from the Ancient World through the Dark Ages and Feudalism into the modern state system. Also studies the rise of modern capitalism and the impact of the new emerging social structure upon intellectual and religious life.

HST 122 HISTORY OF WESTERN CIVILIZATION.....3(3-0)

Normally Offered: SP

Studies the revolutionary destruction of the old regimes, the establishment of liberal parliamentary democracies and the rise of the totalitarian movements in the present era of global conflict.

HST 140 UNITED BY WATER: UNDERWATER ARCHAEOLOGY & MARITIME HISTORY3(2-2)

Normally Offered: SU

This course explores the interdisciplinary study of shipwrecks and the maritime landscape found within the Thunder Bay National Marine Sanctuary through the exploration of the maritime history of the Great Lakes and examining how the region played a critical role in the growth of the nation. The course also introduces students to the theory and practice of underwater archaeology. Students will gain hands on experience with archaeological recording techniques and basic underwater archaeological mapping skills. The field techniques used in this course are versatile and skills can be applied in a variety of fields. The course contains practical, hands-on sessions that teach underwater surveying and recording. The practical elements of the course could be held in sheltered open water or on a shore site for non-divers. Diving not required. Completion of course can result in certification(s) from Nautical Archaeology Society.

HST 221 UNITED STATES HISTORY3(3-0)

Normally Offered: F

This course surveys the history of the United States from the period of colonization to reconstruction. The course is designed to achieve breadth of understanding and appreciation for social, political, economic and cultural history of the United States within a global context and while emphasizing the responsibilities of citizenship for students with broad academic and professional interests. The 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.

HST 222 UNITED STATES HISTORY3(3-0)

Normally Offered: SP

Surveys the history of the United States from the period of Civil War reconstruction to the present time. This course is designed to achieve breadth of understanding and appreciation for the social, political, economic and cultural history of the United States within a global context and while emphasizing the responsibilities of citizenship for students with broad academic and professional interests. The topics include the Civil War and its causes, the period of post-war reconstruction, the expansion of industrialization and subsequent implications for the socio-political order, the Gilded Age, the Progressive Era, World War I, the Great Depression and the New Deal, World War II, and the Cold War and Post-Cold War era.

HST 224 HISTORY OF MICHIGAN.....3(3-0)

Normally Offered: F, SP

This course traces the history of Michigan from ancient times through French and British rule. It relates the growth of Michigan as a territory and state within the national union, drawing connections with regional, national and international social, political and economic trends into the present.

HST 225 TWENTIETH CENTURY U.S. HISTORY3(3-0)

Normally Offered: SP (odd years)

This course aims to increase the student's factual and structural knowledge of the social, political, economic and foreign and domestic developments of the United States since 1900, providing great detail and breadth of understanding, appreciation and global context for students with broad academic and professional interests.

HST 227 CONTEMPORARY AMERICAN PROBLEMS3(3-0)

Normally Offered: F, SP

Surveys the current social, political, economic and cultural domestic and international problems facing the United States and the region (state and local) in which the student lives. Ideological, economic, and social factors are stressed within an historical perspective. Considerable emphasis is placed on relating these issues to the student's own local environment and their personal and professional interests.

HST 228 THE CIVIL WAR.....3(3-0)

Normally Offered: SP (odd years)

Introduces the causes of the war between the North and the South. Emphasizes the shifting tide of battle during that period, as well as the subsequent impact of the war on American culture.

HUMANITIES

HUM 110 INTRODUCTION TO OLD TESTAMENT LITERATURE3(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 CINEMA3(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, ideas, concepts and attitudes that are needed to be able to appreciate, describe, interpret and evaluate humanities and art-related artifacts. Special emphasis is placed on the interrelationships among the visual and performing arts, as well as between these arts and other humanities, including literature, history, philosophy and religion.

HUM 242 HUMANITIES II4(4-0)

Normally Offered: SP

Continues to develop the terminology, ideas, concepts, and attitudes that are needed to be able to appreciate, describe, interpret, and evaluate Humanities and art-related artifacts. In addition, Humanities II further emphasizes the interrelationships amongst the arts — including but not limited to sculpture, architecture, painting, and film — and examines how these art forms aid in the process of self-discovery.

Prerequisite: HUM 241 or permission of instructor

INDUSTRIAL

IND 110 INDUSTRIAL ORGANIZATIONS3(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.

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 102 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.

Prerequisite: MTH 110 or MTH 121 and CAD 132 or CAD 150.

LAW

LAW 125 INTRODUCTION TO LEGAL PRINCIPLES AND COURT SYSTEMS3(3-0)

Normally Offered: F

Introduces the American legal system, including the philosophy of law and the principles on which legal rules are based. Shows the origin and development of law, types of law and how they function in society. Examines lawmaking institutions and their evolution in the U.S. with a focus on Michigan courts. Covers the different kinds of substantive law and how one goes about using the law. Emphasis on recognition of legal issues and terminology.

LAW 239 FAMILY LAW4(4-0)

Normally Offered:

Studies areas of family law including marriage contracts, divorce, separation, child custody and support, adoption, child abuse and neglect, guardianship and conservatorship.

Prerequisite: LAW 125

LAW 240 LEGAL RESEARCH AND WRITING I3(3-0)

Normally Offered: F

Introduces legal research, including use of a law library. Students complete research assignments utilizing publications from law library; learn to analyze court opinions and apply them; and write summaries of court opinions, legal memoranda, briefs, appellate briefs and other legal documents. Includes basic legal reasoning and writing skills for organized problem-solving and sets for the scope of language in the law office.

Prerequisite: ENG 112 or ENG 122, CIS 152, LAW 125

LAW 241 LEGAL RESEARCH AND WRITING II3(3-0)

Normally Offered: SP

Reviews principles of legal research, analysis and writing. Introduces computer-assisted research. Students will draft legal memoranda, opinion letters and an appellate brief based on extensive research assignments.

Prerequisite: LAW 125, LAW 240

LAW 242 PROBATE LAW, WILLS, TRUSTS AND ESTATES3(3-0)

Normally Offered: SP

Studies probate law, including wills, estates, estate planning and trusts. Emphasis on document preparation.

Prerequisite: LAW 125 or instructor's permission

LAW 243 LEGAL ASSISTANT PROFESSION AND ETHICS3(3-0)

Normally Offered: SP

In-depth study of Michigan Rules of Professional Conduct and the code of judicial conduct and their application to attorneys, legal assistants and judges. Particular focus on confidentiality, conflict of interest, legal advertising, competency considerations, legal malpractice and the unauthorized practice of law.

Prerequisite: LAW 125

LAW 244 CIVIL PROCEDURE4(4-0)

Normally Offered: F

Provides understanding of civil law procedures with a review of the preparation of basic pleadings, including summons, complaint, answer, counter-complaint, motions, interrogatories and depositions, preparation for trial, court orders and appeals. Methods may be drawn from practical situations in wills, trusts, family law, property law and personal injury.

Prerequisite: LAW 125 or instructor's permission

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 and saws.

MFG 102 MACHINING PROCESSES II6(3-7)

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, 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.

MFG 122 MANUFACTURING PROCESSES3(3-0)

Normally Offered: SP

Provides an overview of how industrial processes manipulate metal and plastic raw materials into finished parts and products. This course deals with types of metals and their basic properties, forging, casting, rolling, powder metallurgy, welding, brazing and soldering, coating and plating, sheet metal processing, heat treating, a variety of processes specific to plastics, the use of gauges and measurements and material testing.

MFG 201 INTRO TO COMPUTER NUMERICAL CONTROL.....6(3-7)

Normally Offered: F

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: MTH 110 Technical Math I, MFG 101 Machining Processes I, or instructor permission.

MFG 202 ADVANCED COMPUTER NUMERICAL CONTROL.....6(3-7)

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: MTH 110 Applied Machinist's Math I, MFG 201 Introduction to Computer Numerical Control or permission of instructor.

MFG 204 COMPUTER-AIDED MANUFACTURING3(2-2)

Normally Offered: F

Provides the student with the basic knowledge of the 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.

Prerequisite: MFG 101 Machining Processes I, basic computer skills or permission of instructor.

MFG 210 GREEN MANUFACTURING AND SUSTAINABILITY3(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 FUNDAMENTALS3(2-2)

Normally Offered: SP

This is a tool design course using Autodesk Inventor software. This course covers types and functions of jigs, CNC fixtures, and check gages. 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.

Prerequisite: CAD 150 or instructor's permission.

MARINE TECHNOLOGY

MRT 101 INTRO TO SUBMERSIBLE ROBOTICS WITH BUILD3(2-2)

Normally Offered: F

An introductory course for anyone with an interest in submersible technology and/or robotics. This course will cover the basic technology, challenges, and application of robotics in lakes and oceans. Student will utilize their diverse skills in a semester long development of a Remotely Operated Vehicle (ROV) that is designed to compete in an international competition. This course is reserved for Marine Technology majors, but is open to all students.

MRT 110 INTRODUCTION TO CAREERS ON THE WATER2(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.

MRT 210 ROV PILOTING2(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. Scores from ACT or ASSET tests will also be used as guides in placing new students in mathematics courses.

MTH 090 ARITHMETIC.....4(4-0)

Normally Offered: F, SP, SUM

Provides a foundation in the four basic operations on whole numbers, fractions, decimals, percentages, and applications of these processes in every day problem solving. A remedial mathematics course using an open classroom approach.

MTH 102 ELEMENTARY ALGEBRA5(5-0)

Normally Offered: F, SP, SUM

Covers natural numbers, signed numbers, fractions, radicals, products, factors, first-degree equations in one and two variables, inequalities, graphing and quadratics. A one-semester remedial course in beginning algebra for those students who have not taken an algebra course or who have a deficiency in first year algebra.

Prerequisite: MTH 090 with a grade of 2.0 or higher, or by COMPASS placement.

MTH 110 TECHNICAL MATH I3(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.

Prerequisite: MTH 090 Arithmetic or equivalent.

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.

Prerequisite: MTH 102 with a grade of 2.0 or better or successful completion of one year of high school algebra.

MTH 112 TECHNICAL MATH II.....3(2-2)

Normally Offered: 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 Technical Math I or permission of instructor.

MTH 113 INTERMEDIATE ALGEBRA4(4-0)

Normally Offered: F, SP, SUM

Reviews the important topics considered in the first year of high school algebra or MTH 102. 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.

Prerequisite: A grade of 2.0 or higher in MTH 102, or by COMPASS placement.

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.

Prerequisite: MTH 090 or satisfactory math placement score.

MTH 116 APPLIED ALGEBRA & TRIGONOMETRY II5(4-2)

Normally Offered: SP

Covers advanced algebra, geometry and trigonometry. Applications of the various topics are made to different technical areas.

Prerequisite: MTH 115.

MTH 117 MATHEMATICS FOR ELEMENTARY TEACHERS II3(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 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 ALGEBRA4(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 TRIGONOMETRY3(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: A grade of 2.0 or higher in MTH 113 or one-and-one-half years of high school algebra with a grade of 2.0 or higher.

MTH 123 COLLEGE ALGEBRA AND ANALYTIC TRIGONOMETRY..4(4-0)

Normally Offered: F, SP

Covers sets, inequalities, functions, and inverse functions, real and complex number systems, introduction to coordinate geometry, trigonometric identities and functions, trigonometric equations, elementary theory of equations, progressions, mathematical induction, determinants, matrices, permutations, combinations and the binomial theorem. Offered for students who intend to enter the analytic geometry and calculus sequence, but who do not meet the necessary prerequisites.

Prerequisite: A grade of 2.0 or higher in MTH 113 and MTH 122, or one-and-one-half years of high school algebra and one semester of high school trigonometry with a grade of 2.0 or higher.

MTH 130 CALCULUS FOR BUSINESS/SOCIAL SCIENCES4(4-0)

Normally Offered: On Demand

This course continues the study of mathematical applications in Business and social sciences beyond the finite linear forms of MTH 121 College Algebra into a variety of non-linear forms. Functional analysis, differentiation, applications of derivatives, antidifferentiation, applications in integration, and functions of two variables are studied.

Prerequisite: MTH 121 or MTH 123 or instructor permission.

MTH 131 ANALYTIC GEOMETRY AND CALCULUS I5(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: SP

Includes transcendental functions, techniques of integration, analytic geometry, polar coordinates, parametric equations and infinite series.

Prerequisite: MTH 131 with a grade of 2.0 or higher.

MTH 221 C++ PROGRAMMING.....3(2-2)

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.

Prerequisite: MTH 123 or above.

MTH 223 STATISTICAL METHODS4(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.

MTH 231 ANALYTIC GEOMETRY AND CALCULUS III5(5-0)

Normally Offered: F

This course covers vectors, vector-valued functions and motion in space, linear algebra, partial differentiation, multiple integrals, vector calculus, and complex numbers and functions.

Prerequisite: MTH 132 with a grade of 2.0 or higher.

MTH 232 DIFFERENTIAL EQUATIONS4(4-0)

Normally Offered: SP

Required course for students majoring in engineering, mathematics, and physics. The course includes equations of order one with applications, linear equations with constant coefficients (homogeneous and nonhomogeneous), variation of parameters, inverse differential operators, systems of equations, Laplace transforms with applications, and power series solutions.

Prerequisite: MTH 231 with a grade of 2.0 or higher.

MEDICAL ASSISTING

MED 222 MEDICATION ADMINISTRATION FOR MEDICAL ASSISTANTS3(3-0)

Normally Offered: F

Teaches the student how to measure and calculate drug dosages, techniques of medication administration, and the laws that specify the condition under which medical assistants may administer drugs.

Prerequisite: Must be a student in the Medical Assistant program. BIS 220 with a grade of 2.0 or higher. COMPASS placement in MTH 102 or completion of MTH 090.

Corequisite: MED 223

MED 223 MEDICAL ASSISTANT CLINICAL LAB.....7.5(6-3)

Normally Offered: F

Equips students with skills for the medical assistant to prepare patients and to assist the physician with routine physical exams in the office or clinic. Emphasizes patient preparation, accuracy in test performance and safety in the laboratory according to current guidelines. Includes theory and procedures for microbiology, urinalysis, electrocardiography and hematology.

Prerequisite: Must be a student in the Medical Assistant program. BIS 220 with a grade of 2.0 or higher. COMPASS placement in MTH 102 or completion of MTH 090.

Corequisite: MED 222.

MED 224 MEDICAL ASSISTANT CLINICAL PRACTICUM6(0-12)

Normally Offered: SP

Provides practical educational/work experience in a selected physician's office or health care facility. The student is supervised and evaluated by qualified/licensed medical personnel. The student applies knowledge in performing administrative and clinical procedures and in developing professional attitudes for interacting with other professionals and consumers in the health field.

Prerequisite: Students are required to complete physical exam requirements as stated in the Medical Assistant Handbook prior to registration. Must be a student in the Medical Assistant program. MED 222 and MED 223 with a grade of 2.0 or higher.

METALLURGY

MET 134 INTRODUCTION TO WELDING TECHNIQUES2(1-2)

Normally Offered: On Demand

This course provides students with an introductory course in welding techniques, equipment and applications. The course is offered inside of Moran Iron Works in Onaway, MI, a nationally recognized welding business.

MET 135 INTERMEDIATE WELDING1.5(0.75-1.5)

Normally Offered: On Demand

This course provides students with an intermediate course in welding techniques, equipment and applications leading to one or more welding certifications. The course is offered inside of Moran Iron Works in Onaway, MI, a nationally recognized welding business.

Prerequisite: MET 134.

MET 138 AMERICAN WELDING SOCIETY LEVEL I4(2-4)

Normally Offered: F, SP

This course will cover advanced welding, preparing the student to pass the American Welding Society Level I entry-level welding program. Projects will consist of welding in the flat, horizontal, vertical and overhead positions. This is a follow-on course to provide the student with more time to finish the weldments that have not been completed in prior coursework.

Prerequisite: MET 123 or MET 124 or instructor permission.

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.

MET 238 AMERICAN WELDING SOCIETY LEVEL II.....4(2-4)

Normally Offered: F, SP

This course will cover advanced pipe welding, preparing the student to pass the AWS Level II Advanced Welding program. Projects will consist of welding in the flat, horizontal, vertical and overhead positions. Fabricating and testing of pipe weld samples will also be covered. This is a follow-on course to provide the student with more time to finish the weldments that have not been completed in prior coursework.

Prerequisite: MET 240.

MUSIC

MUS 110 MUSIC APPRECIATION3(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 lesson 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.

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 II2(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 THEORY4(4-0)

Normally Offered: F, SP

Studies the elements of musical notation, ear training and part-writing techniques. This is a fundamental course. Theory is recommended of all students who expect to continue in music after leaving Alpena Community College, whether majoring or minoring in music.

MUS 126 MUSIC THEORY4(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 I2(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

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 133 DOSAGE CALCULATIONS1.5(1.5-0)

Normally Offered: F, SP, SUM

This course introduces the concept of dimensional analysis as a means of solving nursing mathematics problems. Abbreviations, conversion factors, simple and advanced calculations will be covered. This is a prerequisite course for the Level I nursing program.

Corequisite: BIO 201, BIO 201L, ENG 111, CEM 111, CEM 111L.

NUR 135 TRANSITION TO PRACTICE.....1(1-0)

Normally Offered: F, SP

This course presents opportunities to gain knowledge and skills necessary to transition from student to entry level practicing nurse. Content includes a discussion of current issues in health care, practical nursing 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: CEM 111, CEM 111L, ENG 111, BIO 201, BIO 201L, NUR 133, NUR 140, NUR 140LC, NUR 142, NUR 143, NUR 128, BIO 203, BIO 203L.

Corequisite: NUR 152, NUR 152LC, NUR 153, NUR 156, NUR 150, NUR 150LC, NUR 151, NUR 157.

NUR 140 FOUNDATIONS OF NURSING3(3-0)

Normally Offered: F, SP

This course is an introduction to nursing care stressing the importance of providing holistic care and valuing the culturally diverse clients that are experienced throughout the healthcare system. This course introduces nursing theory and expands on the practical nurse role with an emphasis on critical thinking. The principles and skills of nursing practice as applied to common physical and psychosocial manifestations of illness are taught. Additional topics include demonstrating professionalism by maintaining confidentiality, recognizing legal/ethical responsibilities, acting as a patient advocate, maintaining positive patient/colleague relationships, and implementing appropriate standards of care.

Prerequisite: CEM 111, CEM 111L, ENG 111, BIO 201, BIO 201L.

Corequisite: BIO 203, BIO 203L, NUR 128, NUR 140LC, NUR 142, NUR 143.

NUR 140LC NURSING FOUNDATIONS LAB1(0-3)

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 practical nurse.

Prerequisite: CEM 111, CEM 111L, ENG 111, BIO 201, BIO 201L.

Corequisite: BIO 203, BIO 203L, NUR 128, NUR 140, NUR 142, NUR 143.

NUR 141 FOUNDATIONS LAB.....2(0-6)

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 practical nurse.

Prerequisite: Must be admitted to Level I of the Nursing Program; BIO 201, BIO 203, BIO 227, CEM 111, ENG 111, PSY 101.

Corequisite: NUR 128, NUR 133, NUR 140, NUR 142, NUR 143, NUR 152

NUR 142 MEDICAL SURGICAL NURSING I.....2.5(2.5-0)

Normally Offered: F, SP

This course continues to build on 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: CEM 111, CEM 111L, ENG 111, BIO 201, BIO 201L, NUR 133.

Corequisite: BIO 203, BIO 203L, NUR 128, NUR 140, NUR 140LC, NUR 143.

NUR 143 MEDICAL SURGICAL NURSING CLINICAL I.....2(0-6)

Normally Offered: F, SP

The student will have the opportunity to provide direct patient care to the adult resident in the long term care (LTC) environment strengthening his/her understanding of the nursing process, nursing theory, patient care data collection and fundamental skills. Management of disease processes related to various body systems will be emphasized with the expectation of consistent use of the nursing process addressing the physiological, psychosocial and emotional needs of the client. Strategies that enhance critical thinking and problem solving skills are incorporated into the curriculum.

Prerequisite: CEM 111, CEM 111L, ENG 111, BIO 201, BIO 201L.

Corequisite: BIO 203, BIO 203L, NUR 128, NUR 140, NUR 140LC, NUR 142.

NUR 150 MEDICAL SURGICAL NURSING II2.5(2.5-0)

Normally Offered: F, SP

This course continues to build on 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 201, BIO 201L, ENG 111, CEM 111, CEM 111L, NUR 133, NUR 128, NUR 140, NUR 140LC, NUR 143, NUR 142, BIO 203, BIO 203L.

Corequisite: NUR 152, NUR 152LC, NUR 153, NUR 135, NUR 150LC, NUR 151, NUR 156, NUR 157.

NUR 150LC MEDICAL SURGICAL NURSING LAB5(0-1.5)

Normally Offered: F, SP

This is a simulated clinical course with experiences that will provide the student with the opportunity to apply basic nursing knowledge and skills in a lab setting. Students will practice a variety of data gathering skills. Communication skills will be emphasized. Students will discuss concepts of delegation, professionalism, evidence-based practice, patient-centered care, teamwork, safety, informatics and quality improvement.

Prerequisite: BIO 201, BIO 201L, ENG 111, CEM 111, CEM 111L, NUR 133, NUR 128, NUR 140, NUR 140LC, NUR 143, NUR 142, BIO 203, BIO 203L.

Corequisite: NUR 152, NUR 152LC, NUR 153, NUR 135, NUR 150, NUR 151, NUR 156, NUR 157.

NUR 151 MEDICAL SURGICAL NURSING CLINICAL II 1.5(0-0-4.5)

Normally Offered: F, SP

The student will introduce the opportunity to provide direct patient care to the adult population in the hospital 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: CEM 111, CEM 111L, ENG 111, BIO 201, BIO 201L, BIO 203, BIO 203L, NUR 128, NUR 140, NUR 140LC, NUR 142, NUR 143.

Corequisite: NUR 135, NUR 150, NUR 150LC, NUR 152, NUR 152LC, NUR 153, NUR 156, NUR 157.

NUR 152 OB/REPRODUCTIVE HEALTH/PEDS THEORY2(2-0)

Normally Offered: F, SP

This course provides the theoretical background to prepare the Level I nursing student to care for women in all phases of the reproductive cycle and all aspects of newborn care in the delivery room and newborn nursery.

Prerequisite: CEM 111, CEM 111L, ENG 111, BIO 201, BIO 201L, BIO 203, BIO 203L, NUR 128, NUR 140, NUR 140LC, NUR 142, NUR 143.

Corequisite: NUR 135, NUR 150, NUR 150LC, NUR 151, NUR 152LC, NUR 153, NUR 156, NUR 157.

NUR 152LC OB/REPRODUCTIVE HEALTH/PEDS LAB5(0-1.5)

Normally Offered: F, SP

Building on the information learned in NUR 152, this course allows the student to practice the application of the nursing process as it applies to the care of the childbearing and child rearing family. Clinical practice scenarios regarding the normal process of pregnancy, labor and delivery and postpartum will be presented. The needs of the expectant and new mother, newborn, and pediatric patient will be incorporated into lab sessions. Students will be covering both physical and emotional aspects of care. Reproductive care across the lifespan is demonstrated, including factors influencing this process. Basic principles of human growth and development and care of the ill and hospitalized child will be addressed.

Prerequisite: CEM 111, CEM 111L, ENG 111, BIO 201, BIO 201L, BIO 203, BIO 203L, NUR 128, NUR 140, NUR 140LC, NUR 142, NUR 143.

Corequisite: NUR 128, NUR 133, NUR 140, NUR 141, NUR 142, NUR 143, NUR 144.

NUR 153 OB/REPRODUCTIVE HEALTH/PEDS CLINICAL..... 1(0-0-3)

Normally Offered: F, SP

Building on the information learned in NUR 152 and 152LC, this course allows the student to participate in the application of the nursing process as it applies to the care of the childbearing and child rearing family. Clinical patient care assignments will focus on the normal process of pregnancy, labor and delivery and postpartum care. The needs of the expectant and new mother, newborn, and pediatric patient will be incorporated into clinical assignments. Students will be performing both physical and emotional assessments of their patients. Reproductive care across the lifespan will be observed, including factors influencing this process. Basic principles of human growth and development and care of the ill and hospitalized child will be addressed.

Prerequisite: CEM 111, CEM 111L, ENG 111, BIO 201, BIO 201L, NUR 133, NUR 140, NUR 140LC, NUR 142, NUR 143, NUR 128, BIO 203, BIO 203L.

Corequisite: NUR 152, NUR 153, NUR 156, NUR 135, NUR 150, NUR 150LC, NUR 151, NUR 157.

NUR 157 MEDICAL SURGICAL NURSING CLINICAL III..... 1.5(0-0-4.5)

Normally Offered: F, SP

This course continues the practice of nursing care in the acute care clinical setting. Students will successfully manage a team of patients in the LPN role.

Prerequisite: CEM 111, CEM 111L, ENG 111, BIO 201, BIO 201L, BIO 203, BIO 203L, NUR 128, NUR 140, NUR 140LC, NUR 142, NUR 143.

Corequisite: NUR 135, NUR 150, NUR 150LC, NUR 151, NUR 152, NUR 152LC, NUR 153, NUR 156.

NUR 158 PHARMACOLOGY.....3(3-0)

Normally Offered: F, SP

This course involves the study of the effect of specific medications on the body systems and ways to promote therapeutic effects, recognize and treat side effects or toxic effects.

Prerequisite: CEM 111, CEM 111L, ENG 111, BIO 201, BIO 201L, NUR 133, BIO 203, BIO 203L, NUR 140, NUR 140L, NUR 142, NUR 143.

Corequisite: NUR 135, NUR 150, NUR 150LC, NUR 151, NUR 152, NUR 152LC, NUR 153, NUR 157.

NUR 234 HEALTH CARE THERAPIES I2(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 III2.5(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 240 ADVANCED MEDICAL SURGICAL I THEORY2(2-0)

Normally Offered: F, SP

This course provides the theoretical background to prepare the Level II nursing student to provide holistic care for adult patients with common acute and chronic medical/surgical problems.

Prerequisite: BIO 201, BIO 201L, ENG 111, CEM 111, CEM 111L, NUR 133, all Level I NUR courses.

Corequisite: BIO 140, BIO 140L, NUR 240LC, NUR 241, NUR 242, NUR 242LC, NUR 243, NUR 244, NUR 244LC.

NUR 240LC ADVANCED MEDICAL SURGICAL I LAB 5(0-1.5)

Normally Offered: F, SP

This simulated clinical experience will assist the student to apply foundational and technically oriented nursing care. The practice of complex physical assessment skills will enable the student to incorporate significant information when applying nursing knowledge to various patient situations. Students will demonstrate the concepts of delegation, professionalism, evidence-based practice, patient-centered care, teamwork, safety, informatics and quality improvement.

Prerequisite: All courses contained in Level I nursing curriculum, BIO 201, BIO 201L, ENG 111, CEM 111, CEM 111L, NUR 133.

Corequisite: NUR 240, NUR 241, NUR 242, NUR 242LC, NUR 244, NUR 244LC, NUR 243, BIO 140, BIO 140L.

**NUR 241 ADVANCED MEDICAL SURGICAL NURSING
CLINICAL I..... 1.5(0-0-4.5)**

Normally Offered: F, SP

This clinical course provides experiential learning opportunities that provide the fundamental skills of the registered nurse including basic team leading, physical and psychosocial assessment, and introduction to management and delegation. Emphasis will also be placed on interdisciplinary communication. These experiences will be obtained in both the acute care and ambulatory surgery settings where the students will begin to provide collaborative and holistic nursing care to medical/surgical patients with complex health care needs.

Prerequisite: CEM 111, CEM 111L, ENG 111, BIO 201, BIO 201L, NUR 133, all Level I NUR courses.

Corequisite: BIO 140, BIO 140L, NUR 240, NUR 240LC, NUR 242, NUR 242LC, NUR 243, NUR 244, NUR 244LC.

NUR 242 ADVANCED PARENT/CHILD NURSING THEORY 2.5(2.5-0)

Normally Offered: F, SP

Building on information learned in NUR 152 and NUR 153, 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 and patient education. The concepts of growth and development will be discussed as they relate anticipatory guidance specific to age groups from infancy through adolescence.

Prerequisite: All Level I NUR courses, CEM 111, CEM 111L, ENG 111, BIO 201, BIO 201L, NUR 133.

Corequisite: BIO 140, BIO 140L, NUR 242LC, NUR 243, NUR 244, NUR 244LC, NUR 240, NUR 240LC, NUR 241.

NUR 242LC ADVANCED PARENT/CHILD NURSING LAB 4(0-1.2)

Normally Offered: F, SP

Building on information learned in NUR 152 and NUR 153, this course will provide opportunities to practice clinical skills, in a laboratory setting, which can 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 and patient education. The concepts of growth and development will be discussed as they relate anticipatory guidance specific to age groups from infancy through adolescence.

Prerequisite: All Level I NUR courses, CEM 111, CEM 111L, ENG 111, BIO 201, BIO 201L, NUR 133.

Corequisite: BIO 140, BIO 140L, NUR 242, NUR 243, NUR 244, NUR 244LC, NUR 240, NUR 240LC, NUR 241.

NUR 243 ADVANCED PARENT/CHILD NURSING CLINICAL.... 1.1(0-0-3.3)

Normally Offered: F, SP

This course is a continuation of Advanced Parent/Child Nursing Theory and Lab in which challenging concepts of caring for women during labor, delivery, and the postpartum period as well as to newborns in the delivery room and newborn nursery will be explored. Complex care of women admitted for conditions related to reproductive health will be included. Supplemental learning experiences will be offered through area agencies dealing with women's health and pediatric issues.

Prerequisite: All Level I NUR courses, CEM 111, CEM 111L, ENG 111, BIO 201, BIO 201L, NUR 133.

Corequisite: BIO 140, BIO 140L, NUR 242, NUR 242LC, NUR 244, NUR 244L, NUR 240, NUR 240LC, NUR 241.

NUR 244 PHYSICAL ASSESSMENT1(1-0)

Normally Offered: F, SP

This course is designed to teach the student a health oriented 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: All courses contained in Level I nursing curriculum, BIO 201, BIO 201L, ENG 111, BIO 203, CEM 111, CEM 111L, NUR 133.

Corequisite: NUR 240, NUR 240L, NUR 241, NUR 242, NUR 242LC, NUR 244LC, NUR 243, BIO 140, BIO 140L.

NUR 244LC PHYSICAL ASSESSMENT LAB1(0-3)

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 assessments findings of every major body system. Students will be able to utilize critical thinking skills in identifying health alterations, interpreting abnormalities, formulating nursing diagnoses, and documenting findings appropriate to nursing.

Prerequisite: All courses contained in Level I nursing curriculum, BIO 201, BIO 201L, ENG 111, BIO 203, CEM 111, CEM 111L, NUR 133.

Corequisite: NUR 240, NUR 240LC, NUR 241, NUR 242, NUR 242LC, NUR 244, NUR 243, BIO 140, BIO 140L.

**NUR 249 ADVANCED MEDICAL SURGICAL NURSING
THEORY II2 (2-0)**

Normally Offered: F, SP

This course is a continuation of NUR 240 which provides the theoretical background to prepare the Level II nursing students to provide holistic care for adult patients with common acute and chronic medical/surgical problems.

Prerequisite: CEM 111, CEM 111L, ENG 111, BIO 201, BIO 201L, NUR 133, all Level I NUR courses, BIO 140, BIO 140L, NUR 240, NUR 240LC, NUR 241, NUR 242, NUR 242LC, NUR 243, NUR 244, NUR 244LC.

Corequisite: PLS 221/222, ENG 112, NUR 249LC, NUR 250, NUR 252, NUR 253, NUR 255, NUR 257.

NUR 249LC ADVANCED MEDICAL SURGICAL II LAB..... 5(0-1.5)

Normally Offered: F, SP

This course provides an opportunity to enhance nursing practice skills through managing nursing care of a group of hospitalized patients. Students will expand on the concepts of delegation, professionalism, evidence-based practice, patient-centered care, teamwork, safety, informatics and quality improvement. Providing care, managing care and functioning as a member of a health care team will be the main focus to prepare the student for entry level Associate Degree Nursing practice.

Prerequisite: All courses contained in Level I nursing curriculum, BIO 201, BIO 201L, ENG 111, BIO 203, CEM 111, CEM 111L, NUR 133, NUR 240, NUR 240LC, NUR 241, NUR 242, NUR 242LC, NUR 244, NUR 244LC, NUR 243, BIO 140, BIO 140L.

Corequisite: PLS 221/222, ENG 112, NUR 255, NUR 253, NUR 249, NUR 250, NUR 257, NUR 252.

**NUR 250 ADVANCED MEDICAL SURGICAL NURSING
CLINICAL II 1.5(0-0-4.5)**

Normally Offered: F, SP

This course provides experiential learning experiences to prepare the Level II nursing student with knowledge of techniques used to perform culturally congruent health assessments on adult patients with acute and chronic medical/surgical problems. An emphasis will be placed on coordination of care. The acute care setting will be utilized to expand existing knowledge and skills as well as develop beginning skills as a team leader and provider of primary care.

Prerequisite: All courses contained in Level I nursing curriculum, BIO 201, BIO 201L, ENG 111, CEM 111, CEM 111L, NUR 133, NUR 240, NUR 240LC, NUR 242, NUR 242LC, NUR 244, NUR 244LC, NUR 243, BIO 140, BIO 140L.

Corequisite: PLS 221/222, ENG 112, NUR 255, NUR 252, NUR 253, NUR 249, NUR 249LC, NUR 257.

NUR 252 PSYCHIATRIC NURSING THEORY.....2(2-0)

Normally Offered: F, SP

This course provides the theoretical background to prepare the Level II nursing student to provide care for clients with acute and chronic psychiatric disorders, and chemical dependency problems.

Prerequisite: CEM 111, CEM 111L, ENG 111, BIO 201, BIO 201L, NUR 133, all Level I NUR courses, BIO 140, BIO 140L, NUR 240, NUR 240LC, NUR 241, NUR 242, NUR 242LC, NUR 243, NUR 244, NUR 244LC.

Corequisite: PLS 221/222, ENG 112, NUR 249, NUR 249LC, NUR 250, NUR 253, NUR 255, NUR 257.

NUR 253 PSYCHIATRIC NURSING CLINICAL1.5 (0-4.5)

Normally Offered: F, SP

This is a clinical course with experience on an acute inpatient behavioral health unit, a residential drug and alcohol treatment program, and a community setting for the chronically mentally ill members. 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: CEM 111, CEM 111L, ENG 111, BIO 201, BIO 201L, NUR 133, all Level I NUR courses, BIO 140, BIO 140L, NUR 240, NUR 240LC, NUR 241, NUR 242, NUR 242LC, NUR 243, NUR 244, NUR 244LC.

Corequisite: PLS 221/222, ENG 112, NUR 249, NUR 249LC, NUR 250, NUR 252, NUR 255, NUR 257.

NUR 255 NURSING LEADERSHIP1.5(1.5-0)**Normally Offered: F, SP**

This 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: CEM 111, CEM 111L, ENG 111, BIO 201, BIO 201L, NUR 133, all Level I NUR courses, BIO 140, BIO 140L, NUR 240, NUR 240LC, NUR 241, NUR 242, NUR 242LC, NUR 243, NUR 244, NUR 244LC.

Corequisite: PLS 221/222, ENG 112, NUR 249, NUR 249LC, NUR 250, NUR 252, NUR 253, NUR 257.

**NUR 257 ADVANCED MEDICAL SURGICAL NURSING
CLINICAL III 1.5(0-0-4.5)****Normally Offered: F, SP**

Building on skills learned in Medical/Surgical I and II and incorporating material from NUR 240 and NUR 249, the focus of this clinical rotation will be on coordination of care, advanced physical and psychosocial assessment of patients, and team leading. During this rotation the student will spend time in the intensive care unit and the emergency department. By the end of this rotation the student will be expected to manage a full team of patients on a medical/surgical unit in the acute care setting.

Prerequisite: All courses contained in Level I nursing curriculum, BIO 201, BIO 201L, ENG 111, CEM 111, CEM 111L, NUR 133, NUR 240, NUR 240LC, NUR 242, NUR 242LC, NUR 244, NUR 244LC, NUR 243, BIO 140, BIO 140L.

Corequisite: PLS 221/222, ENG 112, NUR 255, NUR 253, NUR 249, NUR 249LC, NUR 250, NUR 252

PHYSICAL EDUCATION & HEALTH FITNESS**PEH 104 OPEN WATER DIVER1(0.5-1)****Normally Offered: SUM**

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: SUM**

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, SUM**

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 II2(0-3)

Normally Offered: F, SP, SUM

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.

PEH 181 YOGA FOR FITNESS I2(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 II2(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 200 COLLEGE SPORTS1(0-2)

Normally Offered: F, SP

Includes student athletes who participate or manage in the following sports: basketball, softball, cross-country, track, or golf. A student must sign up for this course and complete the entire sports season of his/her choice in order to be granted a credit. Students will develop beginning level skills necessary for success in college level athletics such as teamwork, strength, agility, conditioning, and following detailed instructions. The coach of each of the respective sports is responsible for deciding if a student has successfully satisfied the sports season requirement.

Prerequisite: None, except participation in varsity athletics as a player or manager.

PEH 206 COLLEGE SPORTS1(0-2)

Normally Offered: F, SP

College Sports 206 is a continuation of College Sports 200 and is designed to further develop important intermediate level skills necessary for success in college level athletics such as teamwork, strength, agility, conditioning, and following detailed instructions. Additionally, these skills will be discussed in terms of their benefits relative to life after college sports.

Prerequisite: PEH 200.

PEH 247 ADVANCED KARATE TANG SOO DO II2(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/AED1(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.

PERFORMING ARTS

PFA 101 INTRODUCTION TO DANCE3(3-0)

Normally Offered: On Demand

This course will introduce the student to the basic components in ballet and jazz techniques.

PFA 102 DANCE II3(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

Acting I will focus on improvisation, creative dramatics and basic acting skills.

PFA 110 ACTING II3(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 IV3(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 IV3(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 REASON3(3-0)

Normally Offered: F, SP

Develops the student's problem solving and 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, etc. 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 PHILOSOPHY3(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.

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 defensible 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 SCIENCE4(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.

Prerequisite: MTH 102 with a grade of 2.0 or higher, or consent of instructor.

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: Elementary 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 112 APPLIED PHYSICS.....3(2-2)

Normally Offered: F

Includes topics in sound, wave motion, electricity, magnetism, light, optics, atomic and nuclear physics.

Prerequisite: One year of elementary algebra and preferably high school physics.

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 or the equivalent college mathematics courses. 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 ASTRONOMY3(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.

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, SUM

Introduces U.S. politics and government at the national level while providing local, state and international context. Fosters breadth of understanding and appreciation for the structure of the political process and the responsibilities of citizenship for students with broad academic and professional interests. Emphasis is placed on the nature of representative democracy, political philosophies, the U.S. Constitution and its historical evolution, federalism, and practical politics, including political behavior, political parties and interest groups.

PLS 222 STATE AND LOCAL GOVERNMENT3(3-0)

Normally Offered: F

Studies 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 the formal institutions of government at the state level as well as county, township, city, and village government and the challenges facing each level of government within the federal system of the United States. Special attention is given to practical application of individual involvement in civic engagement at the local level as it applies to the student's role and their professional pursuits in a participatory social and political system.

PLS 228 INTERNATIONAL RELATIONS.....3(3-0)

Normally Offered: F

Provides a broad and comprehensive survey of the historical, social, cultural, economic and political characteristics of modern international political systems and relations among nation-states throughout the world, including such organizations as the United Nations and NATO and regions such as the Middle East, Africa, the Indian sub-continent, Asia, Europe and the Americas, placing the United States within a larger international context. Considers relations among nations from a regional perspective and the larger trends in contemporary global politics.

PLS 230 COMPARATIVE GOVERNMENT3(3-0)

Normally Offered: SP

Studies governmental structures, practices and ideological foundations of democratic and non-democratic countries, inclusive of Britain, France, Germany, China and Iran, in comparison with one another and the United States. Consideration is given to the scientific methodology of comparative study of politics, nation-states and their development, state institutions (parliamentary versus presidential systems), democracy, political ideologies, electoral systems, political parties, interest groups, political culture and political economy.

PSYCHOLOGY

PSY 101 GENERAL PSYCHOLOGY3(3-0)

Normally Offered: F, SP, SUM

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 PSYCHOLOGY3(3-0)

Normally Offered: F, SP, SUM

This course covers the physiological 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 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 and ENG 111 or instructor permission.

PSY 241 SOCIAL PSYCHOLOGY.....3(3-0)

Normally Offered: F, SP

This course begins with a discussion surrounding the methods used to study social psychology. Then, we will look at how we view ourselves and others by examining the accuracy of our impressions, institutions, and explanations. In part three, we will explore the cultural sources of our attitudes to better recognize the social forces at work upon us. Finally, part four focuses on social relations. Our discussions will be directed at subjects such as prejudice, aggressions, attraction, altruism, conflict, and peacemaking.

Prerequisite: PSY 101 and ENG 111 or instructor permission.

PSY 242 ABNORMAL PSYCHOLOGY3(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 and ENG 111 or instructor permission.

SOCIOLOGY

SOC 110 INTRODUCTION TO SOCIAL WORK.....3(3-0)

Normally Offered: SP (odd years)

This is an exploratory course that introduces students to the profession and practice of social work and examines the history, principles, functions, and knowledge base of social work.

Corequisite OR Prerequisite: SOC 123.

SOC 123 INTRODUCTION TO SOCIOLOGY3(3-0)

Normally Offered: F, SP, SUM

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.

Prerequisite: A score of 81 or higher on COMPASS reading test or composite score of 20 or higher on ACT.

SOC 210 SOCIAL INEQUALITY: RACE, CLASS AND GENDER3(3-0)

Normally Offered: Fall (even years), SP

Race, ethnicity, class, and gender have all been, and continue to be, significant areas of social difference and discrimination in American society. This course will examine contemporary social conditions as they relate to race, ethnicity, class, and gender. The course will also address the ways in which these three elements are interconnected and how the interconnection of these three elements serves to further complicate social difference in America.

Prerequisite: SOC 123 or instructor permission.

SOC 227 SOCIOLOGY OF MARRIAGE AND THE FAMILY3(3-0)

Normally Offered: SP (odd years)

This course will involve an analysis of the social construction and social experience of marriage and the family as institutions. The course will explore the concepts of marriage and the family as important cornerstones that structure social interactions at various levels, and especially relations of power and inequality in society.

Prerequisite: SOC 123.

SOC 252 GREAT BOOKS ON LEADERSHIP3(3-0)

Normally Offered: SP

Helps prepare students to assume increasingly responsible leadership roles in their personal, professional, community and academic lives. Focus on significant theories of leadership and fellowship; includes experiential learning opportunities in which the students will practice leadership in action. Readings based in the great books of western civilization series provide a broad cultural perspective. This course satisfies associate degree general education requirements for either Group III Social Science or Group IV Humanities, but may not be used for both.

SPEECH

SPE 121 SPEECH COMMUNICATION.....3(3-0)

Normally Offered: F, SP, SUM

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 LITERATURE3(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 SPANISH1(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 SPANISH4(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 SPANISH4(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, SUM

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 STRATEGIES1(1-0)

Normally Offered: F, SP

Students learn how to create a professional resume, cover letter and job search strategies as well as interviewing techniques; also, they learn how to use Internet sites to find jobs in their field of study and post resumes electronically. Students complete a job search portfolio containing documents required for an effective job search and interview. A variety of course activities promote students' understanding of the competitive job market and how to effectively present their "best self" to prospective employers.

UTILITY TECHNICIAN

UTT 101 INTRODUCTION TO THE UTILITY INDUSTRY5(.5-0)

Normally Offered: F

Orients student 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.

Corequisite: UTT 102.

UTT 110 LINE MECHANIC LAB I6(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.

Corequisite: UTT 102, UTT 103, UTT 203.

UTT 201 TEST EQUIPMENT & TROUBLE SHOOTING1(1-0)

Normally Offered: SP

Provides an orientation to, and hands on operation of, test and troubleshooting equipment used in the utility industry.

Prerequisite: UTT 103.

Corequisite: UTT 210.

UTT 202 TRANSFORMER FUNDAMENTALS2(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.

Corequisite: 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

Orients student to the design and operation of an electrical utility system from point of generation, transmission, distribution, to end user.

Corequisite: UTT 201, UTT 202.

UTT 206 EQUIPMENT/VEHICLE OPERATION2(1-2)

Normally Offered: SP

Orients student to equipment and vehicles common to the utility industry.

**UTT 207 ENVIRONMENTAL CONCERNS OF THE UTILITY
INDUSTRY1(1-0)**

Normally Offered: SP

Discusses safety procedures to be used in environmental concerns, such as oil spills, hazardous waste, and material safety data sheet - personal safety.

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.

Corequisite: 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.

Corequisite: UTT 201, UTT 202, and UTT 208.

UTT 221 LINE WORKER ORIENTATION1.5(1-1)

Normally Offered: During Christmas Break or Summer Semester

The purpose of this class is to give prospective lineman apprentice candidates a good demonstration of the work they will be required to do as an apprentice and journeyman line worker. Students will be given an introduction to the physical aspects and mental disciplines required to perform the duties of a line worker with demonstrations and physical tests.

Prerequisite: College reading level.

UTT 222 ELECTRIC BASIC LINE CLIMBING4(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 WORKER5(2-6)

Normally Offered: SU

This course is designed to provide students with the basic Gound/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 WORKER5(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.

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 PROCESSES4(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 240 GAS TUNGSTEN ARC AND PIPE WELDING4(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 FABRICATION3(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 WELDING5(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 PROCEDURES5(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.

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: 1-800-621-7440

Michigan Commission on College Accreditation

The **Association of Collegiate Business Schools and Programs** has accredited the following Alpena Community College associate in applied science degree programs: Accounting, Business Information Systems (including the Administrative Assistant, Medical Information Specialist, Office Information Technology Specialist, and Office Manager programs), Business Management, and Network Administration.

The Alpena Community College Medical Assisting Program is accredited by the **Commission on Accreditation of Allied Health Education Programs** (www.caahep.org), upon the recommendation of the Medical Assistant Educational Review Board (MAERB).

Commission on Accreditation of Allied Health Education Programs

1361 Park Street

Clearwater, FL 33756

Phone: 727-210-2350

FAX: 727-210-2354

Website: www.caahep.org

Medical Assistant Educational Review Board (MAERB)

20 N. Wacker Dr., Ste. 1575

Chicago, IL 60606

Phone: 800-228-2262

Website: www.maerb.org

The **Michigan Board of Nursing** has approved the following Alpena Community College programs: certificate in Licensed Practical Nursing; and associate in applied science degree in Registered Nursing. Alpena Community College's Nursing Program is a candidate for accreditation from the Accreditation Commission for Education in Nursing (ACEN).

Accreditation Commission for Education in Nursing (ACEN)
3343 Peachtree Road NE, Suite 850
Atlanta, Georgia, 30326
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 meet lifelong learning needs by providing educational opportunities through effective stewardship of resources.

Alpena Community College Goals

1. Present and position ACC as a compelling, attractive institution of choice for all learners
2. Achieve excellence in program areas of transfer, occupational/technical, developmental, community and continuing education
3. Serve as a primary center for regional economic development, diverse programming, recreational/wellness opportunities, and cultural enrichment
4. Foster an environment of learning that embraces change, cultural diversity, personal accountability, and global thinking
5. Conduct college business with a view to developing partnerships and alliances to expand learning opportunities

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.

A home of its own

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.

An 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 Huron Shores 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 services 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.

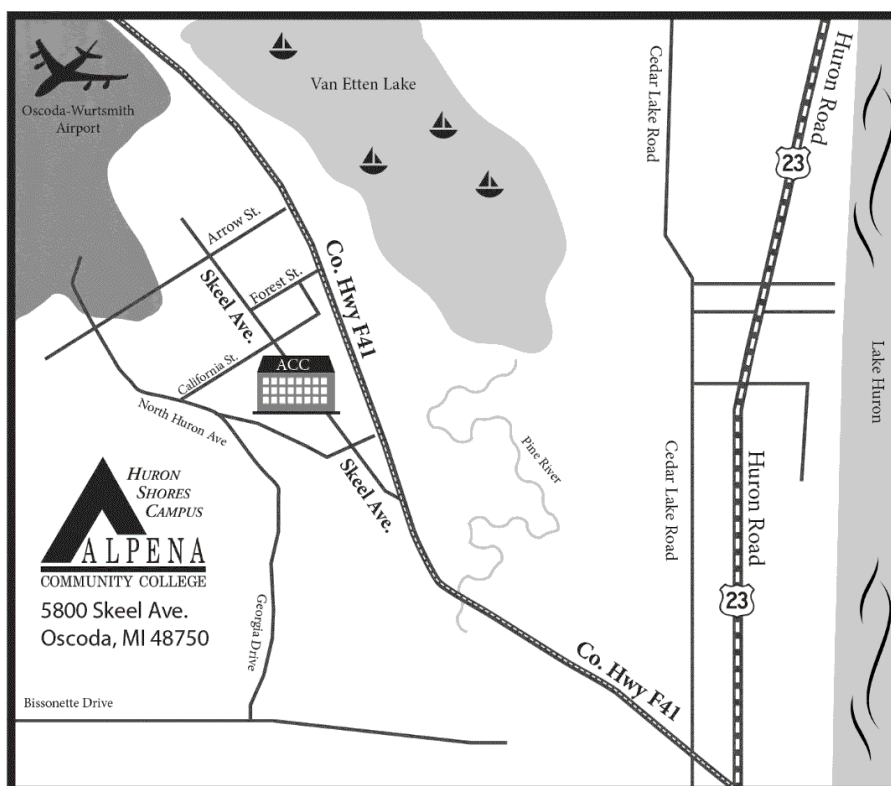
Huron Shores Campus Information

5800 Skeel Avenue • Oscoda, Michigan 48750

(989) 358-7295 • Toll-Free: 1-888-468-6222 (press 7 to be connected)

Building hours: Weekdays 8:30 a.m. to 5:00 p.m.

Located in the Huron Shores Educational Center, just off F-41, minutes from US-23 in the renovated Headquarters Building at the former Wurtsmith Air Force Base.



Huron Shores Campus (HUSH) Contacts

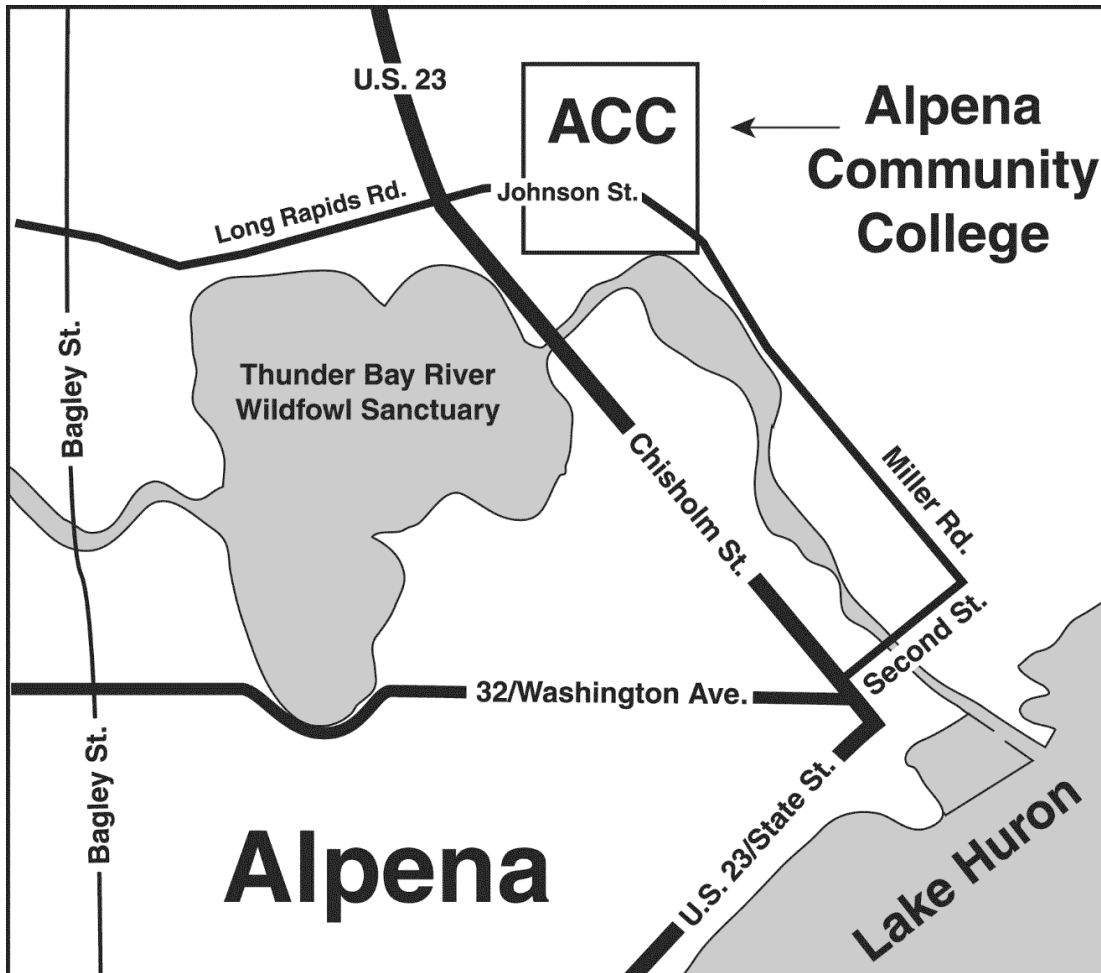
Director..... (989) 358-7442 HUSH, Second Floor
Administrative Assistant (989) 358-7295 HUSH, Second Floor
Student Services Center..... (989) 358-7445 HUSH, Third Floor

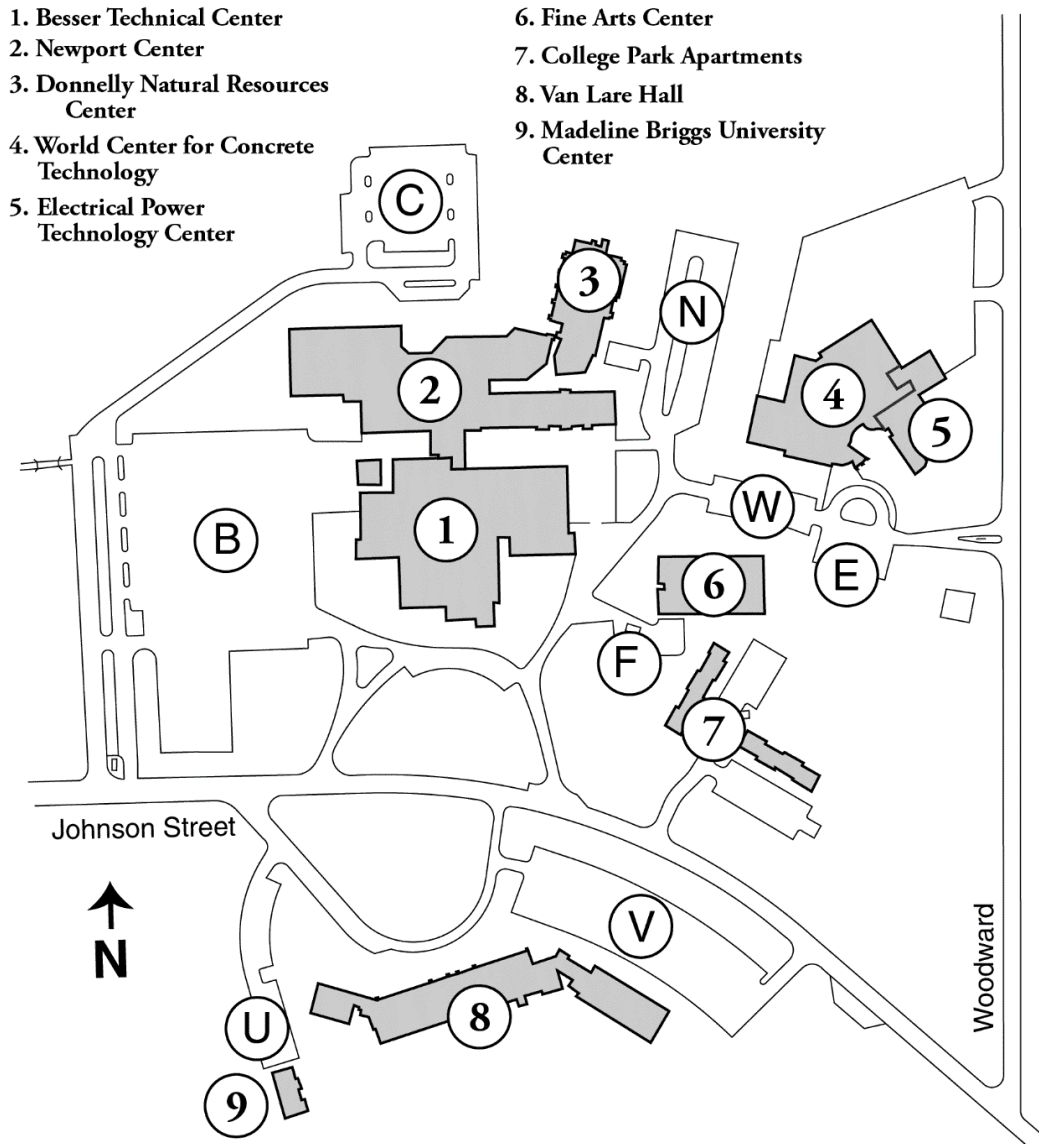
Alpena Campus Information

665 Johnson St. • Alpena, MI 49707-1495 • (989) 356-9021 • Toll-Free: 888-468-6222

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	358-7297
Bookstore	358-7274
Facilities	358-7360
Food Service	358-7216
Parking Office	358-7201
Public Information	358-7215
President.....	358-7246

Newport Center (CTR)

ACC Library	358-7252
Center for Professional, Community and Volunteer Services.	358-7234
Counseling Office	358-7342
Volunteer Center	358-7335
Wellness Center	358-7391

Electrical Power Technology Center (EPTC)

Fine Arts Center (FAC)

Art Classrooms.....	358-7343
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Natural Resources Center (NRC)

Health Occupations/Nursing	358-7206
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University Center (MBUC)

Northwood University	358-7302
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Van Lare Hall (VLH)

Admissions.....	358-7339
Business Office	358-7213
Dean of Students	358-7212
Financial Aid.....	358-7205
Human Resources	358-7351
Management Info Systems (IT)	358-7374
Registration, Records	358-7353
Student Services Center	358-7270
Tutoring.....	358-7270
Vice President for Administration and Finance.....	358-7368
Vice President of Instruction	358-7458

World Center for Concrete Technology (WCCT)

Director	358-7404
Small Business & Technology Development Center.....	358-7383

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 housing that is privately owned and privately operated. 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 A-V Department, a 250-seat performance and lecture theatre, a health fitness facility and an athletics and events arena. 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. Also in the Center are offices for the Center for

Professional, Community and Volunteer Services, which includes workforce training and the Alpena Volunteer Center.

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.

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, Student Services Center, Registrar's Office, and the offices of the Vice President and Dean of Students. Van Lare Hall houses the Business Office, the Office of the Vice president for Finance and Administration, the controller, cashier, accounting, payroll/Human Resources Office, and telephone switchboard, word processing, and the Office of Management Information Systems.

Van Lare Hall is also the location of offices for instructors of accounting, social sciences mathematics and criminal justice programs. There are classrooms, microcomputer labs, a conference room, student lounge and outdoor patio overlooking the river.

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. They are built on campus but are privately owned and operated. 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 in the Financial Aid Office or from Stratford Group Ltd., 442 W. Baldwin Street, Alpena, MI 49707, (989) 354-2424.

Madeline Briggs University Center (MBUC)

Located just west of Van Lare Hall, the University Center Building houses university partners of Alpena Community College. Offices, a classroom and conference room are located there. Upper division courses for completion of selected degrees beyond the two-year associate's degree are available through the University Center. Currently, Northwood University resides in the University Center. The MBUC also houses the home for the Association of Lifelong Learners at ACC.

Huron Shores Campus (HUSH)

Alpena Community College has operated a full service extension center in Iosco County since 1969. The Huron Shores 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 Huron Shores Educational Center opened at 5800 Skeel Avenue, Oscoda. Huron Shores 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, two-way interactive room, and the Student Services 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 Huron Shores Campus office.

For more information, contact the Huron Shores Campus at (989) 358-7295, or toll-free 1-888-468-6222, ext. 7295. See page 7 of this catalog for a location map.

Community Services

Note: Student Services are detailed in the Student Handbook.

ACC Bookstore

The Alpena Community College Bookstore carries a wide variety of merchandise and is open to the public Monday through Friday.

It is located at the Alpena Campus in Besser Technical Center Room 104 and is owned and operated by Alpena Community College. 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 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 Campus and the Huron Shores Campus, Oscoda. Visit the College website for details, or call (989) 358-7360.

The Student Services Center (SSC)

The Student Services Center (SSC) is located in Van Lare Hall 101 and houses many of the academic support services for students (details are in the Student Handbook portion of this publication).

Educational Talent Search

This program serves middle and high school students in Alcona, Alpena, Montmorency and Presque Isle counties, as well as the Oscoda, Fairview, Cheboygan, and Mio school districts.

Talent Search's goal is assisting qualified persons 11 years of age or older (including adults) who have completed fifth grade to complete their secondary education and continue with some type of postsecondary education or vocational training. Services provided to eligible students include classroom presentations, career and financial aid advising, college campus visits, interest testing, a summer program, Career Pathways nights, and college application fee waivers.

The program director and staff at Alpena Community College are located in Besser Technical Center Room 108; phone (989) 358-7283. Educational Talent Search and ACC Student Support Services are funded by U.S. Department of Education TRiO grants.

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.

Center for Professional, Community and Volunteer Services

The Center for Professional, Community and Volunteer Services (CPCVS), located on the Alpena Community College campus in Room 108 of the Center, is the division of the College responsible for extending the rather considerable resources of the institution into the ACC five-county service area. The CPCVS is the single administrative unit and point of contact for:

1. The Volunteer Center
2. Industrial Testing
3. Customized Training

Small Business and Technology Development Center

ACC rents space for the Region 3 Michigan Small Business and Technology Development Center (SBTDC). The SBTDC is a partner program of the Small Business Administration and provides free, confidential, one-on-one counseling for existing businesses or people interested in starting or buying a business. This service includes helping clients with the development of business plans, refining marketing strategies, and financial analysis.

In addition to counseling, the SBTDC provides demographic research and low cost training through a variety of workshops designed to address topics of interest including business start up, developing business plans, customer service and marketing. For information on the Small Business and Technology Development Center, call (989) 358-7383 or visit us on the web at www.gvsu.edu/misbtdc/region3.

Volunteer Center

The Alpena Volunteer Center (AVC) encourages volunteerism, responds to community needs, and promotes activities that improve the community. It is located in Room 108 of the Donald L. Newport Center on the ACC campus.

The many services include:

- Coordinating community outreach programs such as the Christmas Wish List, Community Education classes, special events, and the ACC Ropes Course
- Matching volunteers with requests for volunteer help
- Providing community information and networking

For more information contact the Volunteer Center at (989) 358-7271.

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) 358-7301.

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M.A., Central Michigan University
Ph.D., Ferris State University

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