

Alpena Community College

# | 2009-10 CATALOG



Discover the Value of an ACC Education



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# 2009-10 Catalog

## Catalog Volume 54 — January 2010

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 January 2010 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 the schedule that is published each semester to provide current information on registration and course offerings.

Alpena Community College policies and practices for admission, employment and activities comply with requirements of Title VI 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 Act of 1975, and Title II of the Americans with Disability Act of 1990; ACC does not discriminate on the basis of race, color, national origin, gender, age or disability. For more information contact the Title IX, Section 504, the Age Discrimination Act and Title II coordinator: Carolyn Thomas, VLH 104, (989) 358-7211.

### **Alpena Campus**

665 Johnson Street  
Alpena, Michigan 49707-1495  
Telephone: (989) 356-9021

### **Huron Shores Campus**

5800 Skeel Avenue  
Oscoda, Michigan 48750-1587  
Telephone: (989) 739-1445

Call toll free in Michigan: 1-888-468-6222

ACC Website: [www.alpenacc.edu](http://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  
Marc Ferguson

Dr. Judith Grenkowicz  
Lisa Hilberg  
Florence Stibitz

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## A Message from the President

Welcome to Alpena Community College, where you can discover the value of higher education and training within your own community.

Whether you are:

- still in high school or just out of high school
- unable to find work without further education
- tired of working dead-end jobs and seeking a real career
- ready to train for the next step in a flourishing career
- eager to return to school after raising children
- searching for custom training for your employees
- laid off and looking for work in an emerging industry
- retired and itching to try a new career
- in love with knowledge for its own sake
- ready for non-credit leisure and personal interest classes



you will find a positive environment for learning at ACC. Our faculty and staff bring energy, qualifications, can-do attitude, experience, and inventiveness to the project of your success, whatever your educational goal. On a regular basis former students who have continued their education elsewhere tell us that the best instruction they ever received was at ACC.

Tuition and fees at ACC are only about one-third of that borne by students at public universities. Over the last three years ACC tuition increases have been in the 4-5% range, while public university increases have been in the 12-19% range. We do our best to keep the cost of education low while maintaining high-quality services. In addition, multiple forms of financial aid are accessible with the help of our friendly and capable staff. The low cost of living in Alpena and the opportunity to stay with family are also worth mentioning.

ACC's value really shines when a person realizes the long-range benefits of higher education. Lifetime earnings for associate degree holders average \$500,000 more than those of high school graduates; for holders of bachelor's degrees, the average is \$1 million more.

Finally, it is well documented that college-educated people are more likely to remain employed and less likely to need public assistance, are more likely to remain fit and healthy and less likely to abuse alcohol and other substances, and are less likely to commit crimes.

Supported by these components of the value proposition, we stand on solid ground when we say: "Discover the value of an ACC education."

Sincerely,

A handwritten signature in black ink that reads "Olin Joynton". The signature is written in a cursive, flowing style.

Olin Joynton  
President

## Institutional Profile 2008-09

- FUNDING:** Property taxes (19%), state appropriations (39%), tuition and fees (40%), and other sources (2%).
- ENROLLMENT:** 2,620 unduplicated credit and 702 non-credit students during the 2008-09 year.
- GRADUATES:** 385 for 2008-09.
- COST:** For 2009-10 year the average full-time cost for a resident of the College's district for tuition and fees was \$3,040 plus an estimated \$4,650 for books and living expenses for a total of approximately \$7,690.
- ACTIVITIES:** As a member of the Eastern Michigan Community College Athletic Association, the Lumberjacks participate in both men's and women's sports. The student body is actively involved in intramural sports, government, and honor societies.
- CAMPUS:** Alpena Community College operates two major campuses plus outreach activities in various area public schools. The main campus in Alpena, Michigan, has seven principal buildings. The Huron Shores Campus is located at the former Wurtsmith Air Force Base in Oscoda, Michigan.
- LAND:** Approximately 690 acres.
- BUILDING AREA:** Approximately 407,138 square feet.
- ASSETS:** \$21,432,639 (physical properties ending balance as of June 30, 2009)

| STAFF:                | <i>Full-Time*</i> | <i>Part-Time*</i> |
|-----------------------|-------------------|-------------------|
| Faculty               | 61                | 114               |
| Administration        | 26                | 2                 |
| ESP I Clerical        | 20                | 1                 |
| ESP II Technician     | 16                | 14                |
| Custodial/Maintenance | 10                | 2                 |
| Others                | <u>0</u>          | <u>1</u>          |
| Total Employees       | 133               | 133               |

\*As of September 15, 2009

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# 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](http://www.caahep.org)), upon the recommendation of the Curriculum Review Board of the American Association of Medical Assistants Endowment (AAMAE).

Commission on Accreditation of Allied Health Education Programs

35 East Wacker Drive, Suite 1970

Chicago, IL 60601-2208

(312) 553-9355

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.

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**.

# College Mission

The mission of Alpena Community College is to meet lifelong learning needs by providing educational opportunities through effective stewardship of resources.

# 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



# History

Alpena Community College offers educational programs, technical training, and cultural opportunities to all of Northeast Lower Michigan. Its student population — numbering approximately 3,414 credit and non-credit students during 2007-08 — 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 1998.

## 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.

## 6 College Profile

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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 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 eight classrooms, computer and science labs, a two-way interactive room, administrative and counseling offices and a developmental instruction lab. 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.

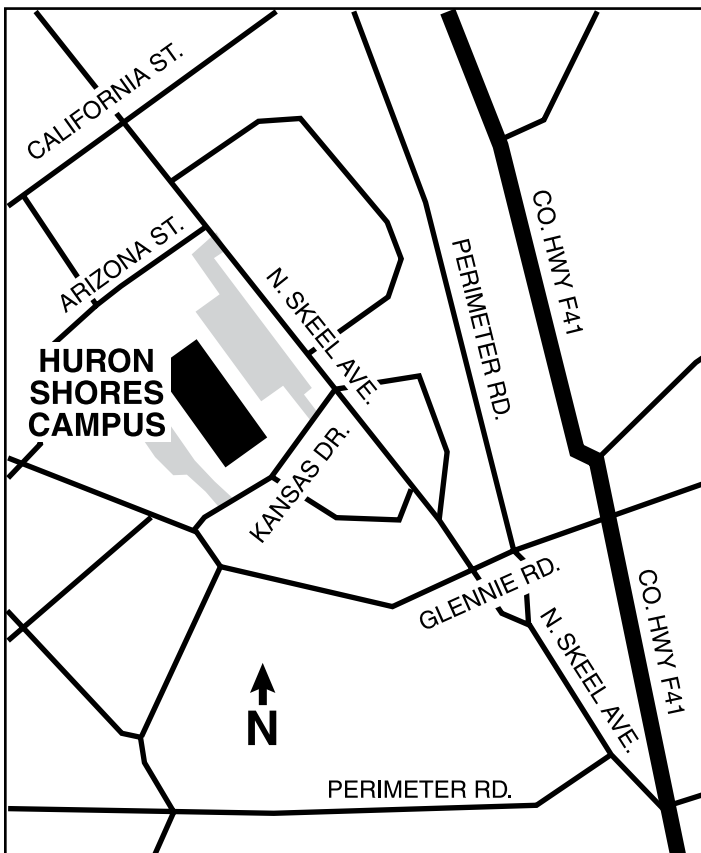
# Huron Shores Campus

5800 Skeel Avenue • Oscoda, Michigan 48750  
 (989) 739-1445 • Toll-Free: 1-888-468-6222 (press 9 to be connected)

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

Coordinator ..... (989) 739-1445, ext. 442 .....HUSH, Second Floor  
 Secretary..... (989) 739-1445, ext. 295 .....HUSH, Second Floor  
 Learning Center ..... (989) 739-1445, ext. 445 .....HUSH, First Floor



# Alpena Campus

665 Johnson St. • Alpena, MI 49707-1495 • (989) 356-9021 • Toll-Free: 888-468-6222

Use the last four digits as the extension with the automated phone system.

## Besser Technical Center (BTC)

|                          |          |
|--------------------------|----------|
| ACC Foundation .....     | 358-7297 |
| Bookstore .....          | 358-7259 |
| 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<br>and Volunteer Services ..... | 358-7234 |
| Small Business & Technology<br>Development Center .....            | 358-7383 |
| Volunteer Center .....   | 358-7335 |
| Wellness Center .....  | 358-7391 |

## Fine Arts Center (FAC)

|                      |          |
|----------------------|----------|
| Art Classrooms ..... | 358-7343 |
|----------------------|----------|

## Natural Resources Center (NRC)

|                                  |          |
|----------------------------------|----------|
| Health Occupations/Nursing ..... | 358-7226 |
|----------------------------------|----------|

## University Center (MBUC)

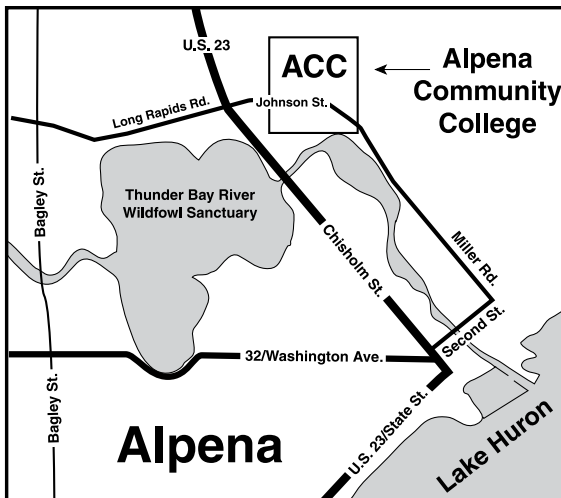
|                            |          |
|----------------------------|----------|
| Northwood University ..... | 358-7302 |
|----------------------------|----------|

## Van Lare Hall (VLH)

|                                 |          |
|---------------------------------|----------|
| Admissions .....                | 358-7339 |
| Business Office .....           | 358-7213 |
| Counseling Office .....         | 358-7286 |
| Dean of Student Affairs .....   | 358-7200 |
| Financial Aid .....             | 358-7205 |
| Human Resources .....           | 358-7351 |
| Management Info Systems (IT) .. | 358-7374 |
| Registration, Records .....     | 358-7353 |
| The Learning Center .....       | 358-7342 |
| Tutoring .....                  | 358-7270 |
| Veterans Counselor .....        | 358-7265 |
| VP for Admin. & Finance .....   | 358-7368 |
| VP for Instruction .....        | 358-7443 |

## World Center for Concrete Technology (WCCT)

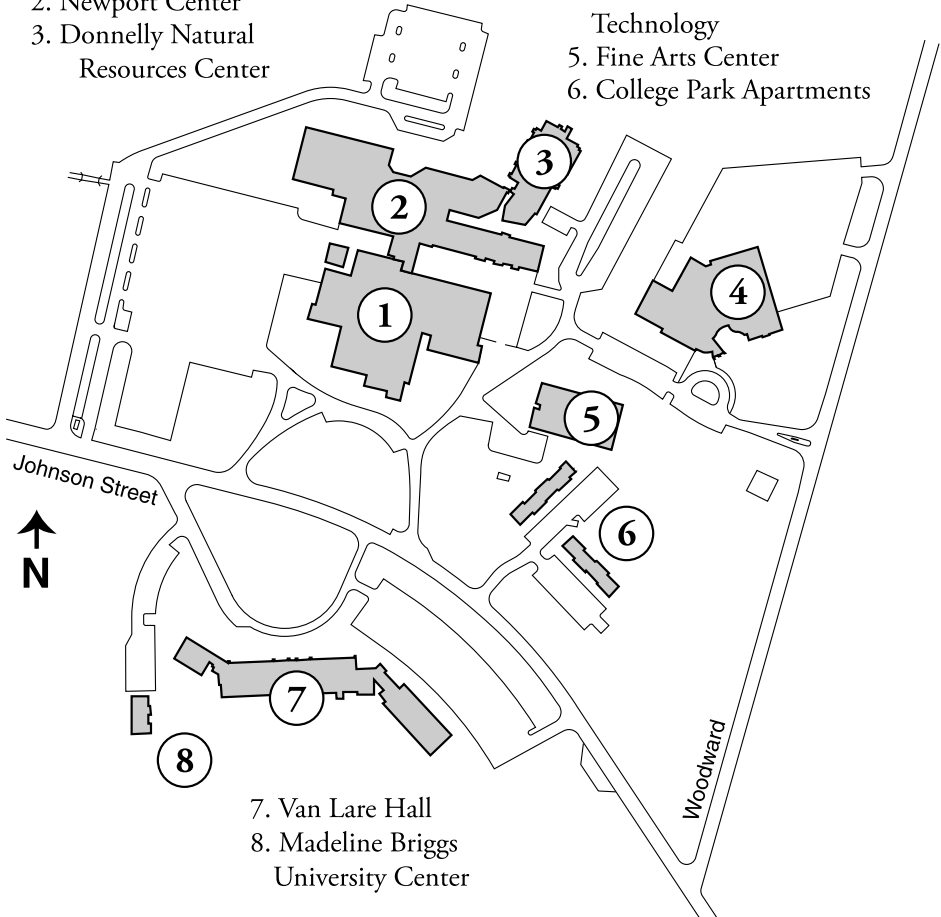
|                |          |
|----------------|----------|
| Director ..... | 358-7404 |
|----------------|----------|



## Alpena Campus Buildings

1. Besser Technical Center
2. Newport Center
3. Donnelly Natural Resources Center

4. World Center for Concrete Technology
5. Fine Arts Center
6. College Park Apartments



7. Van Lare Hall
8. Madeline Briggs University Center

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 \$?.? million Fine Arts Center, which opened in January 2008.

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 Technical Center 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, Educational Talent Search and *The CrossCut* student newspaper. 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.



*Besser Technical Center main lobby.*

### **The 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, Alpena Volunteer Center, industrial testing services and the Small Business and Technology Development Center (SBTDC).

### **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.

### **World Center for Concrete Technology (WCCT)**

Harris Hall, located on six acres at the eastern edge of campus, is a new \$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.

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.



*The World Center for Concrete Technology opened in 2000 and houses the Concrete Tech program.*



*The Fine Arts Center, which opened in January 2008, houses ceramics, photography, painting, and sculpture labs.*

### **Fine Arts Center**

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.

### **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 Student Services Office or from Stratford Group Ltd., 442 W. Baldwin Street, Alpena, MI 49707.



*College Park Apartments.*

### Van Lare Hall (VLH)

Van Lare Hall 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 provides most student services including admissions, counseling and career center, financial aid, registration, student records, and campus services. The offices of the Vice President for Instruction and the Dean of Student Affairs are also located in VLH.

Also housed in Van Lare Hall: The Learning

Center; the Business Office including the vice president for finance and administration and 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 developmental education, business administration, computer information, business information, mathematics and criminal justice classes. There are classrooms, microcomputer labs, a conference room, student lounge and outdoor patio overlooking the river.

### 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 and Spring Arbor University have offices in MBUC. For details of programs available, please see page 140-142.

### Huron Shores Campus

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 a six-week summer session. Instructional facilities include eight classrooms, a computer lab, science lab, two-way interactive room, and The Learning Center. ACC is also a partner in supporting the nearby Robert Parks Library which is a resource for students.



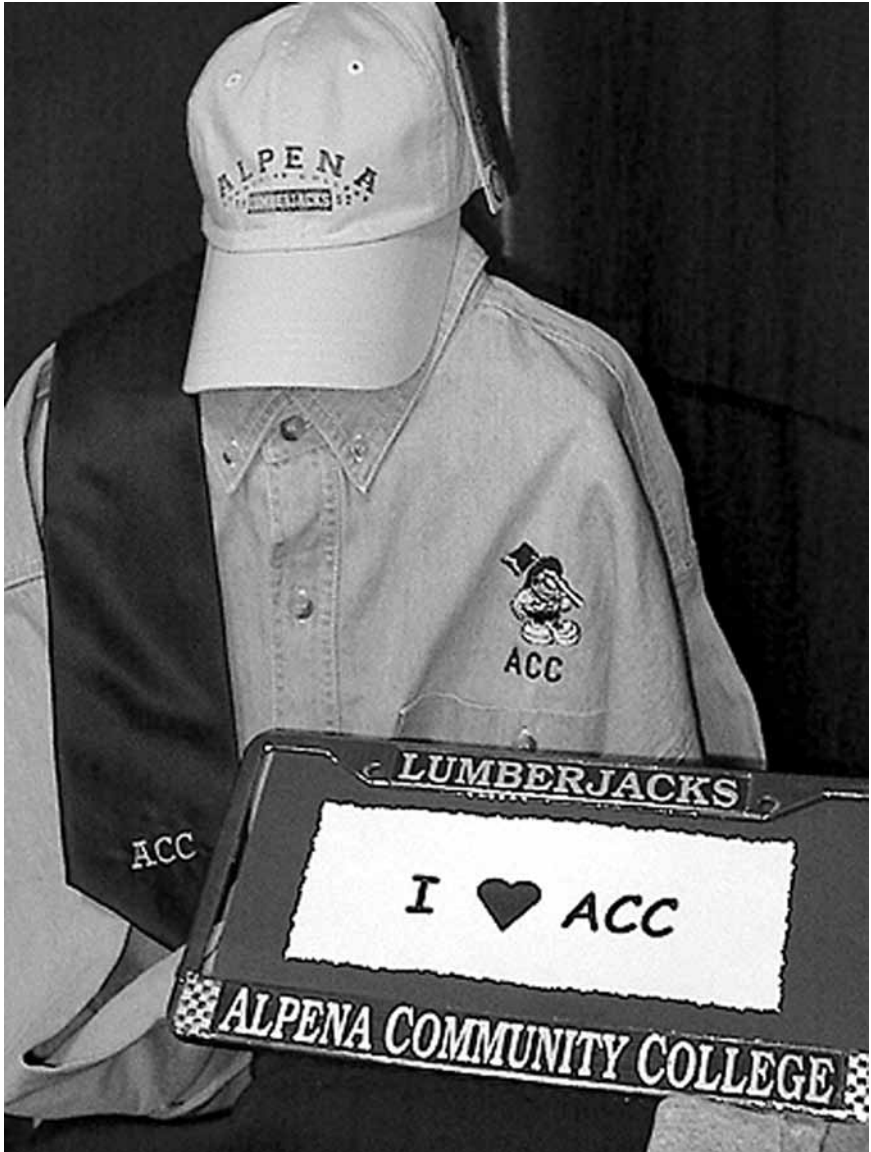
*Van Lare Hall was the first building constructed on the current 700-acre Alpena campus.*



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 Center for Economic and Human Resource Development and can be coordinated through the Huron Shores Campus office.

For more information, contact the Huron Shores Campus at (989) 739-1445, or toll-free 1-888-468-6222, ext. 295. See page 7 of this catalog for a location map.

# General Information



# 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 Learning Center (TLC) 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 TLC Coordinator and completes the disability services intake process.
2. Student provides documentation of disability from an appropriate licensed professional to TLC. (Guidelines for acceptable documentation can be found in the Access for Students with Disabilities policy, available on the ACC website and in TLC). All disability documentation will be maintained by TLC Coordinator.
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 Learning Center or on the Alpena Community College website.

## Admissions Policy

Alpena Community College grants admission to all persons who have earned a high school diploma 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:

1. Have satisfactory skills as measured by institutional placement testing for reading, language and numerical skills or
2. Enroll in specialized training programs not leading to a degree or certificate
3. 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:

1. Is a dually enrolled high school student\* as provided for by the State School Aid Act, as amended, or
2. 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.

*\* Interested high school students should contact their high school principal or guidance counselor for further information.*

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

### **Application Process**

Applications for Admission to Alpena Community College can be obtained in person from the Admissions Office (Van Lare Hall 111) or Campus Services 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](http://www.alpenacc.edu)). Mail and telephone requests for applications are accepted at (989) 358-7339 and (989) 739-1445. 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**

Recent legislation established a Dual Enrollment Program and Public Acts 159, 160 and 161 of 1996 set forth eligibility requirements. 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 Campus Services 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 Dean of Student Affairs. Please also read about the process of academic renewal (see page 37).

## **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 Records 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.

## **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 Student Services 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 Student Services Office at Van Lare Hall, (989) 358-7286.

### **Notice of Nondiscrimination**

Alpena Community College policies and practices for admission, employment and activities comply with requirements of Title VI 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 Act of 1975, and Title II of the Americans with Disability Act of 1990; ACC does not discriminate on the basis of race, color, national origin, gender, age or disability. For more information contact the Title IX, Section 504, the Age Discrimination Act and Title II coordinator: Carolyn Thomas, VLH 104, (989) 358-7211.

### **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 Technology and Economic 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.

### **Orientation**

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 orientation dates after their application for admission has been accepted.

### **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 or G.E.D.
2. All new students who register for nine or more credits per semester.

3. All students who enroll for the first time in an English or mathematics course.
4. All students who enroll in a course with a prerequisite of “eligibility for placement in ENG 111 English or higher.”

Testing is waived for all students who have an A.C.T. composite score of 20 or higher.

## Alpena Community College Assessment and Placement Grid

### Reading Skills

| <u>COMPASS Score</u> | <u>Placement Course</u>    |
|----------------------|----------------------------|
| 0-38                 | Reading 095/Decision Zone  |
| 39-64                | Reading 095                |
| 65-80                | Reading 098                |
| 81-100               | No reading course required |

### E-Write Skills

| <u>COMPASS Score</u> | <u>Sub Score</u> | <u>Reading Score</u> | <u>Placement Course</u> |
|----------------------|------------------|----------------------|-------------------------|
| 2-3                  | 0-9              |                      | Decision Zone           |
| 3                    | 8-9              | 65 or above          | ENG 102                 |
| 4-5                  | 8-11             |                      | ENG 102                 |
| 5                    | 8-11             | 81 or above          | ENG 111 or ENG 120*     |
| 5                    | 12-14            |                      | ENG 111 or ENG 120*     |
| 6                    | 13-15            |                      | ENG 111 or ENG 120*     |
| 6-7                  | 10-12            |                      | ENG 111 or ENG 120*     |
| 7                    | 12-14            | 91 or higher         | ENG 121                 |
| 7-8                  | 15-20            |                      | ENG 121                 |

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

### Math Skills

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

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### ACT Placement Guidelines

ACT Composite score of 20 and above      No COMPASS needed

#### English

ACT Composite score of 20-23      ENG 111 English Placement

ACT Composite score of 24 and above      ENG 121 English Placement

#### Math

ACT math score below 20      Base on COMPASS score

ACT math score of 20-24      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

|  |  |
|--|--|
| No high school biology, or high school biology with “C,” or high school biology over five years ago  | BIO 114 Introduction to Biology with corequisite of ENG 102 Basic English or eligibility placement in ENG 111 English                          |
| One year of high school biology and one year of high school chemistry, both with a “C” or higher within the last five years, or advanced placement score of 3 in biology, or BIO 114 Introduction to Biological Science with a “C” or higher | BIO 150 General Biology placement with prerequisite of CEM 100 Introductory Chemistry (or higher) and eligibility placement in ENG 111 English |
| Two years of high school biology with a “C” or higher within the last five years, or Advanced Placement score of 4 or 5 in biology, or BIO 150 General Biology with a “C” or higher  | BIO 201 Human Anatomy placement or BIO 227 Microbiology placement with prerequisite of CEM 111 General Chemistry (or higher)                   |
| 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   |



## Chemistry Placement Guidelines

|  |   |
|--|---|
| One year of high school algebra with a “C” or MTH 102 Elementary Algebra                 | CEM 100 Introductory Chemistry  |
| One year of high school chemistry with a “C” or higher or CEM 100 Introductory Chemistry | 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 Dean of Student Affairs.

## Student Handbook

The Student Handbook provides information on what the College expects from students and what the students can expect from the College. Topics include academic requirements, code of conduct, policies and procedures, student government, student judiciary, student services and veterans information. A directory to staff and offices for various services and building maps are included. Students should read and become familiar with this important information.

## Student Right-To-Know and Campus Security Act

The Student Right-to-Know and Campus Security Act of 1990, as amended by the Higher Education Technical Amendments of 1991, requires that every college prepare, publish, and distribute information concerning the incidence of certain types of crimes occurring on campus during the prior calendar year. Additionally, specific college policies relevant to campus security must be published. This required information must be distributed to all students and employees and to any applicant for enrollment or employment, upon request, beginning September 1, 1992, and each year thereafter.

## Campus Crimes

Alpena Community College encourages the reporting of any type of possible criminal activity to the Dean of Student Affairs Office, 107 Van Lare Hall. Any questions or concerns about this information or any campus security procedures should be directed to the Dean of Student Affairs.

- A. Alpena Community College encourages any student or staff member to file an incident report form to the Dean of Student Affairs Office when a possible criminal action has occurred. The Dean of Student Affairs will then conduct an investigation of the incident and make a determination as to possible charges. In all cases, the Student Judiciary By-Laws and Procedures of Alpena Community College will be followed. The College reserves the right to refer any incident to local law enforcement agencies.
- B. All campus buildings are opened at 6:30 a.m. and closed at 10:00 p.m. by custodial staff. Security systems are in place in sensitive areas on campus. Alpena Community College does not operate on- or off-campus housing.
- C. Alpena Community College does not have a security force employed on campus. All incidents of criminal activity are reported to the Dean of Student Affairs Office for investigation and further legal action. Local law enforcement agencies work closely with the College in many investigations.
- D. Students and staff are encouraged, through student publications and staff in-service programs, to report all incidents of criminal activity. The College attempts to deal with student and staff concerns regarding campus security and has recently improved lighting in student and staff parking areas as well as expanded our campus alarm (intrusion) system.
- E. Crime prevention is discussed during orientation activities for students and in-service activities for staff. Additional information is disseminated through student publications.

|                                |       |       |       |       |
|--------------------------------|-------|-------|-------|-------|
| F. Campus occurrences:         | 2005* | 2006* | 2007* | 2008* |
| a. Murder                      | 0     | 0     | 0     | 0     |
| b. Negligent manslaughter      | 0     | 0     | 0     | 0     |
| c. Sex offenses - forcible     | 0     | 0     | 1     | 0     |
| d. Sex offenses - non forcible | 0     | 0     | 0     | 0     |
| e. Robbery                     | 0     | 0     | 0     | 0     |
| f. Aggravated assault          | 0     | 0     | 0     | 1     |
| g. Burglary                    | 3     | 1     | 3     | 1     |
| h. Motor vehicle theft         | 0     | 0     | 0     | 0     |
| i. Arson                       | 0     | 0     | 0     | 0     |

*\* Includes occurrences at College Park Apartments.*

- G. Alpena Community College does not have any off-campus student organizations. There were no reports of criminal activity occurring at any off-campus student activities.

|                          |          |          |          |          |
|--------------------------|----------|----------|----------|----------|
| H. Campus Occurrences    | '03-'04* | '04-'05* | '05-'06* | '06-'07* |
| a. Liquor law violations | 0        | 0        | 2        | 3        |
| b. Drug abuse violations | 0        | 0        | 0        | 1        |
| c. Weapons possessions   | 0        | 0        | 0        | 0        |

\* Includes occurrences at College Park Apartments.

I. See ACC's Drug Free Campus Policy (located in the Student Handbook section). This information is distributed annually to all students and staff.

For the latest information, please refer to the ACC Web site at [www.alpenacc.edu](http://www.alpenacc.edu).

## Cohort Completion Rates

The Student Right-to-Know and Campus Security Act requires the institution to track a cohort of first-time, full-time students for completion or graduation purposes. The completion figures reported here are for 377 students who began attending ACC during Fall Semester 2002, 299 students who began during Fall Semester 2003, and 299 students who began during Fall Semester 2004. Individual program completion rates are available in the Dean of Student Affairs Office (VLH 107).

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 semesters.

### Cohort Completion Rates — New Full-Time Students, Fall 2004

|                          | '02-'03   | '03-'04  | '04-'05  |
|--------------------------|-----------|----------|----------|
| A. Students              | 377       | 299      | 299      |
| Completers               | 148 (39%) | 61 (20%) | 54 (18%) |
| B. Male Students         | 206       | 158      | 173      |
| Completers               | 79 (38%)  | 35 (22%) | 35 (20%) |
| Female Students          | 171       | 141      | 126      |
| Completers               | 69 (40%)  | 26 (18%) | 19 (15%) |
| C. Ethnic Breakdown      |           |          |          |
| White Students           | 353       | 289      | 288      |
| Completers               | 141 (40%) | 58 (20%) | 54 (22%) |
| Black Students           | 9         | 4        | 6        |
| Completers               | 2 (22%)   | 1 (25%)  | 0 (0%)   |
| Other Students           | 2         | 5        | 3        |
| Completers               | 0 (0%)    | 2 (40%)  | 0 (0%)   |
| Native American Students | 1         | 1        | 2        |
| Completers               | 0 (0%)    | 0 (0%)   | 0 (0%)   |

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

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### Cohort Completion Rates — Athletics

|                          | '02-'03      | '03-'04  | '04-'05  |
|--------------------------|--------------|----------|----------|
| A. Scholarship Athletics | 44*          | 38*      | 44*      |
| Male                     | 13           | 13       | 19       |
| Female                   | 21           | 25       | 25       |
| Program Completers       | 24 (55%)     | 19 (50%) | 10 (23%) |
| New Students Athletes    | 31           | 24       | 31       |
| Completers               | 11 (35%)     | 9 (38%)  | 5 (16%)  |
| B. Men's Basketball      |              |          |          |
| Athletes                 | 15           | 13       | 13       |
| Completers               | 9 (60%)      | 5 (38%)  | 3 (23%)  |
| Caucasian                | 8            | 6        | 3        |
| Completers               | 5 (63%)      | 4 (66%)  | 1 (33%)  |
| Black                    | 7            | 7        | 10       |
| Completers               | 4 (57%)      | 1 (14%)  | 2 (20%)  |
| Native American          | 0            | 0        | 0        |
| Completers               | n/a          | n/a      | n/a      |
| C. Women's Basketball    |              |          |          |
| Athletes                 | 15           | 10       | 10       |
| Completers               | 6 (40%)      | 6 (60%)  | 5 (50%)  |
| Caucasian                | 13           | 8        | 9        |
| Completers               | 6 (46%)      | 5 (63%)  | 5 (55%)  |
| Black                    | 2            | 2        | 1        |
| Completers               | 0 (0%)       | 1 (50%)  | 0 (0%)   |
| D. Men's Golf            |              |          |          |
| Athletes                 | 6            | 6        | 6        |
| Completers               | 4 (66%)      | 3 (50%)  | 0 (0%)   |
| Caucasian                | 6            | 6        | 6        |
| Completers               | 4 (66%)      | 3 (50%)  | 0 (0%)   |
| E. Women's Softball      |              |          |          |
| Athletes                 | 14           | 14       | 12       |
| Completers               | 8 (57%)      | 9 (64%)  | 2 (17%)  |
| Caucasian                | 14           | 14       | 10       |
| Completers               | 8 (57%)      | 9 (64%)  | 1 (10%)  |
| Black                    | 0            | 0        | 1        |
| Completers               | 0 (0%)       | 0 (0%)   | 0 (0%)   |
| F. Men's Cross Country   |              |          |          |
| Athletes                 | Discontinued |          |          |
| G. Women's Volleyball    |              |          |          |
| Athletes                 | 11           | 10       | 9        |
| Completers               | 5 (45%)      | 6 (60%)  | 2 (22%)  |
| Caucasian                | 11           | 10       | 9        |
| Completers               | 5 (45%)      | 6 (60%)  | 2 (22%)  |

\* 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. Michigan Merit/Michigan Promise Award recipients must present at the time of registration a copy of their certification showing ACC as the receiving institution.

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. (See "Financial Aid" on page 29 of this catalog.)

## Tuition

Tuition at Alpena Community College is based upon residence (see page 21 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.

## 2009-10 Tuition Costs

The following rates are for the 2009-10 academic year and are subject to change.

|  |                           |
|--|---------------------------|
| In-District (Alpena Public Schools District) | \$84.00 per contact hr.*  |
| In-State                                     | \$126.00 per contact hr.* |
| Out-of-State                                 | \$168.00 per contact hr.* |

\* *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 2009-10 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 Senate, 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 \$10 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**

Courses requiring non-college facilities, equipment or services (art, physical education, music, etc.) may require an additional fee that will be collected by the agency or company providing the facilities, equipment or services.

**Records/Registration Fee**

A fee of \$20 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 2009-10 tuition and fee rates, which are subject to change.

| <u>Expenses</u>    | <u>In-District</u> | <u>In-State</u> | <u>Out-of-State</u> |
|--------------------|--------------------|-----------------|---------------------|
| Tuition            | \$2,520            | \$3,780         | \$5,040             |
| Fees               | 520                | 520             | 520                 |
| Books and Supplies | 750                | 750             | 750                 |
| Room and Board     | 2,500              | 5,000           | 5,000               |
| Personal           | 700                | 800             | 800                 |
| Transportation     | <u>700</u>         | <u>1,000</u>    | <u>1,000</u>        |
| <b>Total</b>       | <b>\$7,690</b>     | <b>\$11,850</b> | <b>\$13,110</b>     |

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): \$1,300

### 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 Campus Services 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 for 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 Campus Services (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 on the first day of classes each semester.

# 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.

To be considered for financial aid, an applicant must be entering a degree or certificate program and also have completed the ACC application process (see page 16).

## Minimum Academic Progress

All students receiving Title IV financial aid monies (Pell Grant, Supplemental Educational Opportunity Grant, College Work-Study Program, Perkins Loan, and Stafford Loan) must meet the following academic standards. All students must successfully complete at least 50 percent of all credit hours attempted during their first two semesters of enrollment. Students' academic records during a period of prior enrollment will be reviewed for academic progress even if Title IV aid was not received for this prior enrollment period. Students must then successfully complete at least 50 percent of credit hours attempted each subsequent semester. In addition, students must have the following:

| <u>Hours Completed</u> | <u>G.P.A.</u> |
|------------------------|---------------|
| 15                     | 1.5           |
| 30                     | 1.6           |
| 45                     | 1.7           |
| 60                     | 2.0           |

If students fall below this standing and wish to regain good standing, students must successfully complete at least 50 percent of credit hours attempted (six credit hours minimum per semester) and maintain a Grade Point Average of 2.0, or a level that will maintain the minimum grade point average for hours completed. Students will not be eligible for Title IV monies during the semester(s) needed to regain good standing.

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Students who receive a grade of I (Incomplete) will have the following semester to make up this work. The course for which the grade of I was received will not be used in the computation of completed courses. A grade of W (Withdrawal) will be counted in hours attempted during the semester. Students can repeat courses if a failing grade was received for the course or if they withdrew from the course. Other courses can be repeated only if required by the institution for the student's program of study.

### Maximum Time Frame

Each Title IV aid recipient will be reviewed annually to determine that a minimum percentage of work or progress toward the degree or certificate has been completed. The maximum time frames are:

| <u>Status</u> | <u>Associate Degree</u>  | <u>Certificate</u>        |
|---------------|--------------------------|---------------------------|
| Full-time     | 3 years or 6 semesters   | 1.5 years or 3 semesters  |
| 3/4 time      | 4.5 years or 9 semesters | 2.25 years or 5 semesters |
| 1/2 time      | 6 years or 12 semesters  | 3 years or 6 semesters    |

All aid recipients' transcripts will be reviewed prior to disbursement of aid in the fall of each year for the time frame provisions cited above. The maximum time frame provisions of this policy apply to a student's initial program of study. If a student changes programs, the maximum time frame would be an additional two years for an Associate Degree or three semesters for a Certificate program. For the purpose of extending their maximum time frame, students must request a program change in writing.

### Appeals Process

All students have the right to appeal their case to the Financial Aid Progress Committee. The appeal must be made in writing explaining any mitigating circumstances. Students may be required to appear before the committee.

### 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 by mail and 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 receive at least \$200 but not more than \$5,330 per year. Awards are also available to students who are attending less than full time.

#### Federal Supplemental Education Opportunity Grant (SEOG)

A grant program for students with financial need who, without the grant, would be unable to continue their education. 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 and who must 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 Stafford Loan Program (Subsidized)**

A program which enables the student to borrow directly from a local bank or credit union. The loan is guaranteed by a loan guarantor. The interest rate varies from year to year. The subsidized Stafford loan is based on financial need. Loan limits are \$3,500 for first-year students, \$4,500 for second-year students, and \$5,500 per year for students who have successfully completed their first and second year of undergraduate education. Aggregate loan limit is \$23,000.

### **Federal Stafford Loan Program (Unsubsidized)**

A program whose provisions are identical to the subsidized Stafford Loan Program except for the following:

- a. Student is responsible for all interest
- b. Eligibility is based on cost less aid

The aggregate undergraduate loan limit for the subsidized program is \$23,000 for dependent students and \$31,000 for independent students.

### **Federal Parental Loans for Undergraduate Students (PLUS)**

Loan restricted to parents who borrow for their dependent children who may be either undergraduate or graduate students. Borrowing is based on a cost less aid formula with no annual or aggregate loan limits. Financial need is not a requirement.

## **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 financial statement must be released to the state. The renewable award varies from \$100 to \$1,300 per year, not to exceed tuition costs.

### **Michigan Adult Part-Time Grant**

This grant available to independent students who have not been enrolled in high school for at least two years. Students must take between 3 and 11 credit hours and demonstrate financial need. Maximum eligibility is \$300 per semester for four semesters.

### **Michigan Educational Opportunity Grant**

This grant provides a maximum of \$1,000 per year to Michigan residents with demonstrated financial need.

### **Michigan College Work-Study Program**

Program that provides jobs for students who are Michigan residents (prior 12 months) and demonstrate financial need. Must be at least half-time student.

### **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 Campus Services Office in Van Lare Hall 108.

## **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 100 different scholarship opportunities totaling over \$125,000 in awards and is available after the second week in January. You can pick up a copy in the Campus Services 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 a student financial aid report must be on file in the Campus Services Office.

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 second Monday in April 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 Campus Services 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**

### **Alpena Community College Freshman Leadership Award**

An award of \$100 presented annually to a freshman student who has demonstrated a concern for enriching the life of the College and the larger community through his/her leadership.

### **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).

## 34 Veterans Educational Benefits

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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. The coordinator certifies the enrollments of eligible students to the USDVA, monitors the Standards of Progress for VA Education Benefits, and assists with problems encountered in the collegiate environment.

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

- 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

Information about eligibility requirements and benefits is available in the office of the Coordinator of Veterans Affairs 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.

### **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 office of the Coordinator of Veterans Affairs. Students will receive VA education benefits only for the semesters for which they request certification. All students receiving VA education benefits must notify the ACC Coordinator of Veterans Affairs 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**

All students receiving education benefits from the USDVA must satisfy the Academic Standards of Progress of Alpena Community College as listed on page 237 of this publication.

If a VA student is on probation with ACC they are also on probation with the VA. If a VA student is dismissed from the College, the VA will be notified and benefits will terminate.

### **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 parttime students are eligible. Information about the Children of Veterans Tuition Grant Act is available from the Coordinator of Veterans Affairs or:

Michigan Department of Treasury  
Office of Scholarships and Grants – MHEAA  
P.O. Box 30462  
Lansing, MI 48909-7962



# 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 every student 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 orientation is held to assist first-time students with the registration process and academic advising. Consult the semester schedule or contact the Campus Services Office (VLH 108) in Alpena or the Huron Shores Campus Office in Oscoda.

## 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 Campus Services 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 Instruction 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 Instruction 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. A second opportunity will be provided those former students qualifying for and requesting academic renewal.

### Academic Renewal Guidelines

1. A student may declare and receive academic renewal only once
2. Academic Renewal
  - a. Grades and course history will remain on the transcript, but credits, grade points, and grade point averages will be deleted.
  - b. The point of academic renewal will be the end of a semester as chosen by the student.
  - c. A period of two years or more must have passed since the selected academic renewal point.
  - d. All ACC course work prior to and including the selected semester will be subject to academic renewal.

### Academic Renewal Procedure

1. A student seeking to request academic renewal must obtain a Request for Academic Renewal from the Registrar (VLH 108).
2. Upon completion by the student, the Request for Academic Renewal is returned to the Registrar for processing.
3. The student's transcript will carry a notation: "Academic Renewal Granted for Prior Semesters." The course descriptions and original grades will remain on the transcript.

### 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 Instruction. Under no circumstances may a student carry over 21 credit hours. A freshman is a student who has earned one to 23 semester credits; a sophomore has earned 24 or more.

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

Final grades are mailed to students at the end of each semester.

## 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:

|                | <b>Hours of Credit</b> | <b>Grade</b> | <b>Honor Points</b> |
|----------------|------------------------|--------------|---------------------|
| History 121    | 3                      | C+ (2.3)     | 6.9                 |
| English 121    | 3                      | B (3)        | 9.0                 |
| Psychology 255 | 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 37) and “Withdrawal” (page 50).

### 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 Campus Services 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](http://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 (beginning on page 60) for specific curricular outlines and distribution requirements.

**Graduation with a Certificate**

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

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

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

**Honors**

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

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

## **Additional Associate Degrees**

Students may earn only one Associate in Arts or Associate in Science degree. However, additional degrees can be earned in other combinations (i.e. A.A. original degree, A.S. second degree) by completing a minimum of 15 additional credits at Alpena Community College for each degree. The 15 additional credits, which may not have been applied to another degree, must apply to the distribution requirements (see pages 55-59) 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 Records 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](http://www.alpenacc.edu)). Instructions for WebAdvisor access are included at this site.

Transcript requests must include the student's name, 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 Campus Services Office, 108 Van Lare Hall, or at the evening desk, 109 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](http://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. 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 activity courses (those with a PEH prefix), directed study, internship and non-credit courses may be repeated at the student’s discretion in order to enhance skills in the selected area. Alpena Community College academic courses (all credit courses except those with a PEH prefix) may be repeated only once if the student achieved a grade of “C” (2.0) or higher in the first course enrollment. Courses in which a student received a grade below a “C” (2.0) may be repeated only twice. The highest grade in the course is used in calculating the student’s grade point average.

## 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 and counselors can assist. Catalogs, application forms and promotional literature are available in Van Lare Hall. Representatives from senior institutions make campus visits throughout the year in order to meet with individual students.

## MACRAO 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 58.)
- b. Natural Science (eight semester hours). At least one of the Natural Science courses will be a laboratory course. Mathematics is included in the Natural Science category. Courses will be taken in more than one academic discipline. (See Group II listing, page 58.)
- c. Social Science (eight semester hours). Courses will be taken in more than one academic discipline. (See Group III listing, page 58.)
- d. Humanities/Fine Arts (eight semester hours). Courses will be taken in more than one academic discipline, unless both HUM 241 and HUM 242 are completed. (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.

## **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 Campus Services Office. The withdrawal must be presented to the Campus Services 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 Campus Services Office.

# Community Services

*Note: Student Services are detailed in the Student Handbook portion of this publication.*

## **ACC Bookstore**

The Alpena Community College Bookstore carries a wide variety of merchandise and is open to the public during normal operating hours, 9 a.m. to 4 p.m., 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) 358-7299.

## **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 daily from 8:30 a.m. to 1:30 p.m. 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](http://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.

### **Microsoft Certified Application Specialist Authorized Test Center**

Microsoft Office Certified Application Specialist (MCAS) credentialing is a globally recognized standard for demonstrating desktop computer skills. ACC is an authorized testing center for MCAS certification. Details on the benefits of certification and preparation for exams are located on the Internet at <http://www.microsoft.com/learning/mcp/msbc/credentials/default.mspx>. To register for an exam, call the ACC Authorized Testing Center at (989) 358-7406.

### **The Learning Center (TLC)**

The Learning Center (TLC) 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 and Fairview 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, Upward Bound and ACC Student Support Services are funded by U.S. Department of Education TRiO grants.

### **Upward Bound**

Upward Bound is a highly successful program of academic instruction, and individual and group tutoring and advising for eligible Alpena High, Alcona High and Posen High School students. Most of them are the first generation of their families to consider postsecondary education. The students begin the program with a battery of tests to determine their strengths and weaknesses and receive Upward Bound services during the academic year.



The Upward Bound staff follow students' progress in high school and the students learn about the college application process and how to apply for student financial assistance. During the summer, Upward Bound students participate in a program on the College campus and are involved in an intensive academic study program with an emphasis on English, mathematics, science, reading, foreign language and writing.

Offices are located at Alpena High School; phone (989) 358-7260.

### **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 Small Business and Technology Development Center (SBTDC)
2. The Volunteer Center
3. Industrial Testing
4. Customized Training

### **The Small Business and Technology Development Center**

Alpena Community College is the host site for Region 3 of the 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) 358-7375 or visit us on the web at [www.gvsu.edu/misbtdc/region3](http://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, Association for Lifelong Learners (ALL@ACC), Community Education classes, special events, service-learning opportunities for credit classes, and the ACC Ropes Course
- Matching volunteers with requests for volunteer help
- Providing community information and directories; networking and consulting

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 Newport Center 108, at (989) 358-7301.

# 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.

## AA 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 58).

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

### Group II General Education Courses — Sciences and Mathematics (see page 58).

Eight semester credits required, including at least one laboratory science course selected from Group II.A. or II.B.)

### Group III General Education Courses — Social Science (see page 58).

Eight 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/Fine Arts (see page 58).

Eight semester credits required which must include either:

- a. A combination of courses taken in more than one course area (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.

### **AS 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 58).**

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

#### **Group II General Education Courses — Sciences and Mathematics (see page 58).**

Twenty semester credits required, including at least one laboratory science course selected from Groups II.A. or II.B.

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

### **AAS 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 Instruction.

Course work more than seven years old will not apply towards the occupational speciality. 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 speciality.

## **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.

### **AGS 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 58).**

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 58).**

Four semester credits required.

#### **Group III General Education Courses — Social Science (see page 58).**

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 55-57).

#### 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
- ENG — ENG 125, 126 and 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.



Associate in Applied Science Degree (AAS) in

**ACCOUNTING**

Program Number: 52.0302

The Association of Collegiate Business Schools and Programs has accredited this business administration curriculum that prepares students for employment as accountants and other related positions in business and industry. Successful completion will equip the graduates with the skills and knowledge to perform general accounting record keeping duties; to perform financial and managerial accounting analysis; and to engage in corporate and manufacturing accounting routines.

**FIRST YEAR**

| <b>First Semester</b>  | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                                   | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|--|----------------------------|
| ENG 111 English or ENG 121 English .....   | 3.0(3.0)                   | ENG 123 Technical Communications.....                    | 3.0(3.0)                   |
| BUS 121 Introduction to Business <sup>B</sup> .....                                      | 3.0(3.0)                   | SPE 121 Speech Communications .....                      | 3.0(3.0)                   |
| BUS 123 Principles of Accounting I <sup>B</sup> .....                                    | 4.0(4.0)                   | BUS 124 Principles of Accounting II <sup>B</sup> .....   | 4.0(4.0)                   |
| MTH 121 College Algebra or MTH 123<br>College Algebra & Analytical Trig.....             | 4.0(4.0)                   | American Gov. Req. <sup>A</sup> .....                    | 3.0 or 6.0(3.0 or 6.0)     |
| CIS 120 Intro to Microcomputers <sup>B</sup> or<br>MTH 119 Intro to Computers-Prog. .... | 3.0(4.0)                   | BUS 255 Business Application Software <sup>B</sup> ..... | 3.0(4.0)                   |
|  |                            |  | 16.0 or 19.0(17.0 or 20.0) |
|  | 17.0(18.0)                 |  |                            |

**SECOND YEAR**

| <b>First Semester</b>                                | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                                | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|---|----------------------------|
| BUS 221 Business Law <sup>B</sup> .....              | 3.0(3.0)                   | BUS 222 Business Law <sup>B</sup> .....               | 3.0(3.0)                   |
| BUS 223 Intermediate Accounting I <sup>B</sup> ..... | 4.0(4.0)                   | BUS 224 Intermediate Accounting II <sup>B</sup> ..... | 3.0(3.0)                   |
| ECN 231 Economics (Micro) .....                      | 3.0(3.0)                   | ECN 232 Economics (Macro).....                        | 3.0(3.0)                   |
| BUS 257 Computerized Acct. Systems.....              | 3.0(3.0)                   | BUS 228 Cost Accounting <sup>B</sup> .....            | 3.0(3.0)                   |
| BUS 225 Tax Accounting <sup>B</sup> .....            | 3.0(3.0)                   | Business Elective <sup>C</sup> .....                  | 3.0(3.0 or 4.0)            |
|  | 16.0(16.0)                 |   | 15.0(15.0 or 16.0)         |

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

<sup>B</sup> Included in occupational specialty.

<sup>C</sup> Choose business elective from any BIS Business Information Systems courses, CIS Computer Information Systems courses, or other remaining BUS Business Administration courses except BUS 131, 132.

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. For more information see the Northwood description on page 134-35 and the MBUC section on pages 140-142.

Associate in Arts Degree (AA) Concentration in

**ANTHROPOLOGY**

Program Number: 45.0201

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 55) and consult with an academic advisor concerning specific course selection. A minimum total of 60 credits is required for the Associate in Arts degree. The goal of this suggested program of study is to satisfy English composition and mathematics requirements for a bachelor of arts or a bachelor of science degree while at Alpena Community College and to promote a foundation in the social sciences.

**FIRST YEAR**

| <b>First Semester</b>                         | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                        | <b>Credit(Contact) Hrs</b> |
|---|----------------------------|---|----------------------------|
| ENG 111 English or ENG 121 English .....      | 3.0(3.0)                   | ENG 112 English or ENG 122 English .....      | 3.0(3.0)                   |
| Math <sup>1</sup> .....                       | 4.0-5.0(4.0-5.0)           | Laboratory Science Course .....               | 4.0(6.0)                   |
| ANP 121 Cultural Anthropology .....           | 3.0(3.0)                   | SOC 123 Sociology.....                        | 3.0(3.0)                   |
| GEO 125 Geography.....                        | 3.0(3.0)                   | GEO 126 Cultural Geography.....               | 3.0(3.0)                   |
| HST 121 History of Western Civilization ..... | 3.0(3.0)                   | HST 122 History of Western Civilization ..... | 3.0(3.0)                   |
|   | _____                      |   | _____                      |
|   | 16.0-17.0(16.0-17.0)       |   | 16.0(18.0)                 |

**SECOND YEAR**

| <b>First Semester</b>                        | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                     | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|--|----------------------------|
| ECN 231 Economics (Micro) .....              | 3.0(3.0)                   | ECN 232 Economics (Macro).....             | 3.0(3.0)                   |
| PSY 101 General Psychology.....              | 3.0(3.0)                   | SOC 227 Marriage and the Family.....       | 3.0(3.0)                   |
| PLS 221 Political Science <sup>2</sup> ..... | 3.0 or 6.0(3.0 or 6.0)     | Social Science Elective <sup>3</sup> ..... | 3.0(3.0)                   |
| Humanities/Fine Arts Elective.....           | 3.0-4.0(4.0-5.0)           | Electives .....                            | 6.0-7.0(6.0-7.0)           |
| Elective <sup>4</sup> .....                  | 3.0(3.0)                   |  | _____                      |
|  | _____                      |  | 15.0-16.0(15.0-16.0)       |
|  | 15.0-19.0(16.0-20.0)       |  |                            |

<sup>1</sup> It is recommended that transfer students determine mathematics requirements at the university to which they will transfer. Students are encouraged to complete MTH 121 College Algebra or MTH 123 College Algebra and Analytic Trigonometry before transferring.

<sup>2</sup> Choose either three credits in Political Science (PLS 221 or 222) or six credits in U.S. History (HST 221 and 222).

<sup>3</sup> Social Science Electives:

- |                    |                         |
|--------------------|-------------------------|
| Anthropology (ANP) | Political Science (PLS) |
| Economics (ECN)    | Psychology (PSY)        |
| Geography (GEO)    | Sociology (SOC)         |
| History (HST)      |                         |

<sup>4</sup> It is strongly recommended that students choose either SPE 121 Speech Communication or SPE 123 Public Communication to fill this general elective.

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**

| <b>Courses</b>                              | <b>Credit(Contact) Hrs</b> |
|---|----------------------------|
| APP 131 Measuring Instruments.....          | 1.0(1.0)                   |
| APP 106M Industrial Safety.....             | 0.5(0.5)                   |
| APP 100E Electrical Studies for Trades..... | 3.0(4.0)                   |
| MTH 110 Technical Math I.....               | 3.0(4.0)                   |
|   | 7.5(9.5)                   |

**BASIC COURSES**

| <b>Courses</b>  | <b>Credit(Contact) Hrs</b> |
|---|----------------------------|
| APP 102E Residential Wiring &<br>Blueprint Reading..... | 3.0(4.0)                   |
| APP 103E Commercial and<br>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<br>Code Application.....     | 3.0(3.0)                   |
|   | 21.0(27.0)                 |

**ADVANCED COURSES**

(Must have completed core and basic courses)

| <b>Courses</b>                                | <b>Credit(Contact) Hrs</b> |
|---|----------------------------|
| APP 122E Digital Elect. for Electricians..... | 3.0(4.0)                   |
| APP 123E Linear Elect. for Electricians.....  | 3.0(4.0)                   |
|   | 6.0(8.0)                   |

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**

| <b>Courses</b>                                      | <b>Credit(Contact) Hrs</b> | <b>Courses</b>  | <b>Credit(Contact) Hrs</b> |
|---|----------------------------|---|----------------------------|
| APP 100E Electrical Studies for Trades.....         | 3.0(4.0)                   | APP 129M Apprentice Pneumatics .....                            | 1.5(2.0)                   |
| APP 106M Industrial Safety.....                     | 0.5(0.5)                   | APP 223M Predictive & Preventative<br>Maintenance.....          | 2.5(4.0)                   |
| APP 121M App. Blueprint Reading <sup>A</sup> .....  | 3.0(4.0)                   | MET 123 Welding Processes or<br>MET 124 Welding Processes ..... | 4.0(6.0)                   |
| APP 122M Machine Repair .....                       | 2.5(4.0)                   | MTH 110 Technical Math I.....                                   | 3.0(4.0)                   |
| APP 124M Apprentice Hydraulics .....                | 2.5(4.0)                   |   |                            |
| APP 125M Apprentice Machine Shop <sup>B</sup> ..... | 2.5(3.0)                   |   |                            |
| APP 128M Rigging & Weight Est.....                  | 1.5(2.0)                   |   |                            |

**ADVANCED CERTIFICATE COURSES\*\***

| <b>Courses</b>   | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|
| APP 102E Residential Wiring & Blueprint<br>Reading ..... | 3.0(4.0)                   |
| APP 103E Commercial & Ind. Wiring .....                  | 3.0(4.0)                   |
| MFG 100 Machinery's Handbook .....                       | 3.0(4.0)                   |

Plus three courses from the following list:

|   |                  |
|---|------------------|
| APP 111E Electric Motor Control .....   | 3.0(4.0)         |
| APP 114E Programmable Controllers ..... | 3.0(4.0)         |
| MFG 102 Metal Cutting II.....           | 6.0(10.0)        |
| MFG 201 Intro to CNC.....               | 5.0(10.0)        |
| APP 290M Millwright Internship .....    | 3.0-4.0(3.0-4.0) |
| An additional welding (MET) course ...  | 3.0-4.0(3.0-6.0) |

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

<sup>A</sup> Will be waived if student successfully completes MFG 101.

<sup>B</sup> Will be waived if student successfully completes MFG 120.

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.

| <b>First Semester</b>         | <b>Credit(Contact) Hrs</b> |
|-------------------------------|----------------------------|
| AUT 115 Auto Body Repair..... | 17.0(30.0)                 |
| <br>                          |                            |
| <b>Second Semester</b>        | <b>Credit(Contact) Hrs</b> |
| AUT 116 Auto Body Repair..... | 17.0(30.0)                 |
| <br>                          |                            |
| <b>Summer</b>                 | <b>Credit(Contact) Hrs</b> |
| AUT 117 Auto Body Repair..... | 10.0(30.0)                 |



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 and/or earn an associate degree<sup>B</sup> (Program Number 47.0604).

**FIRST SEMESTER**

| <b>Course</b>  | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|
| AUT 118 Automotive Fundamentals .....                          | 4.0(6.0)                   |
| AUT 119 Automotive Brake Systems .....                         | 5.0(8.0)                   |
| AUT 123 Automotive Suspension, Steering &<br>Alignment .....   | 5.0(8.0)                   |
| AUT 124 Automotive Electrical & Electronics<br>Systems I ..... | 5.0(8.0)                   |
|  | 19.0(30.0)                 |

**SECOND SEMESTER**

| <b>Course</b>  | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|
| AUT 122 Automotive Air, Fuel & Emissions<br>Systems.....       | 4.0(6.0)                   |
| AUT 125 Automotive Electrical & Electronics<br>Systems II..... | 5.0(8.0)                   |
| AUT 201 Computerized Eng. Controls.....                        | 4.0(6.0)                   |
| AUT 202 Engine Performance Diagnosis &<br>Tune-Up.....         | 5.0(8.0)                   |
|  | 18.0(28.0)                 |

**SUMMER SESSION**

| <b>Course</b>                        | <b>Credit(Contact) Hrs</b> |
|--------------------------------------|----------------------------|
| AUT 151 Automotive Summer Co-Op..... | 6.0(6.0)                   |

<sup>A</sup> 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:

| <b>Course</b>   | <b>Credit(Contact) Hrs</b> | <b>Course</b>                        | <b>Credit(Contact) Hrs</b> |
|---|----------------------------|--------------------------------------|----------------------------|
| AUT 221 Engine Repair & Overhaul.....                     | 5.0(8.0)                   | AUT 205 Auto. Climate Control .....  | 3.0(4.0)                   |
| AUT 203 Auto. Manual Transmission and<br>Drive Lines..... | 4.0(6.0)                   | AUT 206 Automatic Transmissions..... | 5.0(8.0)                   |

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

| <b>Course</b>   | <b>Credit(Contact) Hrs</b> | <b>Course</b>                       | <b>Credit(Contact) Hrs</b> |
|---|----------------------------|-------------------------------------|----------------------------|
| ENG 120 Applied Communications or<br>ENG 111 English.....   | 3.0(3.0)                   | MTH 115 Applied Algebra & Trig..... | 5.0(6.0)                   |
| ENG 123 Technical Communications or<br>ENG 112 English..... | 3.0(3.0)                   | PLS 221 Political Science .....     | 3.0(3.0)                   |

**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 the co-op program and 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 56) 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 or CEM 121<br>General & Inorganic Chem ..... | 4.0-5.0(7.0-8.0)     | CEM 122 Inorganic Chemistry &<br>Qualitative Analysis ..... | 4.0(7.0)            |
| BIO 210 Introduction to Botany.....                                    | 4.0(5.0)             | BIO 211 General Zoology.....                                | 4.0(5.0)            |
| MTH 122 Plane Trigonometry .....                                       | 3.0(3.0)             | MTH 123 College Algebra &<br>Analytic Geometry .....        | 4.0(4.0)            |
|  | 14.0-15.0(18.0-19.0) |   | 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. <sup>A</sup> <sup>B</sup> .....                      | 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. <sup>B</sup> ..... | 3.0-4.0(3.0-5.0)     | Humanities/Fine Arts & Social Sciences<br>Requirement <sup>B</sup> ..... | 3.0-4.0(3.0-5.0)       |
|  | 14.0-15.0(16.0-21.0) |  | 14.0-18.0(18.0-23.0)   |

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

<sup>B</sup> See page 56. 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, has earned accreditation from the Association of Collegiate Business Schools and Programs. 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**

| <b>First Semester</b>  | <b>Credit(Contact) Hrs</b>   | <b>Second Semester</b>                              | <b>Credit(Contact) Hrs</b> |
|--|------------------------------|---|----------------------------|
| BIS 101 Keyboard Skillbuilding <sup>†B</sup> .....                           | 1.0(1.25)                    | CIS 151 Word Proc. I <sup>†B</sup> .....            | 1.0(1.25)                  |
| BIS 140 Proofreading & Editing for Business Professionals <sup>B</sup> ..... | 3.0(4.0)                     | CIS 152 Word Proc. II <sup>†B</sup> .....           | 1.0(1.25)                  |
| BUS 121 Intro. to Business .....   | 3.0(3.0)                     | CIS 153 Word Proc III <sup>†B</sup> .....           | 1.0(1.25)                  |
| BUS 125 Business Math, MTH 102 Elem. Algebra or higher <sup>B</sup> .....    | 3.0 or 5.0(3.0 or 5.0)       | CIS 171 Spreadsheets I <sup>†B</sup> .....          | 1.0(1.25)                  |
| CIS 110 Computer Essentials <sup>B</sup> .....                               | 1.0(1.25)                    | CIS 172 Spreadsheets II <sup>†B</sup> .....         | 1.0(1.25)                  |
| CIS 111 Computer Operating Systems <sup>B</sup> .....                        | 1.0(1.25)                    | CIS 173 Spreadsheets III <sup>†B</sup> .....        | 1.0(1.25)                  |
| ENG 111 English or ENG 121 English .....                                     | 3.0(3.0)                     | CIS 240 Multimedia Presentations <sup>B</sup> ..... | 3.0(4.0)                   |
|  | _____                        | American Govt. Req. <sup>A</sup> .....              | 3.0 or 6.0(3.0 or 6.0)     |
|  | 15.0 or 17.0(16.75 or 18.75) | ENG 112 English or ENG 122 English .....            | 3.0(3.0)                   |
|  |                              |   | _____                      |
|  |                              |   | 15.0 or 18.0(17.5 or 20.5) |

**SECOND YEAR**

| <b>First Semester</b>  | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>  | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|---|----------------------------|
| BIS 178 Machine Transcription <sup>B</sup> .....   | 3.0(4.0)                   | BIS 230 Business Office Procedures <sup>B</sup> .....   | 3.0(4.0)                   |
| BUS 123 Principles of Accounting I <sup>B C</sup> or BUS 131 Applied Accounting <sup>B</sup> ..... | 4.0 or 3.0(4.0)            | BUS 124 Principles of Accounting II <sup>B</sup> or BUS 132 App. Accounting II <sup>B</sup> ..... | 4.0 or 3.0(4.0)            |
| CIS 250 Desktop Publishing <sup>B</sup> .....  | 3.0(4.0)                   | BUS 248 Business Communications <sup>B</sup> .....  | 3.0(3.0)                   |
| CIS 260 Data Base <sup>B</sup> .....   | 3.0(4.0)                   | CIS 241 Intro to Web Design & Man. <sup>B</sup> .....   | 3.0(4.0)                   |
| CIS 281 Adv. Word Proc. I <sup>†B</sup> .....  | 1.0(1.25)                  | Recommended Business Elective <sup>D</sup> .....  | 3.0(3.0-4.0)               |
| CIS 282 Adv. Word Proc. II <sup>†B</sup> .....   | 1.0(1.25)                  |   | _____                      |
| CIS 283 Adv. Word Proc. III <sup>†B</sup> .....  | 1.0(1.25)                  |   | 15.0 or 16.0(18.0-19.0)    |
|  | _____                      |   |                            |
|  | 15.0 or 16.0(19.75)        |   |                            |

<sup>A</sup> Choose either three credits in Political Science (PLS 221 or 222) or six credits in U.S. History (HST 221 and 222).  
<sup>B</sup> Included in occupational specialty: GPA of 2.0 or higher must be maintained in the area of occupational specialty.  
<sup>C</sup> For the student taking BUS 123, MTH 102 must be taken as a corequisite.  
<sup>D</sup> Choose three credits from: BUS 127, BUS 221, BUS 235, CIS 140, BUS 262, or BUS 290.  
<sup>\*</sup> 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.  
<sup>†</sup> 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 Algebra Community College Association Associate in Arts Degree Distribution Requirements and consult with an academic advisor concerning specific course selection.

### FIRST YEAR

| First Semester  | Credit(Contact) Hrs | Second Semester                              | Credit(Contact) Hrs     |
|---|---------------------|--|-------------------------|
| BIS 101 Keyboard Skillbuilding <sup>*B</sup> .....                              | 1.0(1.25)           | CIS 151 Word Proc. I <sup>†B</sup> .....     | 1.0(1.25)               |
| BIS 140 Proofreading & Editing for Business<br>Professionals <sup>B</sup> ..... | 3.0(4.0)            | CIS 152 Word Proc. II <sup>†B</sup> .....    | 1.0(1.25)               |
| CIS 110 Computer Essentials <sup>B</sup> .....                                  | 1.0(1.25)           | CIS 153 Word Proc. III <sup>†B</sup> .....   | 1.0(1.25)               |
| CIS 111 Computer Operating Systems <sup>B</sup> .....                           | 1.0(1.25)           | CIS 171 Spreadsheets I <sup>†B</sup> .....   | 1.0(1.25)               |
| ENG 111 English or ENG 121 English .....  | 3.0(3.0)            | CIS 172 Spreadsheets II <sup>†B</sup> .....  | 1.0(1.25)               |
| Laboratory Science Requirement .....  | 4.0(5.0-7.0)        | CIS 173 Spreadsheets III <sup>†B</sup> ..... | 1.0(1.25)               |
| Social Science Requirement .....  | 3.0(3.0)            | ENG 112 English or ENG 122 English .....     | 3.0(3.0)                |
| —————   |                     | American Govt. Req. <sup>A</sup> .....       | 3.0 or 6.0(3.0 or 6.0)  |
|   | 16.0(18.75-20.75)   | Science or Math Requirement .....            | 4.0(4.0-7.0)            |
|   |                     | —————  |                         |
|   |                     |  | 16.0 or 19.0(17.5-23.5) |

### SECOND YEAR

| First Semester  | Credit(Contact) Hrs | Second Semester   | Credit(Contact) Hrs |
|---|---------------------|---|---------------------|
| BUS 123 Principles of Accounting I <sup>B C</sup> ..... | 4.0(4.0)            | BIS 230 Business Office Procedures <sup>B</sup> .....   | 3.0(4.0)            |
| CIS 250 Desktop Publishing <sup>B</sup> .....           | 3.0(4.0)            | BUS 248 Business Communications <sup>B</sup> .....      | 3.0(3.0)            |
| CIS 260 Data Base <sup>B</sup> .....                    | 3.0(4.0)            | CIS 240 Multimedia Presentations <sup>B</sup> .....     | 3.0(4.0)            |
| CIS 281 Advanced Word Proc. I <sup>†B</sup> .....       | 1.0(1.25)           | CIS 241 Intro to Web Design and Man. <sup>B</sup> ..... | 3.0(4.0)            |
| CIS 282 Advanced Word Proc. II <sup>†B</sup> .....      | 1.0(1.25)           | Humanities/Fine Arts Requirement .....                  | 4.0(4.0-5.0)        |
| CIS 283 Advanced Word Proc. III <sup>†B</sup> .....     | 1.0(1.25)           | —————   |                     |
| Humanities/Fine Arts Requirement .....                  | 4.0(4.0-5.0)        |   | 16.0(19.0-20.0)     |
| —————   |                     |   |                     |
|   | 17.0(19.75-20.75)   |   |                     |

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

<sup>B</sup> Included in occupational specialty: GPA of 2.0 or higher must be maintained in the area of occupational specialty.

<sup>C</sup> For the student taking BUS 123, MTH 102 must be taken as a corequisite.

<sup>\*</sup> 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.

<sup>†</sup> These courses are normally taken during a semester in sequence within the course group.

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**

| <b>First Semester</b>   | <b>Credit(Contact) Hrs</b>   | <b>Second Semester</b>  | <b>Credit(Contact) Hrs</b> |
|---|------------------------------|---|----------------------------|
| BIS 140 Proofreading & Editing for Business Professionals ..... | 3.0(4.0)                     | BIS 101 Keyboard Skillbuilding * <sup>B</sup> .....                                 | 1.0(2.0)                   |
| BIS 160 Medical Terminology <sup>B</sup> .....                  | 4.0(4.0)                     | BIO 110 Essentials of Anatomy/Physiology<br>or BIO 201 Human Anatomy .....          | 4.0(5.0)                   |
| CIS 151 Word Processing I <sup>†B</sup> .....                   | 1.0(1.25)                    | ENG 112 English or ENG 122 English .....  | 3.0(3.0)                   |
| CIS 152 Word Processing II <sup>†B</sup> .....                  | 1.0(1.25)                    | BUS 125 Business Mathematics or MTH 102<br>Elem. Algebra or higher <sup>B</sup> ... | 3.0 or 5.0(3.0 or 5.0)     |
| CIS 153 Word Processing III <sup>†B</sup> .....                 | 1.0(1.25)                    | BIS 147 Medical Office Transcription <sup>B</sup> .....                             | 4.0(6.0)                   |
| ENG 111 English or ENG 121 English .....                        | 3.0(3.0)                     |   |                            |
| American Govt. Req. <sup>A</sup> .....                          | 3.0 or 6.0(3.0 or 6.0)       |   |                            |
|   | 16.0 or 19.0(17.75 or 20.75) |   | 15.0 or 17.0(19.0 or 21.0) |

**SECOND YEAR**

| <b>First Semester</b>                                   | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                                      | <b>Credit(Contact) Hrs</b> |
|---|----------------------------|---|----------------------------|
| BIS 163 Medical Office Coding <sup>B</sup> .....        | 4.0(4.0)                   | BIS 161 Medical Transcription <sup>B</sup> .....            | 4.0(6.0)                   |
| BIS 165 Medical Office Procedures <sup>B</sup> .....    | 4.0(4.0)                   | BIS 162 Medical Office Computer Appl. <sup>B</sup> .....    | 1.0(2.0)                   |
| BIS 178 Machine Transcription <sup>B</sup> .....        | 3.0(4.0)                   | BIS 164 Medical Office Insurance Billing <sup>B</sup> ..... | 3.0(4.0)                   |
| CIS 281 Advanced Word Processing I <sup>†B</sup> .....  | 1.0(1.25)                  | BIS 167 Medical Ethics and Law <sup>B</sup> .....           | 1.0(1.0)                   |
| CIS 282 Advanced Word Processing II <sup>†B</sup> ..... | 1.0(1.25)                  | BIS 170 Electronic Health Records <sup>B</sup> .....        | 1.5(2.0)                   |
| CIS 283 Advanced Word Processing III <sup>†B</sup> ...  | 1.0(1.25)                  | BUS 248 Business Communications <sup>B</sup> .....          | 3.0(3.0)                   |
|   | 14.0(15.75)                | Recommended Business Elect. <sup>C</sup> .....              | 3.0 or 4.0(3.0-4.0)        |
|   |                            |   | 16.5(20.5-21.5)            |

<sup>A</sup> Choose either three credits in Political Science (PLS 221 or 222) or six credits in U.S. History (HST 221 and 222).  
<sup>B</sup> Included in occupational specialty: GPA of 2.0 or higher must be maintained in the area of occupational specialty.  
<sup>C</sup> Choose three credits from BIS 173, BUS 121, BUS 124, BUS 132, BUS 234, CIS 171, CIS 172, CIS 173, CIS 241, or INT 290.  
<sup>†</sup> These courses are normally taken during a semester in sequence within the course group.  
<sup>\*</sup> 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.

| <b>First Semester</b>  | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>   | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|--|----------------------------|
| BIS 140 Proofreading & Editing for Business Professionals <sup>B</sup> ..... | 3.0(4.0)                   | BIO 110 Essentials of Anatomy & Physiology .....                           | 4.0(5.0)                   |
| BIS 160 Medical Terminology <sup>B</sup> .....                               | 4.0(4.0)                   | BIS 101 Keyboard Skillbuilding <sup>B</sup> .....                          | 1.0(2.0)                   |
| BIS 178 Machine Transcription <sup>B</sup> .....                             | 3.0(4.0)                   | BIS 161 Medical Transcription <sup>B</sup> .....                           | 4.0(6.0)                   |
| BIS 147 Medical Office Transcription <sup>B</sup> .....                      | 4.0(6.0)                   | BIS 167 Medical Ethics and Law for Health Professionals <sup>B</sup> ..... | 1.0(1.0)                   |
| CIS 151 Word Processing I <sup>AB</sup> .....                                | 1.0(1.25)                  | ENG 111 English or ENG 121 English .....                                   | 3.0(3.0)                   |
| CIS 152 Word Processing II <sup>AB</sup> .....                               | 1.0(1.25)                  | SDE 201 Job Search Strategies .....  | 1.0(1.0)                   |
| CIS 153 Word Processing III <sup>AB</sup> .....                              | 1.0(1.25)                  |  |                            |
|  | 17.0(22.25)                |  | 14.0(18.0)                 |

Certificate prerequisites: CIS 110 Computer Essentials and CIS 111 Computer Operating Systems or equivalent.

<sup>A</sup> These courses are normally taken during a semester in sequence within the course group.

<sup>B</sup> Included in occupational specialty: GPA of 2.0 or higher must be maintained in the area of occupational specialty.

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.

| <b>First Semester</b>  | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                                  | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|---|----------------------------|
| BIS 101 Keyboard Skillbuilding <sup>B</sup> .....  | 1.0(1.25)                  | BIS 178 Machine Transcription <sup>B</sup> .....        | 3.0(4.0)                   |
| BIS 140 Proofreading & Editing for Business<br>Professionals <sup>B</sup> .....                    | 3.0(4.0)                   | BIS 230 Business Office Procedures <sup>B</sup> .....   | 3.0(4.0)                   |
| BUS 125 Business Math, MTH 102 Elementary<br>Algebra, or higher <sup>B</sup> .....                 | 3.0 or 5.0(3.0 or 5.0)     | CIS 171 Spreadsheets I <sup>†B</sup> .....              | 1.0(1.25)                  |
| BUS 131 App. Accounting <sup>B</sup> or BUS 123<br>Principles of Accounting I <sup>B,C</sup> ..... | 3.0 or 4.0(4.0)            | CIS 172 Spreadsheets II <sup>†B</sup> .....             | 1.0(1.25)                  |
| CIS 110 Computer Essentials <sup>B</sup> .....   | 1.0(1.25)                  | CIS 173 Spreadsheets III <sup>†B</sup> .....            | 1.0(1.25)                  |
| CIS 111 Computer Operating Systems <sup>B</sup> .....  | 1.0(1.25)                  | CIS 281 Advanced Word Processing I <sup>†B</sup> .....  | 1.0(1.25)                  |
| CIS 151 Word Processing I <sup>†B</sup> .....  | 1.0(1.25)                  | CIS 282 Advanced Word Processing II <sup>†B</sup> ..... | 1.0(1.25)                  |
| CIS 152 Word Processing II <sup>†B</sup> .....   | 1.0(1.25)                  | CIS 283 Advanced Word Processing III <sup>†B</sup> ...  | 1.0(1.25)                  |
| CIS 153 Word Processing III <sup>†B</sup> .....  | 1.0(1.25)                  | ENG 111 English or ENG 121 English .....                | 3.0(3.0)                   |
|  | —————                      |   | 15.0(18.5)                 |
|  | 15.0-18.0(18.5-20.5)       |   |                            |

<sup>B</sup> Included in occupational specialty: GPA of 2.0 or higher must be maintained in the area of occupational specialty.

<sup>C</sup> For the student taking BUS 123 Principles of Accounting I, MTH 102 Elementary Algebra must be taken as a prerequisite.

<sup>\*</sup> 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.

<sup>†</sup> 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, which has earned accreditation from the Association of Collegiate Business Schools and Programs, 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 <sup>*B</sup> .....                           | 1.0(1.25)              | BUS 124 Principles of Accounting II <sup>B,C</sup> or |                     |
| BIS 140 Proofreading & Editing for Business Professionals <sup>B</sup> ..... | 3.0(4.0)               | BUS 132 Applied Accounting <sup>B</sup> .....         | 4.0 or 3.0(4.0)     |
| BUS 125 Bus. Mathematics, MTH 102 Elem. Algebra or higher <sup>B</sup> ..... | 3.0 or 5.0(3.0 or 5.0) | BUS 248 Business Communications <sup>B</sup> .....    | 3.0(3.0)            |
| CIS 110 Computer Essentials <sup>B</sup> .....                               | 1.0(1.25)              | CIS 151 Word Proc. I <sup>†B</sup> .....              | 1.0(1.25)           |
| CIS 111 Computer Operating Systems <sup>B</sup> .....                        | 1.0(1.25)              | CIS 152 Word Proc. II <sup>†B</sup> .....             | 1.0(1.25)           |
| ENG 111 English or ENG 121 English.....                                      | 3.0(3.0)               | CIS 153 Word Processing III <sup>†B</sup> .....       | 1.0(1.25)           |
| BUS 123 Principles of Accounting I <sup>B,C</sup> or                         |                        | CIS 171 Spreadsheets I <sup>†B</sup> .....            | 1.0(1.25)           |
| BUS 131 Appl. Accounting <sup>B</sup> .....                                  | 4.0 or 3.0(4.0)        | CIS 172 Spreadsheets II <sup>†B</sup> .....           | 1.0(1.25)           |
|  | 15.0-20.0(17.75-19.75) | CIS 173 Spreadsheets III <sup>†B</sup> .....          | 1.0(1.25)           |
|  |                        | ENG 112 English or ENG 122 English.....               | 3.0(3.0)            |
|  |                        |   | 15.0 or 16.0(17.5)  |

### SECOND YEAR

| First Semester   | Credit(Contact) Hrs | Second Semester                                       | Credit(Contact) Hrs        |
|--|---------------------|---|----------------------------|
| CIS 140 Intro to Microsoft Client OS <sup>B</sup> .....          | 3.0(4.0)            | BIS 230 Business Office Procedures <sup>B</sup> ..... | 3.0(4.0)                   |
| CNS 170 PC Repair and Maintenance <sup>B</sup> .....             | 4.0(5.0)            | CIS 240 Multimedia Presentations <sup>B</sup> .....   | 3.0(4.0)                   |
| CIS 250 Desktop Publishing <sup>B</sup> .....                    | 3.0(4.0)            | American Govt. Req. <sup>A</sup> .....                | 3.0 or 6.0(3.0 or 6.0)     |
| CIS 260 Data Base <sup>B</sup> .....                             | 3.0(4.0)            | CIS 241 Web Design & Management <sup>B</sup> .....    | 3.0(4.0)                   |
| CIS 281 Advanced Word Processing I <sup>†B</sup> .....           | 1.0(1.25)           | CIS 295 IT Pro Practice Management <sup>B</sup> ..... | 3.0(4.0)                   |
| CIS 282 Advanced Word Processing II <sup>†B</sup> .....          | 1.0(1.25)           |   | 15.0 or 18.0(19.0 or 22.0) |
| CIS 283 Advanced Word Processing III <sup>†B</sup> ... 1.0(1.25) |                     |   |                            |
|  | 16.0(20.75)         |   |                            |

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

<sup>B</sup> Included in occupational specialty: GPA of 2.0 or higher must be maintained in the area of occupational specialty.

<sup>C</sup> For the student taking BUS 123, MTH 102 must be taken as a corequisite.

<sup>\*</sup> 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.

<sup>†</sup> 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

The Association of Collegiate Business Schools and Programs has accredited this business administration program, which offers a wide knowledge of business operations. Successful completion will enable students to manage their own businesses or seek employment in business and industry with management training programs.

**FIRST YEAR**

| <b>First Semester</b>  | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>   | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|--|----------------------------|
| ENG 111 English or ENG 121 English .....                     | 3.0(3.0)                   | ENG 112 English or ENG 122 English .....                           | 3.0(3.0)                   |
| Mathematics Elective or BUS 125 Business<br>Mathematics..... | 3.0(3.0-4.0)               | BUS 124 Principles of Accounting II <sup>B</sup> .....             | 4.0(4.0)                   |
| BUS 121 Introduction to Business <sup>B</sup> .....          | 3.0(3.0)                   | BUS 127 Principles of Management <sup>B</sup> .....                | 3.0(3.0)                   |
| BUS 123 Principles of Accounting I <sup>B</sup> .....        | 4.0(4.0)                   | CIS 120 Intro to Microcomputers or<br>MTH 119 Intro to Computers — |                            |
| ECN 231 Economics (Micro) .....                              | 3.0(3.0)                   | Programming.....   | 3.0(3.0 or 4.0)            |
| —————  |                            | ECN 232 Economics (Macro).....                                     | 3.0(3.0)                   |
| 16.0(16.0-17.0)  |                            | —————  |                            |
|  |                            | 16.0(16.0 or 17.0)   |                            |

**SECOND YEAR**

| <b>First Semester</b>                   | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                     | <b>Credit(Contact) Hrs</b> |
|---|----------------------------|--|----------------------------|
| BUS 221 Business Law <sup>B</sup> ..... | 3.0(3.0)                   | BUS 222 Business Law <sup>B</sup> .....    | 3.0(3.0)                   |
| SPE 121 Speech Communication.....       | 3.0(3.0)                   | BUS 255 Business Application Software..... | 3.0(4.0)                   |
| American Govt. Req. <sup>A</sup> .....  | 3.0 or 6.0(3.0 or 6.0)     | PSY 101 General Psychology.....            | 3.0(3.0)                   |
| Business Elective <sup>B,C</sup> .....  | 3.0(3.0)                   | Business Elective <sup>C</sup> .....       | 3.0(3.0)                   |
| Social Sciences Elective.....           | 3.0(3.0)                   | Social Sciences Elective.....              | 3.0(3.0)                   |
| —————                                   |                            | —————                                      |                            |
| 15.0 or 18.0(15.0 or 18.0)              |                            | 15.0(16.0)                                 |                            |

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

<sup>B</sup> Included in occupational specialty: GPA of 2.0 or higher must be maintained in the area of occupational specialty.

<sup>C</sup> Choose business electives from business administration (BUS) courses listed in the course description section of this catalog.

## Associate in Applied Science Degree (AAS) in CAD ENGINEERING TECHNOLOGY

Program Number: 15.1302

Computer graphics for engineering technology are emphasized in this program as students are prepared for a wide variety of occupations in design and drafting fields. A CAD (computer-aided drafting and design) lab is utilized, fully equipped with software recommended by industry. While foundations in traditional drafting methods are included, the use of computers gives students the opportunity to participate in the paradigm shift into high-tech subjects such as 3D solid modeling. In addition to specialized CAD courses, related subjects are covered to give students the background they need to perform well in the workplace. Scientific and mathematical principles and theories serve as a basis for the research and development of products. Communication skills and knowledge of manufacturing processes are required in the workplace and are also important parts of this program. Graduates are qualified to secure technical positions such as engineering technician, computer drafter, and designer in both mechanical and architectural fields.

### FIRST YEAR

| First Semester   | Credit(Contact) Hrs | Second Semester   | Credit(Contact) Hrs        |
|--|---------------------|---|----------------------------|
| CAD 101 Intro to CAD Careers <sup>A</sup> .....          | 0.5(0.5)            | CAD 130 Adv. Multiview Drawing <sup>A B</sup> .....         | 1.5(2.0)                   |
| CAD 110 Engineering Graphics I <sup>A B</sup> .....      | 1.5(2.0)            | CAD 131 Pict. Drawing & Sketching <sup>A B</sup> .....      | 1.5(2.0)                   |
| CAD 111 Engineering Graphics II <sup>A B</sup> .....     | 1.5(2.0)            | CAD 140 3D Modeling <sup>A B</sup> .....                    | 1.5(2.0)                   |
| CAD 132 AutoCAD Fundamentals <sup>A B</sup> .....        | 1.5(2.0)            | CAD 141 Integrated CAD Apps. <sup>A B</sup> .....           | 1.5(2.0)                   |
| CAD 135 Intermediate AutoCAD <sup>A B</sup> .....        | 1.5(2.0)            | MTH 112 Technical Math II <sup>C</sup> .....                | 3.0(4.0)                   |
| MTH 110 Technical Math I <sup>C</sup> .....              | 3.0(4.0)            | ENG 112 English or ENG 123 Technical<br>Communications..... | 3.0(3.0)                   |
| MFG 101 Metal Cutting I <sup>A</sup> .....               | 4.0(6.0)            | American Govt. Req. <sup>A</sup> .....                      | 3.0 or 6.0(3.0 or 6.0)     |
| ENG 111 English or ENG 120 Applied<br>Communication..... | 3.0(3.0)            |   | _____                      |
|  | 16.5(21.5)          |   | 15.0 or 18.0(18.0 or 21.0) |

### SECOND YEAR

| First Semester   | Credit(Contact) Hrs | Second Semester                                      | Credit(Contact) Hrs     |
|--|---------------------|--|-------------------------|
| CAD 220 Machine Drawing <sup>A</sup> .....             | 3.5(5.0)            | CAD 222 Kinematic Design of Mech. <sup>A</sup> ..... | 3.5(5.0)                |
| CAD 134 Arch. Design (Residential) <sup>A</sup> .....  | 3.5(5.0)            | CAD 224 Arch. Design (Commercial) <sup>A</sup> ..... | 3.5(5.0)                |
| IND 227 Principles of Fluid Power <sup>A B</sup> ..... | 1.5(2.0)            | CAD 226 Industrial Design <sup>A</sup> .....         | 3.5(5.0)                |
| CAD 225 Schematic Diagrams <sup>A B</sup> .....        | 1.5(2.0)            | CAD 229 Descriptive Geometry <sup>A</sup> .....      | 3.5(5.0)                |
| PHY 111 Applied Physics <sup>D</sup> .....             | 3.0(4.0)            | Technical Elective <sup>E</sup> .....                | 2.0-3.0(3.0 or 4.0)     |
| IND 225 Strength of Materials <sup>A</sup> .....       | 4.0(4.0)            |  | _____                   |
|  | 17.0(22.0)          |  | 16.0-17.0(23.0 or 24.0) |

<sup>A</sup> Included in occupational specialty.

<sup>B</sup> These courses are normally offered in sequence during a semester.

<sup>C</sup> Will be waived if student successfully completes MTH 122 or higher. Students who plan on transferring to a 4-year institution should complete MTH 113 and MTH 122 or higher. Please see academic advisor for details.

<sup>D</sup> Will be waived if student successfully completes PHY 121 or higher.

<sup>E</sup> Technical elective, choose from the following: APP 100E, CST 214; MET 200; MFG 100; MFG 122; MFG 123.

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



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.

| <b>First Semester</b>                    | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                   | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|--|----------------------------|
| CAD 130 Advanced Multiview Drawing.....  | 1.5(2.0)                   | CAD 140 3D Modeling.....                 | 1.5(2.0)                   |
| CAD 220 Machine Drawing * .....          | 3.5(5.0)                   | CAD 141 Integrated CAD Applications..... | 1.5(2.0)                   |
| MFG 201 Introduction to CNC .....        | 5.0(10.0)                  | MFG 100 Machinery's Handbook .....       | 3.0(4.0)                   |
| MFG 204 Computer Aided Manufacturing ... | 3.0(4.0)                   | MFG 202 Advanced CNC.....                | 6.0(10.0)                  |
|  | _____                      | Elective.....                            | 3.0(3.0 or 4.0)            |
|  | 13.0(21.0)                 |  | _____                      |
|  |                            |  | 15.0(21.0 or 22.0)         |

\* Prerequisite: CAD 102 Introduction to AutoCAD or CAD 132 AutoCAD Fundamentals or instructor's permission.

## 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 56) 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 or CEM 121<br>General & Inorganic Chem. .... | 4.0-5.0(7.0-8.0)     | CEM 122 Inorganic Chemistry & Qualitative<br>Analysis ..... | 4.0(7.0)            |
| MTH 131 Analytic Geometry & Calculus .....                             | 5.0(5.0)             | MTH 132 Analytical Geom. & Calculus .....                   | 5.0(5.0)            |
| Humanities/Fine Arts Req. <sup>B</sup> .....                           | 3.0-4.0(4.0-5.0)     | _____   | 12.0(15.0)          |
| _____  | 15.0-17.0(19.0-21.0) |   |                     |

### 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 222 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. <sup>A B</sup> ..... | 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)          |

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

<sup>B</sup> See page 56. 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**

| <b>First Semester</b>                      | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                   | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|--|----------------------------|
| 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 Political Science .....          | 3.0(3.0)                   |
| MTH 121 College Algebra.....               | 4.0(4.0)                   | SPE 121 Speech Communication.....        | 3.0(3.0)                   |
|  | 17.0(20.0)                 |  | 17.0(17.0-18.0)            |

**SECOND YEAR**

| <b>First Semester</b>                     | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                    | <b>Credit(Contact) Hrs</b> |
|---|----------------------------|---|----------------------------|
| 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)                   |
|   | 15.0(18.0)                 |   | 16.0(17.0)                 |

Associate in Applied Science Degree (AAS) in  
**COMPUTER INTEGRATED MACHINING  
 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.

**FIRST YEAR**

| <b>First Semester</b>  | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>   | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|--|----------------------------|
| MFG 101 Metal Cutting I <sup>B</sup>   | 4.0(6.0)                   | MFG 100 Machinery's Handbook <sup>B</sup>                          | 3.0(4.0)                   |
| MFG 120 Applied Manuf. Print Reading I <sup>B</sup>                              | 3.0(4.0)                   | MFG 102 Metal Cutting II <sup>B</sup>                              | 6.0(10.0)                  |
| MTH 110 Tech Math I <sup>B</sup> or<br>MTH 113 Intermediate Algebra <sup>C</sup> | 3.0-4.0(4.0)               | MTH 112 Tech Math II or<br>MTH 122 Plane Trigonometry <sup>C</sup> | 3.0(3.0-4.0)               |
| ENG 111 English or ENG 120 Applied<br>Communications                             | 3.0(3.0)                   | ENG 112 English or ENG 123 Technical<br>Communications             | 3.0(3.0)                   |
| MET 200 Material Science   | 3.0(4.0)                   | CAD 102 Intro to AutoCAD   | 2.0(3.0)                   |
| <hr/>  |                            | <hr/>  |                            |
|  | 16.0-17.0(21.0)            |  | 17.0(23.0-24.0)            |

**SECOND YEAR**

| <b>First Semester</b>                            | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                           | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|--|----------------------------|
| CAD 130 Advanced Multi-view Drawing <sup>B</sup> | 1.5(2.0)                   | CAD 140 3D Modeling <sup>B</sup>                 | 1.5(2.0)                   |
| CAD 220 Machine Drawing <sup>B</sup>             | 3.5(5.0)                   | CAD 141 Integrated CAD Applications <sup>B</sup> | 1.5(2.0)                   |
| MFG 201 Introduction to CNC <sup>B</sup>         | 5.0(10.0)                  | MFG 202 Advanced CNC <sup>B</sup>                | 6.0(10.0)                  |
| PLS 221 Political Science <sup>A</sup>           | 3.0(3.0)                   | PHY 111 Applied Physics                          | 3.0(4.0)                   |
| MFG 204 Comp.-Aided Manuf. (CAM) <sup>B</sup>    | 3.0(4.0)                   | Elective   | 3.0(3.0)                   |
| <hr/>  |                            | <hr/>  |                            |
|  | 16.0(24.0)                 |  | 15.0(21.0)                 |

<sup>A</sup> Fulfills American Government Requirement.

<sup>B</sup> Included in occupational specialty: G.P.A. of 2.0 or higher must be maintained in the area of occupational specialty.

<sup>C</sup> Students transferring into manufacturing or industrial engineering should take MTH 113 and MTH 122.

Associate in Applied Science Degree (AAS) in  
**COMPUTER INTEGRATED MACHINING  
 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.

**FIRST YEAR**

| <b>First Semester</b>                                  | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                                | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|---|----------------------------|
| MFG 101 Metal Cutting I <sup>B</sup> .....             | 4.0(6.0)                   | CAD 102 Intro to AutoCAD <sup>B</sup> .....           | 2.0(3.0)                   |
| MFG 120 Applied Manuf. Print Reading I <sup>B</sup> .. | 3.0(4.0)                   | MET 124 Welding Processes <sup>B</sup> .....          | 4.0(6.0)                   |
| MTH 110 Tech Math I <sup>B</sup> or                    |                            | MTH 112 Tech Math II or                               |                            |
| MTH 113 Intermediate Algebra <sup>C</sup> .....        | 3.0-4.0(4.0)               | MTH 122 Plane Trigonometry <sup>C</sup> .....         | 3.0(3.0-4.0)               |
| ENG 111 English or ENG 120 Applied                     |                            | ENG 112 English or ENG 123 Technical                  |                            |
| Communications.....                                    | 3.0(3.0)                   | Communications.....                                   | 3.0(3.0)                   |
| MET 123 Welding Processes <sup>B</sup> .....           | 4.0(6.0)                   | MET 240 Gas Tungsten Arc/Pipe Welding <sup>B</sup> .. | 4.0(6.0)                   |
| MET 200 Material Science <sup>B</sup> .....            | 3.0(4.0)                   | MET 242 Welding Fabrication <sup>B</sup> .....        | 3.0(5.0)                   |
| <hr style="width: 100px; margin-left: auto;"/>         |                            | <hr style="width: 100px; margin-left: auto;"/>        |                            |
|  | 20.0(27.0)                 |   | 19.0(27.0)                 |

**SECOND YEAR**

| <b>First Semester</b>                                 | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                                 | <b>Credit(Contact) Hrs</b> |
|---|----------------------------|--|----------------------------|
| CAD 130 Advanced Multi-view Drawing <sup>B</sup> .... | 1.5(2.0)                   | CAD 140 3D Modeling <sup>B</sup> .....                 | 1.5(2.0)                   |
| CAD 220 Machine Drawing <sup>B</sup> .....            | 3.5(5.0)                   | CAD 141 Integrated CAD Applications <sup>B</sup> ..... | 1.5(2.0)                   |
| MFG 201 Introduction to CNC <sup>B</sup> .....        | 5.0(10.0)                  | MFG 100 Machinery's Handbook <sup>B</sup> .....        | 3.0(4.0)                   |
| PLS 221 Political Science <sup>A</sup> .....          | 3.0(3.0)                   | MFG 202 Advanced CNC <sup>B</sup> .....                | 6.0(10.0)                  |
| MFG 204 Comp.-Aided Manuf. (CAM) <sup>B</sup> .....   | 3.0(4.0)                   | PHY 111 Applied Physics.....                           | 3.0(4.0)                   |
| <hr style="width: 100px; margin-left: auto;"/>        |                            | <hr style="width: 100px; margin-left: auto;"/>         |                            |
|   | 16.0(24.0)                 |  | 15.0(22.0)                 |

<sup>A</sup> Fulfills American Government Requirement.

<sup>B</sup> Included in occupational specialty: G.P.A. of 2.0 or higher must be maintained in the area of occupational specialty.

<sup>C</sup> Students transferring into manufacturing or industrial engineering should take MTH 113 and MTH 122.

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 56 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 <sup>B</sup> .....                         | 1.0(1.0)               | CON 122 Concrete Admixtures <sup>B</sup> .....                           | 1.0(1.0)                   |
| CON 121 Aggregates <sup>B</sup> .....                                     | 3.5(4.9)               | CON 124 Concrete Mix Proportioning <sup>B</sup> .....                    | 4.0(6.0)                   |
| CON 123 Cementitious Materials <sup>B</sup> .....                         | 1.5(2.1)               | CST 112 Building Construction <sup>B</sup> .....                         | 3.0(3.0)                   |
| ENG 111 English or ENG 120 Applied<br>Communications .....                | 3.0(3.0)               | ENG 112 English or ENG 123 Technical<br>Communications .....             | 3.0(3.0)                   |
| MTH 115 Applied Algebra & Trig I or MTH 113<br>Intermediate Algebra ..... | 5.0 or 4.0(6.0 or 4.0) | MTH 116 Applied Algebra & Trig II or MTH 122<br>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)                   |
| <hr/>   |                        | <hr/>  |                            |
|   | 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 <sup>B</sup> .....       | 4.0(6.0)            | CON 222 Placed Concrete II <sup>B</sup> .....                   | 4.0(6.0)            |
| CON 223 Concrete Masonry Prod. <sup>B</sup> .....  | 4.0(6.0)            | CON 224 Prestress/Precast Concrete <sup>B</sup> .....           | 3.0(5.0)            |
| CON 227 Construction Inspection <sup>B</sup> ..... | 2.0(2.0)            | CON 226 Concrete Troubleshooting<br>& Repair <sup>B</sup> ..... | 2.0(2.0)            |
| CON 231 Concrete Project Lab <sup>B</sup> .....    | 1.0(1.0)            | CON 232 Project Lab <sup>B</sup> .....                          | 2.0(2.0)            |
| PLS 221 Political Science <sup>A</sup> .....       | 3.0(3.0)            | Program Elective <sup>*</sup> .....                             | 3.0(3.0)            |
| PHY 111 Applied Physics .....                      | 3.0(4.0)            |   |                     |
| <hr/>  |                     | <hr/>   |                     |
|  | 17.0(22.0)          |   | 14.0(18.0)          |

<sup>A</sup> Fulfills American Government Requirement.

<sup>B</sup> Included in occupational specialty: GPA of 2.0 or higher must be maintained in the area of occupational specialty.

<sup>\*</sup> Program elective must be approved by the Concrete Technology Department advisor.

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 87).

**FIRST YEAR**

| <b>First Semester</b>                                   | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                                      | <b>Credit(Contact) Hrs</b> |
|---|----------------------------|---|----------------------------|
| 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 <sup>B</sup> .....    | 3.0(3.0)                   | CJ 233 Police-Community Relations <sup>B</sup> .....        | 3.0(3.0)                   |
| CJ 231 Introduction to Corrections <sup>B,C</sup> ..... | 3.0(3.0)                   | CJ 235 Client Relations in Corrections <sup>B,C</sup> ..... | 3.0(3.0)                   |
| CIS 120 Introduction to Microcomputers.....             | 3.0(4.0)                   | PSY 101 General Psychology.....                             | 3.0(3.0)                   |
| SOC 123 Sociology.....                                  | 3.0(3.0)                   | SPE 121 Speech Communication.....                           | 3.0(3.0)                   |
|   | 15.0(16.0)                 |   | 15.0(15.0)                 |

**SECOND YEAR**

| <b>First Semester</b>   | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>   | <b>Credit(Contact) Hrs</b> |
|---|----------------------------|--|----------------------------|
| CJ 220 Juvenile Delinquency <sup>B</sup> .....                          | 3.0(3.0)                   | CJ 110 Criminal Justice Physical Ed. <sup>B</sup> .....                      | 2.0(3.0)                   |
| CJ 229 Criminal Investigation <sup>B</sup> .....                        | 4.0(4.0)                   | CJ 211 Ethics in Criminal Justice <sup>B</sup> .....                         | 3.0(3.0)                   |
| CJ 234 Multicultural Law Enforcement <sup>B</sup> .....                 | 3.0(3.0)                   | CJ 227 Defense Tactics <sup>B</sup> .....                                    | 2.0(2.0)                   |
| CJ 236 Correctional Client Growth &<br>Development <sup>B,C</sup> ..... | 3.0(3.0)                   | CJ 230 Field Service Practicum <sup>B</sup> .....                            | 3.0(3.0)                   |
| CJ 238 Legal Issues in Corrections <sup>B,C</sup> .....                 | 3.0(3.0)                   | CJ 237 Correctional Inst./Facilities <sup>B,C</sup> .....                    | 3.0(3.0)                   |
|   | 16.0(16.0)                 | PLS 221 Political Science or PLS 222<br>Political Science <sup>A</sup> ..... | 3.0(3.0)                   |
|   |                            |  | 16.0(17.0)                 |

<sup>A</sup> Fulfills American Government Requirement.

<sup>B</sup> Included in occupational specialty; GPA of 2.0 or higher must be maintained in the area of occupational specialty.

<sup>C</sup> Grade of 2.0 must be earned in these courses to meet Michigan Correctional Officer's Training Council standards.



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.

| <b>Course</b>   | <b>Credit(Contact) Hrs</b> |
|---|----------------------------|
| CJ 231 Intro. to Corrections .....                      | 3.0(3.0)                   |
| CJ 235 Client Relations in Corrections .....            | 3.0(3.0)                   |
| CJ 236 Correctional Client Growth<br>& 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**

| <b>First Semester</b>                             | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                         | <b>Credit(Contact) Hrs</b> |
|---|----------------------------|--|----------------------------|
| 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 .....           | 3.0(3.0)                   | Computer Elective .....                        | 3.0(3.0-4.0)               |
| CJ 231 Intro. to Corrections .....                | 3.0(3.0)                   | CJ 233 Police-Community Relations .....        | 3.0(3.0)                   |
| Laboratory Science Requirement <sup>B</sup> ..... | 4.0(4.0)                   | PSY 101 General Psychology.....                | 3.0(3.0)                   |
| Elective.....                                     | 3.0(3.0)                   | Science or Math Requirement <sup>B</sup> ..... | 4.0(4.0-5.0)               |
|   | -----                      |  | -----                      |
|   | 16.0(16.0)                 |  | 16.0(16.0-18.0)            |

**SECOND YEAR**

| <b>First Semester</b>                      | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                  | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|---|----------------------------|
| American Govt. Req. <sup>A</sup> .....     | 3.0 or 6.0(3.0 or 6.0)     | CJ 211 Ethics in Criminal Justice.....  | 3.0(3.0)                   |
| CJ 126 Intro. to Private Security .....    | 3.0(3.0)                   | CJ 223 Police Administration.....       | 3.0(3.0)                   |
| CJ 220 Juvenile Delinquency .....          | 3.0(3.0)                   | Humanities/Fine Arts Elective.....      | 4.0(4.0-5.0)               |
| CJ 234 Multicultural Law Enforcement ..... | 3.0(3.0)                   | SOC 123 Sociology.....                  | 3.0(3.0)                   |
| Humanities/Fine Arts Requirement.....      | 4.0(4.0-5.0)               | CJ 119 Intro to Homeland Security ..... | 3.0(3.0)                   |
|  | -----                      |   | -----                      |
|  | 16.0 or 19.0(16.0-20.0)    |   | 16.0(16.0-17.0)            |

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

<sup>B</sup> Please see the catalog of the institution to which you plan to transfer for that institution's math and science requirement.

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

**CUSTOMER ENERGY SERVICE**

Program Numbers: 15.0503 (C) 15.0503 (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**

| <b>First Semester</b>   | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                             | <b>Credit(Contact) Hrs</b> |
|---|----------------------------|--|----------------------------|
| APP 100E Electrical Studies for Trades <sup>B</sup> .....           | 3.0(4.0)                   | ENG 123 Technical Communications.....              | 3.0(3.0)                   |
| CAD 110 Geometric Constructions &<br>2D Drafting <sup>B</sup> ..... | 1.5(2.0)                   | APP 104E AC/DC Fundamentals <sup>B</sup> .....     | 3.0(4.0)                   |
| CAD 111 Multiview Drawing <sup>B</sup> .....                        | 1.5(2.0)                   | CAD 130 Adv. Multiview Drawing <sup>B</sup> .....  | 2.0(2.0)                   |
| CAD 132 AutoCAD Fundamentals <sup>B</sup> .....                     | 1.5(2.0)                   | CAD 140 3D Modeling <sup>B</sup> .....             | 1.5(2.0)                   |
| CAD 135 Intermediate AutoCAD <sup>B</sup> .....                     | 1.5(2.0)                   | CAD 141 Integrated CAD Apps <sup>B</sup> .....     | 1.5(2.0)                   |
| ENG 120 Applied Communications.....                                 | 3.0(3.0)                   | CIS 120 Intro to Microcomputers <sup>B</sup> ..... | 3.0(4.0)                   |
| MTH 115 Applied Algebra & Trig. I.....                              | 5.0(6.0)                   | PHY 111 Applied Physics.....                       | 3.0(4.0)                   |
|   | 17.0(21.0)                 |  | 17.0(21.0)                 |

**CERTIFICATE OR AAS SECOND YEAR**

| <b>First Semester</b>                               | <b>Credit(Contact) Hrs</b> |
|---|----------------------------|
| BUS 121 Introduction to Business <sup>B</sup> ..... | 3.0(3.0)                   |
| BUS 131 Applied Accounting <sup>B</sup> .....       | 3.0(4.0)                   |
| BUS 221 Business Law <sup>B</sup> .....             | 3.0(3.0)                   |
| BUS 241 Principles of Marketing <sup>B</sup> .....  | 3.0(3.0)                   |
| SPE 121 Speech Communication.....                   | 3.0(3.0)                   |
| Electrical Elective <sup>A</sup> .....              | 3.0(3.0-4.0)               |
|   | 18.0(19.0-20.0)            |

**TOTAL CERTIFICATE PROGRAM CREDITS: 52**

<sup>A</sup> Select from the following electrical electives to complete requirements:

- APP 102E Residential Wiring/Blueprint Reading
- APP 103E Commercial/Industrial Wiring
- APP 107E Specialty Wiring
- APP 111E Electric Motor Control
- APP 115E National Electric Code Application

- APP 122E Digital Electronics for Electricians
- APP 123E Linear Electronics for Electricians

<sup>B</sup> Included in occupational specialty; GPA of 2.0 or higher must be maintained in occupational specialty.

An associate in applied science (AAS) degree 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 five credits of general electives. Sixty total credit hours needed for an AAS.

Associate in Arts Degree (AA) Concentration in

**ECONOMICS**

Program Number: 45.0601

This degree allows students to begin the study of economics with the eventual goal of graduate and postgraduate study. Students may continue cooperative study towards a Bachelor's Degree in Economics and Finance through Lake Superior State University. The study of economics leads to professional employment opportunities in private industry, public service and academia.

**FIRST YEAR**

| <b>First Semester</b>   | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                       | <b>Credit(Contact) Hrs</b> |
|---|----------------------------|--|----------------------------|
| 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 .....                                  | 4.0(4.0)                   | BUS 124 Principles of Accounting II .....    | 4.0(4.0)                   |
| MTH 121 College Algebra or MTH 123<br>College Algebra/Analytic Trig. .... | 4.0(4.0)                   | MTH 223 Statistical Methods.....             | 4.0(4.0)                   |
| SPE 121 Speech Communication.....   | 3.0(3.0)                   | PLS 221 Political Science <sup>A</sup> ..... | 3.0(3.0)                   |
| Social Sciences Elective <sup>B</sup> .....                               | 3.0(3.0)                   | PSY 101 General Psychology.....              | 3.0(3.0)                   |
|   |                            |  | 17.0(17.0)                 |
|   | 17.0(17.0)                 |  |                            |

**SECOND YEAR**

| <b>First Semester</b>                         | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                        | <b>Credit(Contact) Hrs</b> |
|---|----------------------------|---|----------------------------|
| BUS 201 International Business .....          | 3.0(3.0)                   | ECN 225 Money and Banking.....                | 3.0(3.0)                   |
| ECN 231 Economics (Micro) .....               | 3.0(3.0)                   | ECN 232 Economics (Macro).....                | 3.0(3.0)                   |
| HST 121 History of Western Civilization ..... | 3.0(3.0)                   | HST 122 History of Western Civilization ..... | 3.0(3.0)                   |
| Laboratory Science .....                      | 4.0(6.0)                   | PLS 228 International Affairs .....           | 3.0(3.0)                   |
| Social Sciences Elective <sup>B</sup> .....   | 3.0(3.0)                   | Elective <sup>C</sup> .....                   | 3.0(3.0-4.0)               |
|   |                            |   | 15.0(15.0-16.0)            |
|   | 16.0(18.0)                 |   |                            |

<sup>A</sup> Fulfills American Government Requirement.

<sup>B</sup> Social Science electives include any courses with the following prefixes which are listed in the course description section of this catalog:

- ANP Anthropology
- ECN Economics
- GEO Geography
- HST History

- PLS Political Science
- PSY Psychology
- SOC Sociology

<sup>C</sup> It is strongly recommended that this general elective selection be filled with either SPE 121 or SPE 123.

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. 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.

**FIRST YEAR**

| <b>First Semester</b>                    | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                                  | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|---|----------------------------|
| 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)                   | BIO 114 Intro. to Biological Science <sup>1</sup> ..... | 4.0(5.0)                   |
| PHS 113 Intro to Physical Science .....  | 4.0(5.0)                   | MTH 111 Math for Elementary Teachers <sup>1</sup> ....  | 3.0(3.0)                   |
| MTH 113 Int. Algebra or higher .....     | 4.0(4.0)                   | SOC 210 Social Inequality: Race, Class                  |                            |
| PSY 101 General Psychology .....         | 3.0(3.0)                   | & Gender.....   | 3.0(3.0)                   |
| _____                                    |                            | Elective (see below) .....                              | 3.0(3.0)                   |
|  | 17.0(18.0)                 | _____   |                            |
|  |                            |   | 16.0(17.0)                 |

**SECOND YEAR**

| <b>First Semester</b>                              | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                             | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|--|----------------------------|
| HST 221 United States History <sup>1,2</sup> ..... | 3.0(3.0)                   | HST 222 United States History <sup>1,2</sup> ..... | 3.0(3.0)                   |
| Humanities/Fine Arts Req. <sup>3</sup> .....       | 3.0-4.0(3.0-4.0)           | Humanities/Fine Arts Req. <sup>3</sup> .....       | 3.0-4.0(3.0-4.0)           |
| Elective: ENG 242 Children's Lit or                |                            | EDU 220 Multicultural Education.....               | 3.0(3.0)                   |
| SPE 126 Interpreting Reading .....                 | 3.0(3.0)                   | Elective.....                                      | 3.0(3.0)                   |
| SPE 121 Speech Communication <sup>1</sup> .....    | 3.0(3.0)                   | _____  |                            |
| SOC 230 Social Problems .....                      | 3.0(3.0)                   |  | 12.0-13.0(12.0-13.0)       |
| _____  |                            |  |                            |
|  | 15.0-16.0(15.0-16.0)       |  |                            |

<sup>1</sup> Check transfer institution requirements.

<sup>2</sup> Choose either six credits in U.S. History (HST 221 and 222) or three credits in Political Science (PLS 221 or 222) to fulfill the American Government Requirement.

<sup>3</sup> See Group IV of general education requirements for an associate degree: check transfer institution requirements for ART 246 Art for the Classroom Teacher and MUS 228 Music in the Elementary Classroom.

NOTE: Electives should be selected to fulfill transfer institution requirements and the area of concentration (major or minor).

ANP 121 Cultural Anthro.  
ECN 231 Economics (Micro)  
ECN 232 Economics (Macro)  
ENG 125 Intro to Journalism  
ENG 203 Intro to Mythology  
ENG 204 Intro to Literature  
ENG 223/224 American Lit.  
ENG 242 Children's Literature

ENG 243 The Short Story  
ENG 244 The Novel  
ENG 253 News Reporting  
ENG 254 News Writing  
GEO 125 Geography  
GEO 126 Cultural Geography  
HST 121/122 Hist. West. Civ.  
PHL 125 Language & Reason

PHL 225 Philosophy  
PHL 228 Intro to Ethics  
PLS 228 International Relations  
PLS 230 Comparative Gov.  
PSY 225 Dev. Psych.  
SOC 123 Sociology  
SPE 123 Public Communication  
SPE 126 Oral Interp. of Lit.

Associate in Arts Degree (AA) in  
**EDUCATION — SECONDARY, 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**

| <b>First Semester</b>  | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>   | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|--|----------------------------|
| 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<br>Applied Algebra & Trig I .... | 4.0 or 5.0(4.0 or 6.0)     | PHY 111 Applied Physics or PHS 113 Intro to<br>Physical Science..... | 3.0 or 4.0(4.0 or 5.0)     |
| Technical Electives <sup>A</sup> .....                                   | 8.0(8.0)                   | Technical Electives <sup>A</sup> .....                               | 8.0(8.0)                   |
| 18.0 or 19.0(18.0 or 20.0)   |                            | 17.0 or 18.0(18.0 or 19.0)   |                            |

**SECOND YEAR**

| <b>First Semester</b>                  | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                 | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|--|----------------------------|
| PLS 221 Political Science .....        | 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 <sup>A</sup> ..... | 6.0(6.0)                   |
| Technical Electives <sup>A</sup> ..... | 8.0(8.0)                   | 13.0(13.0-14.0)                        |                            |
| 18.0(18.0-19.0)                        |                            |  |                            |

<sup>A</sup> 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 131 Measuring Instruments <sup>B</sup> .....                    | 1.0(2.0)                        |
| APP 106M Industrial Safety <sup>B</sup> .....                       | 0.5(0.5)                        |
| APP 100E Electrical Studies for Trades <sup>B</sup> .....           | 3.0(4.0)                        |
| MTH 110 Technical Math I or MTH 115<br>Applied Algebra and Trig.... | 3.0 or 5.0(4.0 or 6.0)          |
| <b>Total Core Course Hours</b>                                      | <b>7.5 or 9.5(10.5 or 12.5)</b> |

### BASIC TECHNICAL COURSES

| Courses   | Credit(Contact) Hrs | Courses   | Credit(Contact) Hrs    |
|---|---------------------|---|------------------------|
| APP 102E Residential Wiring & Blueprint<br>Reading <sup>B</sup> ..... | 3.0(4.0)            | APP 122E Digital Electronics for<br>Electricians <sup>B</sup> ..... | 3.0(4.0)               |
| APP 103E Comm. & Ind. Wiring.....                                     | 3.0(4.0)            | APP 123E Linear Electronics for<br>Electricians <sup>B</sup> .....  | 3.0(4.0)               |
| APP 104E AC/DC Fundamentals <sup>B</sup> .....                        | 3.0(4.0)            | BIS 100 Computer Keyboarding.....                                   | 1.0(2.0)               |
| APP 107E Specialty Wiring <sup>B</sup> .....                          | 3.0(4.0)            | CIS 120 Intro to Microcomputers.....                                | 3.0(4.0)               |
| APP 111E Electric Motor Control <sup>B</sup> .....                    | 3.0(4.0)            | Technical/Business Elective <sup>B</sup> .....                      | 3.0(3.0-4.0)           |
| APP 114E Programmable Controllers <sup>B</sup> .....                  | 3.0(4.0)            |   |                        |
| APP 115E National Electric Code App. <sup>B</sup> .....               | 3.0(3.0)            | <b>Total Technical Course Hours</b>                                 | <b>34.0(44.0-45.0)</b> |

### GENERAL EDUCATION COURSES

| Courses   | Credit(Contact) Hrs | Courses  | Credit(Contact) Hrs |
|---|---------------------|--|---------------------|
| ENG 111 English or ENG 120 Applied<br>Communications.....   | 3.0(3.0)            | American Government Requirement <sup>A</sup> ..... | 3.0(3.0)            |
| ENG 112 English or ENG 123 Technical<br>Communications..... | 3.0(3.0)            | General Electives .....                            | 7.0(7.0)            |
| SPE 121 Speech Communication.....                           | 3.0(3.0)            | <b>Total General Education Hours</b>               | <b>19.0(19.0)</b>   |

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

<sup>B</sup> Included in occupational specialty; GPA of 2.0 or higher must be maintained in the area of occupational specialty.

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 listed on page 44 of this catalog, as well as the Associate in Science degree distribution requirements listed on page 56 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); and Pre-Radiology Technology (Program Number 51.0907).

**See also page 133 for a cooperative program in Radiography.**

Associate in General Studies Degree (AGS) Concentration in

**GENERAL STUDIES**

Program Number: 24.0102

The Associate in General Studies degree is awarded students primarily interested in general education. The suggested outline of courses, which may be altered to suit individual goals, is listed on page 57 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 that 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 55) and consult with an academic advisor concerning specific course selection. A minimum total of 60 credits is required for the Associate in Arts degree. The goal of this suggested program of study is to satisfy all English composition and mathematics requirements for a bachelor of arts degree or a bachelor of science degree while at Alpena Community College and to promote a foundation in the social sciences.

**FIRST YEAR**

| <b>First Semester</b>                    | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                   | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|--|----------------------------|
| ENG 111 English or ENG 121 English ..... | 3.0(3.0)                   | ENG 112 English or ENG 122 English ..... | 3.0(3.0)                   |
| PHS 113 Intro to Physical Science .....  | 4.0(5.0)                   | Laboratory Science .....                 | 4.0(4.0)                   |
| Math <sup>1</sup> .....                  | 4.0-5.0(4.0-5.0)           | MTH 119 Intro to Computers-Prgmrng.....  | 3.0(3.0)                   |
| GEO 125 Geography .....                  | 3.0(3.0)                   | GEO 126 Cultural Geography .....         | 3.0(3.0)                   |
|  | _____                      | Elective <sup>4</sup> .....              | 3.0(3.0)                   |
|  | 14.0-15.0(15.0-16.0)       |  | _____                      |
|  |                            |  | 16.0(16.0)                 |

**SECOND YEAR**

| <b>First Semester</b>                         | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                        | <b>Credit(Contact) Hrs</b> |
|---|----------------------------|---|----------------------------|
| ECN 231 Economics (Micro) .....               | 3.0(3.0)                   | ECN 232 Economics (Macro).....                | 3.0(3.0)                   |
| ANP 121 Cultural Anthropology .....           | 3.0(3.0)                   | HST 122 History of Western Civilization ..... | 3.0(3.0)                   |
| HST 121 History of Western Civilization ..... | 3.0(3.0)                   | BUS 201 International Business .....          | 3.0(3.0)                   |
| PLS 221 Political Science <sup>2</sup> .....  | 3.0(3.0)                   | Humanities/Fine Arts elective....             | 3.0 or 4.0(4.0 or 5.0)     |
| Social Sciences Elective <sup>3</sup> .....   | 3.0(3.0)                   | Elective <sup>5</sup> .....                   | 3.0(3.0)                   |
|   | _____                      |   | _____                      |
|   | 15.0(15.0)                 |   | 15.0-16.0(16.0-17.0)       |

<sup>1</sup> It is recommended that transfer students determine mathematics requirements at the university to which they will transfer. Students are encouraged to complete MTH 121 College Algebra or MTH 123 College Algebra and Analytic Trigonometry before transferring.

<sup>2</sup> Choose either three credits in Political Science (PLS 221 or 222) or six credits in U.S. History (HST 221 and 222) to fulfill American Government Requirement (see page 44).

<sup>3</sup> Social Sciences electives include any courses with the following prefixes which are listed in the course description section of this catalog:

- |                  |                       |
|------------------|-----------------------|
| ANP Anthropology | PLS Political Science |
| ECN Economics    | PSY Psychology        |
| GEO Geography    | SOC Sociology         |
| HST History      |                       |

<sup>4</sup> Elective may be internship for 1 to 4 credits.

<sup>5</sup> It is strongly recommended that this general elective be filled with either SPE 121 Speech Communication or SPE 123 Public Communication.

## Associate in Arts Degree (AA) Concentration in

**GRAPHIC DESIGN**

Program Number: 10.0305

This graphic design curriculum provides students with hands-on experience in the areas of photo-offset, letterpress, screen printing, thermography, paper making, computer layout and typesetting, foil stamping, multi-color printing and bindery. Successful completion of this program will prepare a student to pursue a bachelor's degree in graphic design or related areas. Students should refer to the descriptions of Alpena Community College graduation requirements (page 44) and degree distribution requirements (page 55).

**FIRST YEAR**

| <b>First Semester</b>                       | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                | <b>Credit(Contact) Hrs</b> |
|---|----------------------------|---------------------------------------|----------------------------|
| ENG 111 English or ENG 121 English .....    | 3.0(3.0)                   | ENG 112 English or ENG 122 English or |                            |
| Science/Math Requirement <sup>A</sup> ..... | 4.0-5.0(4.0-5.0)           | ENG 123 Technical Comm.....           | 3.0(3.0)                   |
| HUM 241 Humanities or HST 121 History of    |                            | Laboratory Science.....               | 4.0(4.0)                   |
| Western Civ.....                            | 3.0-4.0(3.0-4.0)           | HUM 242 Humanities or HST 122         |                            |
| GRA 125 Graphic Design I.....               | 3.0(4.0)                   | History of Western Civ.....           | 3.0-4.0(4.0-3.0)           |
| ART 127 Basic Drawing.....                  | 3.0(4.0)                   | GRA 126 Graphic Design II .....       | 3.0(3.0)                   |
|   | ————                       | ART 123 Design I.....                 | 3.0(4.0)                   |
|   | 16.0-18.0(18.0-20.0)       |                                       | ————                       |
|   |                            |                                       | 16.0-17.0(18.0-17.0)       |

**SECOND YEAR**

| <b>First Semester</b>                          | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                   | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|--|----------------------------|
| PLS 221 Political Science or PLS 222 Political |                            | Social Sciences Requirement.....         | 3.0(3.0)                   |
| Science <sup>B</sup> .....                     | 3.0(3.0)                   | GRA 111 Photography.....                 | 3.0(3.0)                   |
| Social Sciences Requirement.....               | 3.0(3.0)                   | ART 223 Painting.....                    | 3.0(4.0)                   |
| CIS 250 Desktop Publishing.....                | 3.0(4.0)                   | ART 226 Ceramics II or ART 229 Sculpture |                            |
| ART 225 Ceramics I or ART 229 Sculpture or     |                            | or ART 128 Basic Drawing II or           |                            |
| ART 223 Painting I.....                        | 3.0(4.0)                   | ART 224 Painting II.....                 | 3.0(4.0)                   |
| GRA 221 Graphic Design III.....                | 3.0(4.0)                   | Elective(s).....                         | 3.0(3.0)                   |
|  | ————                       |  | ————                       |
|  | 15.0(18.0)                 |  | 15.0(17.0)                 |

<sup>A</sup> It is strongly recommended that transfer students determine mathematics requirements at the university to which they will transfer. Students are encouraged to complete MTH 121 College Algebra or MTH 123 College Algebra and Analytic Trigonometry before transferring. It is also recommended that students who intend to transfer should work closely with an academic advisor to plan a successful program for the chosen transfer institution.

<sup>B</sup> Fulfills American Government Requirement (see page 44).

Certificate (C) in  
**GRAPHIC DESIGN**

Program: 10.0305

The Graphic Design Certificate Program is designed to train students in the various graphic arts printing processes, including photo offset, letterpress, screen printing, intaglio, and bindery. Students will have the experience of designing, laying out and printing the common types of jobs found in typical job shops. Job opportunities for students completing this program include presswork, camera work, composition, layout and design.

| <b>Course</b>  | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|
| ART 123 Design I.....  | 3.0(4.0)                   |
| CIS 250 Desktop Publishing.....  | 3.0(4.0)                   |
| GRA 111 Photography.....   | 3.0(3.0)                   |
| GRA 125 Graphic Design I.....  | 3.0(4.0)                   |
| GRA 126 Graphic Design II .....  | 3.0(4.0)                   |
| GRA 221 Graphic Design III .....   | 3.0(4.0)                   |
| ENG 120 Applied Communications or<br>ENG 121 English or<br>ENG 111 English.....  | 3.0(3.0)                   |
| ENG 123 Technical Communications or<br>ENG 125 Introduction to<br>Journalism or ENG 112 English or<br>ENG 122 English..... | 3.0(3.0)                   |
| BUS Business Elective *.....   | 3.0(3.0)                   |
| Elective.....  | 3.0(3.0)                   |
|  | 30.0(35.0)                 |

\* Recommended Business Electives

- BUS 121 Introduction to Business
- BUS 122 Personal Selling
- BUS 127 Principles of Management
- BUS 128 Small Business Management
- BUS 229 Advertising
- BUS 238 Sales Management
- BUS 241 Principles of Marketing
- BUS 248 Business Communications

Associate in Arts Degree (AA) Concentration in  
**HISTORY**

Program Number: 54.0101

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 55) 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**

| <b>First Semester</b>                       | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                   | <b>Credit(Contact) Hrs</b> |
|---|----------------------------|--|----------------------------|
| ENG 111 English or ENG 121 English .....    | 3.0(3.0)                   | ENG 112 English or ENG 122 English ..... | 3.0(3.0)                   |
| GEO 125 Geography .....                     | 3.0(3.0)                   | GEO 126 Cultural Geography .....         | 3.0(3.0)                   |
| HST 121 History of Western Civ. ....        | 3.0(3.0)                   | HST 122 History of Western Civ. ....     | 3.0(3.0)                   |
| Math <sup>1</sup> .....                     | 4.0-5.0(4.0-5.0)           | Humanities/Fine Arts Elective .....      | 3.0-4.0(4.0-5.0)           |
| Social Sciences Elective <sup>2</sup> ..... | 3.0(3.0)                   | Laboratory Science .....                 | 4.0(4.0)                   |
|   | 16.0-17.0(16.0-17.0)       |  | 16.0-17.0(17.0-18.0)       |

**SECOND YEAR**

| <b>First Semester</b>                       | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>              | <b>Credit(Contact) Hrs</b> |
|---|----------------------------|-------------------------------------|----------------------------|
| ECN 231 Economics (Micro) .....             | 3.0(3.0)                   | ANP 121 Cultural Anthropology ..... | 3.0(3.0)                   |
| HST 221 United States History .....         | 3.0(3.0)                   | ECN 232 Economics (Macro).....      | 3.0(3.0)                   |
| PLS 221 Political Science .....             | 3.0(3.0)                   | HST 222 United States History ..... | 3.0(3.0)                   |
| Social Sciences Elective <sup>2</sup> ..... | 3.0(3.0)                   | Electives <sup>3</sup> .....        | 6.0-8.0(6.0-8.0)           |
|   | 12.0(12.0)                 |                                     | 15.0-17.0(15.0-17.0)       |

<sup>1</sup> It is recommended that transfer students determine mathematics requirements at the university to which they will transfer. Students are encouraged to complete MTH 121 College Algebra or MTH 123 College Algebra and Analytic Trigonometry before transferring.

<sup>2</sup> Social Sciences electives include any courses with the following prefixes which are listed in the course description section of this catalog:

- |                  |                       |
|------------------|-----------------------|
| ANP Anthropology | PLS Political Science |
| ECN Economics    | PSY Psychology        |
| GEO Geography    | SOC Sociology         |
| HST History      |                       |

<sup>3</sup> It is strongly recommended that students choose either SPE 121 Speech Communication or SPE 123 Public Communication to fill one of these electives.

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**

| <b>First Semester</b>  | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>             | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|------------------------------------|----------------------------|
| ENG 120 Applied Communications or<br>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 App. Man. Print Reading I .....                                    | 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)                   |
|  | —————                      |                                    | —————                      |
|  | 14.0(14.5)                 |                                    | 20.0(22.0)                 |

**SECOND YEAR**

| <b>First Semester</b>                       | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                     | <b>Credit(Contact) Hrs</b> |
|---|----------------------------|--|----------------------------|
| 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 Political Science or               |                            |
| APP 100E Electrical Studies for Trades..... | 3.0(4.0)                   | PLS 222 Political Science .....            | 3.0(3.0)                   |
| APP 124M Apprentice Hydraulics .....        | 2.5(4.0)                   | BUS 255 Business Application Software..... | 3.0(4.0)                   |
|   | —————                      | ENG 123 Technical Communications.....      | 3.0(3.0)                   |
|   | 16.0(17.0)                 |  | —————                      |
|   |                            |  | 15.0(16.0)                 |

Associate in Arts Degree (AA) Concentration in

**JOURNALISM**

Program Number: 09.0401

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 55) 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**

| <b>First Semester</b>                    | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                   | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|--|----------------------------|
| ENG 111 English or ENG 121 English ..... | 3.0(3.0)                   | ENG 112 English or ENG 122 English ..... | 3.0(3.0)                   |
| ENG 125 Introduction to Journalism ..... | 3.0(3.0)                   | ENG 126 Introduction to Journalism ..... | 3.0(3.0)                   |
| HST 221 U.S. History .....               | 3.0(3.0)                   | HST 222 U.S. History .....               | 3.0(3.0)                   |
| Laboratory Science Requirement .....     | 4.0(5.0)                   | SPE 121 Speech Communication .....       | 3.0(3.0)                   |
| Elective <sup>A</sup> .....              | 3.0(3.0)                   | Sciences/Math Requirement .....          | 4.0-5.0(4.0-5.0)           |
|  | 16.0(17.0)                 |  | 16.0-17.0(16.0-17.0)       |

**SECOND YEAR**

| <b>First Semester</b>                   | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>         | <b>Credit(Contact) Hrs</b> |
|---|----------------------------|--------------------------------|----------------------------|
| HST 225 20th Century U.S. History ..... | 3.0(3.0)                   | ENG 229 Creative Writing ..... | 3.0(3.0)                   |
| ENG 253 News Reporting .....            | 3.0(3.0)                   | ENG 254 News Writing .....     | 3.0(3.0)                   |
| PLS 221 Political Science .....         | 3.0(3.0)                   | GRA 112 Photography .....      | 3.0(3.0)                   |
| GRA 111 Photography .....               | 3.0(3.0)                   | Electives .....                | 7.0(7.0)                   |
| Elective <sup>A</sup> .....             | 3.0(3.0)                   |                                | 16.0(16.0)                 |
|   | 15.0(15.0)                 |                                |                            |

<sup>A</sup> Choose from the following recommended electives:

- ECN 223/224 Economics
- ENG 223/224 American Literature
- HST 227 Contemporary American Problems
- HUM 241/242 Humanities
- PLS 222 Political Science
- PSY 101 General Psychology
- BIS 100/101 Computer Keyboarding / Keyboard Skillbuilding
- SOC 123 Sociology
- SPE 122 Speech Communication

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.<sup>†</sup>

**FIRST YEAR**

| <b>First Semester</b>                                | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                       | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|--|----------------------------|
| 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 <sup>B</sup> .....  | 3.0(4.0)                   | CJ 124 Highway Traffic Administration.....   | 3.0(3.0)                   |
| CJ 121 Intro. to Criminal Justice <sup>B</sup> ..... | 3.0(3.0)                   | CJ 223 Police Administration.....            | 3.0(3.0)                   |
| CJ 126 Intro. to Private Security .....              | 3.0(3.0)                   | PLS 221 Political Science <sup>A</sup> ..... | 3.0(3.0)                   |
| CJ 231 Intro. to Corrections .....                   | 3.0(3.0)                   | SPE 121 Speech Communication.....            | 3.0(3.0)                   |
|  | —————                      |  | —————                      |
|  | 15.0(16.0)                 |  | 15.0(15.0)                 |

**SECOND YEAR**

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

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

<sup>B</sup> Included in occupational specialty; GPA of 2.0 or higher must be maintained in the area of occupational specialty.

<sup>†</sup> 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 degree distribution requirements (page 55) 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**

| <b>First Semester</b>                         | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                        | <b>Credit(Contact) Hrs</b> |
|---|----------------------------|---|----------------------------|
| 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)                   |
|   | 16.0-18.0(17.0-19.0)       |   | 16.0-17.0(17.0-18.0)       |

**SECOND YEAR**

| <b>First Semester</b>                        | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>          | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|---------------------------------|----------------------------|
| 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 Political Science <sup>A</sup> ..... | 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)                   |                                 | 15.0-16.0(16.0-17.0)       |
|  | 15.0-16.0(16.0-17.0)       |                                 |                            |

<sup>A</sup> Fulfills American Government Requirement (see page 44).

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; Journalism; Political Science; Pre-Law; Psychology; and Social Work.

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)
- Education — Secondary (Program Number 13.1205)
- English (Program Number 23.0101)
- Fine Arts (Program Number 50.0101)
- Physical & Health Education (Program Number 13.1314)
- Social Sciences (Program Number 45.0101)



Certificate (C) in  
**LOCAL CORRECTIONS OFFICER CERTIFICATE**  
 Program Number: 43.0102

The Local Correctional Training Program is a Michigan Sheriff's Coordinating and Training Council approved 160-hour training program for correctional personnel supervising inmates in county jails. Satisfactory completion of the 160-hour program is just one of the requirements to become certified as a local Corrections Officer. In addition, a candidate for certification must also have a high school diploma.

**FIRST YEAR**

| <b>First Semester</b>  | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                                   | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|--|----------------------------|
| CJ 240 Correctional Law <sup>A,B</sup> .....   | 1.0(1.0)                   | CJ 241 Prisoner Control Tactics <sup>A,B</sup> .....     | 2.5(4.0)                   |
| CJ 242 Custody and Security <sup>A,B</sup> .....                                     | 1.5(1.5)                   | CJ 245 Corrections Workplace Safety <sup>A,B</sup> ..... | 1.0(1.0)                   |
| CJ 243 Interpersonal Communications in<br>a Corrections Setting <sup>A,B</sup> ..... | 1.0(1.0)                   | CJ 246 Intake and Prisoner Behavior <sup>A,B</sup> ..... | 1.0(1.0)                   |
| CJ 244 Special Issues in Corrections <sup>A,B</sup> .....                            | 1.0(1.0)                   | CJ 247 Prisoner Safety <sup>A,B</sup> .....              | 1.0(1.0)                   |
|  | 4.5(4.5)                   |  | 5.5(7.0)                   |

<sup>A</sup> Included in occupational specialty; GPA of 2.0 or higher must be maintained in the area of occupational specialty.

<sup>B</sup> A score of 70% or higher must be earned to meet Michigan Sheriff's Association Training Council requirements.

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.

| <b>First Semester</b>                                   | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>             | <b>Credit(Contact) Hrs</b> |
|---|----------------------------|------------------------------------|----------------------------|
| MFG 101 Metal Cutting I <sup>B</sup> .....              | 4.0(6.0)                   | MFG 100 Machinery's Handbook ..... | 3.0(4.0)                   |
| MFG 120 Applied Mfg. Print Reading I <sup>B</sup> ..... | 3.0(4.0)                   | MFG 102 Metal Cutting II .....     | 6.0(10.0)                  |
| MTH 110 Applied Machinist's Math I <sup>B</sup> .....   | 3.0(4.0)                   | MTH 112 Technical Math II .....    | 3.0(4.0)                   |
| MET 200 Material Science .....                          | 3.0(4.0)                   | Technical Elective * .....         | 2.0-4.0(2.0-4.0)           |
|   | 13.0(18.0)                 |                                    | 14.0-16.0(20.0-22.0)       |

\* 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.

<sup>B</sup> 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:

| <b>Course</b>   | <b>Credit(Contact) Hrs</b> |
|---|----------------------------|
| ENG 120 Applied Communications or<br>ENG 111 English.....   | 3.0(3.0)                   |
| ENG 123 Technical Communications or<br>ENG 112 English..... | 3.0(3.0)                   |
| PHY 111 Applied Physics.....                                | 3.0(4.0)                   |
| PLS 221 Political Science .....                             | 3.0(3.0)                   |
|   | 12.0(13.0)                 |

Associate in Applied Science Degree (AAS) in

**MARKETING**

Program Number: 52.1401

This business administration curriculum is designed to prepare 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**

| <b>First Semester</b>  | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>   | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|--|----------------------------|
| BUS 121 Introduction to Business <sup>B</sup> .....                        | 3.0(3.0)                   | BUS 124 Principles of Accounting II <sup>B</sup> .....   | 4.0(4.0)                   |
| BUS 123 Principles of Accounting I <sup>B</sup> .....                      | 4.0(4.0)                   | BUS 241 Principles of Marketing <sup>B</sup> .....   | 3.0(3.0)                   |
| BUS 125 Business Mathematics or Mathematics<br>Elective <sup>B</sup> ..... | 3.0-5.0(3.0-5.0)           | CIS 120 Intro to Microcomputers <sup>B</sup> or MTH 119<br>Intro to Computers — Programming..... | 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)                   |
| SPE 121 Speech Communications.....   | 3.0(3.0)                   | American Govt. Requirement <sup>A</sup> .....  | 3.0 or 6.0(3.0-6.0)        |
|  | 16.0-18.0(16.0-18.0)       |  | 16.0 or 19.0(17.0-20.0)    |

**SECOND YEAR**

| <b>First Semester</b>                       | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                                   | <b>Credit(Contact) Hrs</b> |
|---|----------------------------|--|----------------------------|
| BUS 122 Personal Selling <sup>B</sup> ..... | 3.0(3.0)                   | BUS 222 Business Law <sup>B</sup> .....                  | 3.0(3.0)                   |
| BUS 221 Business Law <sup>B</sup> .....     | 3.0(3.0)                   | BUS 255 Business Application Software <sup>B</sup> ..... | 3.0(4.0)                   |
| BUS 229 Advertising <sup>B</sup> .....      | 3.0(3.0)                   | CIS 240 Multimedia Presentations <sup>B</sup> .....      | 3.0(4.0)                   |
| ECN 231 Economics (Micro).....              | 3.0(3.0)                   | CIS 241 Intro Web Design & Mngmnt. <sup>B</sup> .....    | 3.0(4.0)                   |
| PSY 101 General Psychology.....             | 3.0(3.0)                   | ECN 232 Economics (Macro).....                           | 3.0(3.0)                   |
|   | 15.0(15.0)                 |  | 15.0(18.0)                 |

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

<sup>B</sup> Included in occupational specialty; 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 degree distribution requirements (page 56) 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**

| <b>First Semester</b>                     | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                    | <b>Credit(Contact) Hrs</b> |
|---|----------------------------|---|----------------------------|
| 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 <sup>C</sup> .....       | 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**

| <b>First Semester</b>                        | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>   | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|--|----------------------------|
| MTH 231 Analytic Geometry & Calculus.....    | 5.0(5.0)                   | MTH 232 Differential Equations.....                                      | 4.0(4.0)                   |
| American Govt. Req. <sup>AB</sup> .....      | 3.0 or 6.0(3.0 or 6.0)     | Science Elective <sup>C</sup> .....                                      | 4.0(4.0)                   |
| Science Elective <sup>C</sup> .....          | 4.0(4.0)                   | Non-Science Elective.....  | 4.0(4.0)                   |
| Humanities/Fine Arts Req. <sup>B</sup> ..... | 3.0-4.0(4.0-5.0)           | Humanities/Fine Arts & Social Science<br>Requirements <sup>B</sup> ..... | 3.0-4.0(3.0-4.0)           |
|  | _____                      |  | _____                      |
|  | 15.0-19.0(16.0-20.0)       |  | 15.0-16.0(15.0-16.0)       |

<sup>A</sup> 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.

<sup>B</sup> See page 58. 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.

<sup>C</sup> Students are encouraged to select electives in science which will lead to a minor at a transfer school.

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 medical assisting. This allied health care profession offers work primarily in ambulatory settings such as medical offices and clinics. A supervised internship at a physician's office is required, and prior to placement, the student must submit evidence of good health, including up-to-date immunizations and tuberculin screening results. A medical assistant's duties range from handling correspondence and scheduling patients to medical transcription and maintaining medical records, and from taking vital signs and sterilizing instruments to performing routine office laboratory procedures and electrocardiograms. Medical assistants must also demonstrate professionalism and effective communication skills.

**FIRST YEAR**

| <b>First Semester</b>   | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                                  | <b>Credit(Contact) Hrs</b> |
|---|----------------------------|---|----------------------------|
| BIS 101 Keyboard Skillbuilding <sup>*</sup> .....                             | 1.0(2.0)                   | BIO 110 Essn. of Anatomy and Physiology....             | 4.0(5.0)                   |
| BIS 160 Medical Terminology <sup>B</sup> .....                                | 4.0(4.0)                   | BIS 147 Medical Office Transcription <sup>B</sup> ..... | 4.0(6.0)                   |
| BIS 163 Medical Office Coding <sup>B</sup> .....                              | 4.0(4.0)                   | BIS 162 Med. Office Computer Apps <sup>B</sup> .....    | 1.0(2.0)                   |
| BIS 165 Medical Office Procedures <sup>B</sup> .....                          | 4.0(4.0)                   | BIS 164 Medical Office Ins. Billing <sup>B</sup> .....  | 3.0(4.0)                   |
| BIS 167 Medical Ethics and Law for Health<br>Professionals <sup>B</sup> ..... | 1.0(1.0)                   | BIS 170 Electronic Health Record <sup>B</sup> .....     | 1.5(2.0)                   |
|   | 14.0(15.0)                 | CIS 120 Intro to Microcomputers <sup>B</sup> .....      | 3.0(4.0)                   |
|   |                            | 16.5(22.5)  |                            |
| <b>Summer Internship</b>  |                            | <b>Credit(Contact) Hrs</b>                              |                            |
| BIS 220 Med. Asst. Admin. Practicum.....                                      |                            | 2.0(2.0)  |                            |

**SECOND YEAR**

| <b>First Semester</b>                                 | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                                   | <b>Credit(Contact) Hrs</b> |
|---|----------------------------|--|----------------------------|
| ENG 111 English.....                                  | 3.0(3.0)                   | ENG 112 English.....                                     | 3.0(3.0)                   |
| HEA 223 Medication Administration <sup>B</sup> .....  | 3.0(3.0)                   | HEA 222 Medical Asst. Clinical Practice <sup>B</sup> ... | 4.0(12.0)                  |
| HEA 224 Medical Asst. Clinical Lab <sup>B</sup> ..... | 7.0(9.0)                   | PSY 101 General Psychology.....                          | 3.0(3.0)                   |
| Elective.....   | 3.0 or 4.0(4.0 or 5.0)     | American Govt. Req. <sup>A</sup> .....                   | 3.0 or 6.0(3.0 or 6.0)     |
|   | 16.0 or 17.0(19.0 or 20.0) |  | 13.0 or 16.0(21.0 or 24.0) |

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

<sup>B</sup> Included in occupational specialty; GPA of 2.0 or higher must be maintained in the area of occupational specialty.

<sup>\*</sup> 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.

<sup>\*\*</sup> Any person convicted of a felony will not be allowed to write the certification exam for medical assistant.

Certificate (C) in  
**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-9-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 medical office skills, along with the required background in medical billing, coding, and insurance procedures.

| <b>First Semester</b>                                | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                                 | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|--|----------------------------|
| BIS 101 Keyboard Skillbuilding.....                  | 1.0(2.0)                   | BIS 162 Medical Office Comp. Apps. <sup>B</sup> .....  | 1.0(2.0)                   |
| BIS 160 Medical Terminology <sup>B</sup> .....       | 4.0(4.0)                   | BIS 164 Medical Office Ins. Billing <sup>B</sup> ..... | 3.0(4.0)                   |
| BIS 163 Medical Office Coding <sup>B</sup> .....     | 4.0(4.0)                   | BIS 170 Electronic Health Record <sup>B</sup> .....    | 1.5(2.0)                   |
| BIS 165 Medical Office Procedures <sup>B</sup> ..... | 4.0(4.0)                   | BIS 173 Advanced Medical Coding <sup>B</sup> .....     | 3.0(4.0)                   |
| BIS 167 Medical Law and Ethics <sup>B</sup> .....    | 1.0(1.0)                   | BIO 110 Essntls. of Anat. & Phys. <sup>B</sup> .....   | 4.0(5.0)                   |
| CIS 120 Introduction to Microcomputers.....          | 3.0(4.0)                   | BUS 125 Business Math or MTH 102                       |                            |
|  | _____                      | Elementary Algebra or higher ....                      | 3.0-5.0(3.0-5.0)           |
|  | 17.0(19.0)                 |  | _____                      |
|  |                            |  | 15.5-17.5(20.0-22.0)       |

<sup>B</sup> 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) 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 223M Predictive & Prevent. Maint. ....                     | 2.5(4.0)            |
| APP 100E Electrical Studies for Trades.....              | 3.0(4.0)            | MET 123 Welding Processes or MET 124<br>Welding Processes..... | 4.0(6.0)            |
| MTH 110 Technical Math I.....                            | 3.0(4.0)            | APP 102E Residential Wiring and Blueprint<br>Reading .....     | 3.0(4.0)            |
| APP 121M Apprentice Blueprint Reading <sup>B</sup> ..... | 3.0(4.0)            | APP 103E Commercial and Ind. Wiring.....                       | 3.0(4.0)            |
| APP 124M Apprentice Hydraulics .....                     | 2.5(4.0)            | MFG 100 Machinery's Handbook .....                             | 3.0(4.0)            |
| APP 122M Machine Repair .....                            | 2.5(4.0)            | Computer Elective .....  | 3.0(3.0)            |
| APP 129M Apprentice Pneumatics .....                     | 1.5(2.0)            |  |                     |
| APP 125M Apprentice Machine Shop <sup>A</sup> .....      | 2.5(4.0)            |  |                     |
| APP 128M Rigging & Weight Estimating.....                | 1.5(2.0)            |  |                     |

### 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 Metal Cutting II.....                               | 6.0(10.0)           |
| APP 114E Programmable Controllers ..... | 3.0(4.0)            | MFG 201 Introduction to Computer<br>Numerical Control ..... | 5.0(10.0)           |
| APP 290M Millwright Internship .....    | 3.0(3.0)            |   |                     |

### GENERAL EDUCATION COURSES

| Course  | Credit(Contact) Hrs | Course   | Credit(Contact) Hrs |
|---|---------------------|--|---------------------|
| ENG 111 English or ENG 120 Applied<br>Communication .....   | 3.0(3.0)            | SPE 123 Public Speaking .....                                  | 3.0(3.0)            |
| ENG 112 English or ENG 123 Technical<br>Communication ..... | 3.0(3.0)            | PLS 221 Political Science or<br>PLS 222 Political Science..... | 3.0(3.0)            |
|   |                     | General Elective .....   | 3.0(3.0)            |

<sup>A</sup> Will be waived if student successfully completes MFG 101 Metal Cutting I.

<sup>B</sup> Will be waived if student successfully completes MFG 120 Applied Manufacturing Print Reading.

## 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 degree distribution requirements (page 56) 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

| <b>First Semester</b>  | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                                      | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|---|----------------------------|
| 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 or CEM 121<br>General & Inorganic Chem. .... | 4.0-5.0(7.0-8.0)           | CEM 122 Inorganic Chemistry &<br>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)           |
|  | 14.0-17.0(20.0-22.0)       |   | 14.0-16.0(19.0-20.0)       |

### SECOND YEAR

| <b>First Semester</b>                        | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>  | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|---|----------------------------|
| 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. <sup>A</sup> .....       | 3.0 or 6.0(3.0 or 6.0)     | PHY 122 General College Physics.....                                    | 4.0(6.0)                   |
| Humanities/Fine Arts Req. <sup>B</sup> ..... | 3.0-4.0(4.0-5.0)           | Humanities/Fine Arts & Social<br>Science Requirement <sup>B</sup> ..... | 3.0-4.0(4.0-5.0)           |
|  | 14.0-18.0(19.0-23.0)       |   | 14.0-15.0(21.0-22.0)       |

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

<sup>B</sup> See page 58. 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.

| <b>First Semester</b>                      | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                      | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|---|----------------------------|
| 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 195 Current Topics in IT or             |                            |
| CNS 151 Network Comm. Cabling.....         | 3.0(4.0)                   | CIS 290 Internship.....                     | 3.0(4.0)                   |
| CNS 170 PC Repair and Maintenance.....     | 4.0(5.0)                   | CIS 241 Intro to Web Design Management ...  | 3.0(4.0)                   |
| ENG 111 English or ENG 121 English.....    | 3.0(3.0)                   | CNS 155 Intro to Routing and Switching..... | 3.0(4.0)                   |
|  | —————                      | CNS 180 Intro to Microsoft Server .....     | 3.0(4.0)                   |
|  | 16.0(20.0)                 |   | —————                      |
|  |                            |   | 15.0(19.0)                 |

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**

| <b>First Semester</b>                      | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                      | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|---|----------------------------|
| 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 195 Current Topics in IT or             |                            |
| CNS 151 Network Comm. Cabling.....         | 3.0(4.0)                   | CIS 290 Internship.....                     | 3.0(4.0)                   |
| CNS 170 PC Repair and Maintenance.....     | 4.0(5.0)                   | CIS 241 Intro to Web Design Management ...  | 3.0(4.0)                   |
| ENG 111 English or ENG 121 English.....    | 3.0(3.0)                   | CNS 155 Intro to Routing and Switching..... | 3.0(4.0)                   |
|  | _____                      | CNS 180 Intro to Microsoft Server .....     | 3.0(4.0)                   |
|  | 16.0(20.0)                 |   | _____                      |
|  |                            |   | 15.0(19.0)                 |

**SECOND YEAR**

| <b>First Semester</b>                     | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                      | <b>Credit(Contact) Hrs</b> |
|---|----------------------------|---|----------------------------|
| BUS 262 Project Management .....          | 3.0(4.0)                   | CIS 295 IT Professional Practice Mgmt. .... | 3.0(4.0)                   |
| CIS 260 Data Base .....                   | 3.0(4.0)                   | CNS 220 Advanced Microsoft Server .....     | 3.0(4.0)                   |
| CNS 240 Open Source Networking.....       | 3.0(4.0)                   | CNS 225 Microsoft Enterprise Mgmt. ....     | 3.0(4.0)                   |
| CNS 210 Microsoft Network Management....  | 3.0(4.0)                   | ENG 112 English or ENG 122 English .....    | 3.0(3.0)                   |
| CNS 230 Information Security .....        | 3.0(4.0)                   | American Govt. Req. <sup>A</sup> .....      | 3.0 or 6.0(3.0 or 6.0)     |
| CIS 258 Intro to Enterprise Database..... | 2.0(3.0)                   |   | _____                      |
|   | _____                      |   | 15.0 or 18.0(18.0 or 21.0) |
|   | 17.0(23.0)                 |   |                            |

<sup>A</sup> 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.

## Nursing Program Information

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 approval of the Board of Nursing, graduates are eligible to take the NCLEX-PN for LPN licensure. Upon successful completion of Level II and with approval of the Board of Nursing, graduates are eligible to take the NCLEX-RN for RN licensure.

Level I of the Nursing Program has 40 openings for students, 20 admitted each fall semester and 20 in spring semester. Level II of the Nursing Program has 30 openings for students each fall semester.

Students entering at either level must have a high school diploma or General Education Degree (GED) diploma. Nursing Program applicants who will be new students at Alpena Community College must apply to Alpena Community College prior to applying to the Nursing Program.

### LEVEL I PREREQUISITES

| Course  | Credit(Contact) Hrs  |
|---|----------------------|
| BIO 201 Human Anatomy .....   | 4.0(5.0)             |
| ENG 111 or ENG 121 English.....   | 3.0(3.0)             |
| PSY 101 General Psychology.....   | 3.0(3.0)             |
| CEM 111 General Chemistry or<br>CEM 121 General and Inorganic<br>Chemistry..... | 4.0-5.0(7.0-8.0)     |
|   | 14.0-15.0(18.0-19.0) |

### GENERAL EDUCATION COURSES

These Level I corequisite courses and Level II prerequisite and corequisite courses can be taken prior to entry into Level I of the Nursing Program.

| Course   | Credit(Contact) Hrs  |
|--|----------------------|
| BIO 203 Human Physiology.....  | 4.0(5.0)             |
| BIO 227 Microbiology.....  | 4.0(6.0)             |
| PSY 226 Developmental Psychology .....   | 3.0(3.0)             |
| ENG 112 or ENG 122 English.....  | 3.0(3.0)             |
| HEA 102 Nutrition.....   | 3.0(3.0)             |
| PLS 221 or PLS 222 Political Science<br>or HST 221 and HST 222<br>U.S. History ..... | 3.0-6.0(3.0-6.0)     |
|  | 20.0-23.0(23.0-26.0) |

If any courses were taken at another college or university, the ACC Records Office determines whether an equivalent course receives transfer credit. The deadline for submission of transcripts to the Records Office for a fall semester opening is March 1, and October 1 for the spring semester. All prerequisite courses and general education corequisite courses must have a grade of “C” or higher, with a combined grade point average of 2.8 to be eligible for consideration for a Nursing Program opening in Level I or Level II. (LPN applicants for Level II must complete the same prerequisite courses and achieve a

## 112 Programs of Study

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2.8 grade point average in the general education courses.) Please be aware that meeting minimum requirements does not guarantee an opening in either level. Admission is competitive and is based on grade point average requirements and meeting deadlines. Late applications will only be considered if all requirements are met and openings remain after placing all eligible applicants who met deadlines. Students selected for Nursing Program openings are required to bring proof of immunizations and clearance from a healthcare provider that verifies abilities with or without accommodation, and proof of current CPR training at the level of Healthcare Provider from the American Heart Association or Professional Rescuer/AED from the American Red Cross, to a mandatory scheduled orientation session that occurs prior to the start of the program. Unrestricted LPN licensure is required for entry into Level II.

Background checks are part of the Nursing Program application process. Applicants are required to submit criminal background check information from the Michigan State Police and child abuse/neglect central registry clearance from the State of Michigan Family Independence Agency with the application to the Nursing Program. 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 the Nursing Program if clinical requirements of the Nursing Program cannot be met.

Level I students may apply to Level II of the Nursing Program while nearing completion of Level I at ACC. LPNs who obtained practical nurse education at ACC or another school or college may also apply. Eligibility to progress directly to Level II from Level I requires completion of all Level I courses with a grade point average of 3.0 or higher in NUR courses and obtaining LPN licensure prior to entering into Level II. In addition to meeting general education course requirements, LPN applicants for Level II openings are required to have a current, unrestricted Michigan license and current clinical experience. LPN applicants take the HESI-PN test; a score of 900 or higher is required for a Nursing Program Level II opening. LPN applicants who meet all requirements and deadlines will be given priority for Level II openings over progressing eligible Level I students.

The Nursing Program has its own application forms and processes. Forms are available in the Nursing Office, NRC 202. Application deadline for a fall semester opening is mid-April. Actual dates depend on how the calendar falls. For a fall 2008 opening the mid-April deadline is 4:00 p.m. on April 11. Application deadline for a January Level I opening will be mid-October. Required forms are to be submitted to the Nursing Office, NRC 202. A grade of "C" or higher is necessary to pass NUR courses; 900 must be achieved on the HESI-RN Exit Exam in NUR 256. The Nursing Program uses the following grading scale:

|    |        |    |       |
|----|--------|----|-------|
| A  | 95-100 | C  | 75-79 |
| A- | 92-94  | C- | 72-74 |
| B+ | 89-91  | D+ | 69-71 |
| B  | 86-88  | D  | 65-68 |
| B- | 83-85  | D- | 61-64 |
| C+ | 80-82  | E  | < 60  |

The grading scale is based on a percentage, not a curve. Students who fail a nursing course may repeat it one time only and within two calendar years.

Certificate (C) in  
**LICENSED PRACTICAL NURSING**

Program Number: 51.1613

**First Semester Courses**

First half of semester:

| <b>Course</b>                     | <b>Credit(Contact) Hrs</b> |
|-----------------------------------|----------------------------|
| NUR 140 Foundations Theory .....  | 2.0(2.0)                   |
| NUR 141 Foundations Lab.....      | 2.0(6.0)                   |
| NUR 133 Dosage Calculations ..... | 0.5(0.5)                   |

Second half of semester (must pass first half courses to be eligible to proceed):

| <b>Course</b>                                       | <b>Credit(Contact) Hrs</b> |
|---|----------------------------|
| NUR 142 Medical-Surgical Nursing I.....             | 2.0(2.0)                   |
| NUR 143 Medical-Surgical Nursing I<br>Clinical..... | 2.0(6.0)                   |

Full semester courses:

| <b>Course</b>               | <b>Credit(Contact) Hrs</b> |
|-----------------------------|----------------------------|
| HEA 102 Nutrition.....      | 3.0(3.0)                   |
| NUR 128 Pharmacology I..... | 1.5(1.5)                   |

**Total Level I First Semester..... 13.0(21.0)**

**Second Semester Courses**

First half of semester:

| <b>Course</b>                            | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|
| NUR 152 OB Reproductive Health Theory... | 1.0(1.0)                   |

Second half of semester:

| <b>Course</b>                  | <b>Credit(Contact) Hrs</b> |
|--------------------------------|----------------------------|
| NUR 154 Pediatrics Theory..... | 1.0(1.0)                   |

Full semester courses:

| <b>Course</b>                            | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|
| NUR 150 Medical-Surgical Theory II ..... | 2.5(2.5)                   |
| NUR 156 Pharmacology II .....            | 1.0(1.0)                   |
| PSY 226 Developmental Psychology .....   | 3.0(3.0)                   |

Five-week courses (can occur in any sequence; students attending 10 of 15 weeks):

| <b>Course</b>                              | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|
| NUR 153 OB Reproductive Health Clinical..  | 1.5(4.5)                   |
| NUR 151 Medical-Surgical Clinical II ..... | 2.0(6.0)                   |

**Total Level I Second Semester..... 12.0(19.0)**

**Total Level I Certificate..... 39.0-40.0(58.0-59.0)**

Associate in Applied Science (AAS) Concentration in

**REGISTERED NURSING**

Program Number: 51.1601

Alpena Community College's Nursing Program is a "ladder program." All Level II Nursing students are LPNs. In addition to the nursing courses that were part of the educational program that led to LPN licensure, the following general education courses are prerequisites for a Level II opening.

**Level II Prerequisites**

| <b>Course</b>  | <b>Credit(Contact) Hrs</b> | <b>Course</b>                          | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|--|----------------------------|
| BIO 201 Human Anatomy .....                                | 4.0(5.0)                   | ENG 111 English (or ENG 121) .....     | 3.0(3.0)                   |
| BIO 203 Human Physiology .....                             | 4.0(5.0)                   | HEA 102 Nutrition .....                | 3.0(3.0)                   |
| BIO 227 Microbiology .....                                 | 4.0(6.0)                   | PSY 101 General Psychology .....       | 3.0(3.0)                   |
| CEM 111 General Chemistry (or CEM 112 or<br>CEM 121) ..... | 4.0-5.0(7.0-8.0)           | PSY 226 Developmental Psychology ..... | 3.0(3.0)                   |
|  |                            |  | 28.0-29.0(35.0-36.0)       |

**Level II First Semester Courses**

Full-semester courses:

| <b>Course</b>                             | <b>Credit(Contact) Hrs</b> |
|---|----------------------------|
| NUR 240 Advanced Medical-Surgical I ..... | 2.0(2.0)                   |
| NUR 242 Advanced Parent/Child.....        | 1.5(1.5)                   |
| NUR 244 Physical Assessment .....         | 2.0(2.0)                   |
| NUR 246 Nursing Issues .....              | 1.0(1.0)                   |
| ENG 112 English.....                      | 3.0(3.0)                   |

5-week courses (can occur in any sequence; students attending 10 of 15 weeks):

| <b>Course</b>  | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|
| NUR 241 Advanced Medical-Surgical I<br>Clinical..... | 2.0(6.0)                   |
| NUR 243 Advanced Parent/Child Clinical.....          | 1.5(4.5)                   |

**Total Level II First Semester Courses.....13.0(20.0)**

**Level II Second Semester Courses**

First half of semester:

| <b>Course</b>                     | <b>Credit(Contact) Hrs</b> |
|-----------------------------------|----------------------------|
| NUR 254 Nursing Transitions ..... | 0.5(0.5)                   |

Second half of semester:

| <b>Course</b>                     | <b>Credit(Contact) Hrs</b> |
|-----------------------------------|----------------------------|
| NUR 256 Diagnostic Readiness..... | 0.5(0.5)                   |

Full-semester courses:

| <b>Course</b>                                       | <b>Credit(Contact) Hrs</b> |
|---|----------------------------|
| NUR 249 Advanced Medical-Surgical<br>Theory II..... | 2.0(2.0)                   |
| NUR 252 Psychiatric Nursing Theory.....             | 1.5(1.5)                   |
| PLS 221 Political Science .....                     | 3.0(3.0)                   |

5-week courses (can occur in any sequence; students attending 10 of 15 weeks):

| <b>Course</b>   | <b>Credit(Contact) Hrs</b> |
|---|----------------------------|
| NUR 250 Advanced Medical-Surgical<br>Clinical II..... | 2.0(6.0)                   |
| NUR 253 Psychiatric Nursing Clinical.....             | 1.5(4.5)                   |

**Total Level II Second Semester Courses..11.0(18.0)**

**Total AAS Degree..... 71.0-72.0(107.0-108.0)**

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 degree distribution requirements (page 56) 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**

| <b>First Semester</b>                      | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                                      | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|---|----------------------------|
| 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<br>Analysis ..... | 4.0(7.0)                   |
| MTH 131 Analytic Geometry/Calculus .....   | 5.0(5.0)                   | MTH 132 Analytic Geometry & Calculus .....                  | 5.0(5.0)                   |
| Non-Science Elective.....                  | 3.0-4.0(3.0-4.0)           | MTH 221 C++ Programming.....                                | 3.0(4.0)                   |
|  | _____                      |   | _____                      |
|  | 15.0-16.0(18.0-19.0)       |   | 15.0(19.0)                 |

**SECOND YEAR**

| <b>First Semester</b>                        | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>  | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|---|----------------------------|
| American Govt. Req. <sup>A B</sup> .....     | 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. <sup>B</sup> ..... | 3.0-4.0(4.0-5.0)           | Humanities/Fine Arts &<br>Social Science Requirement <sup>B</sup> ..... | 3.0-4.0(4.0-5.0)           |
|  | _____                      |   | _____                      |
|  | 16.0-20.0(19.0-23.0)       |   | 15.0-17.0(18.0-20.0)       |

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

<sup>B</sup> See page 58. 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 that 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 55) 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**

| <b>First Semester</b>                                     | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                        | <b>Credit(Contact) Hrs</b> |
|---|----------------------------|---|----------------------------|
| ENG 111 English or ENG 121 English .....                  | 3.0(3.0)                   | ENG 112 English or ENG 122 English .....      | 3.0(3.0)                   |
| ANP 121 Cultural Anthropology .....                       | 3.0(3.0)                   | 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)                   |
| MTH 123 College Alg. & Analytical Trig <sup>1</sup> ..... | 4.0(4.0)                   | PLS 222 Political Science .....               | 3.0(3.0)                   |
| PLS 221 Political Science .....                           | 3.0(3.0)                   | SOC 123 Sociology.....                        | 3.0(3.0)                   |
|   | 16.0(16.0)                 |   | 16.0(16.0)                 |

**SECOND YEAR**

| <b>First Semester</b>                      | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>              | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|-------------------------------------|----------------------------|
| ECN 231 Economics (Micro) .....            | 3.0(3.0)                   | ECN 232 Economics (Macro).....      | 3.0(3.0)                   |
| HST 221 United States History .....        | 3.0(3.0)                   | HST 222 United States History ..... | 3.0(3.0)                   |
| PLS 230 Comparative Government.....        | 3.0(3.0)                   | PLS 228 International Affairs ..... | 3.0(3.0)                   |
| MTH 223 Statistical Methods.....           | 4.0(4.0)                   | SPE 121 Speech Communications ..... | 3.0(3.0)                   |
| Social Science Elective <sup>2</sup> ..... | 3.0(3.0)                   | Elective <sup>3</sup> .....         | 3.0(3.0)                   |
|  | 16.0(16.0)                 |                                     | 15.0(15.0)                 |

<sup>1</sup> It is recommended that transfer students determine math requirements at the university to which they will transfer.

<sup>2</sup> Social Science electives include any courses with the following prefixes which are listed in the course description section of this catalog:

- |                  |                       |
|------------------|-----------------------|
| ANP Anthropology | PLS Political Science |
| ECN Economics    | PSY Psychology        |
| GEO Geography    | SOC Sociology         |
| HST History      |                       |

<sup>3</sup> Select electives based on area of interest and requirements of transfer institution.



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 degree distribution requirements (page 56) 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**

| <b>First Semester</b>                      | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                     | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|--|----------------------------|
| 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**

| <b>First Semester</b>                        | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                 | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|--|----------------------------|
| 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. <sup>A</sup> .....       | 3.0 or 6.0(3.0 or 6.0)     | PHY 122 General College Physics.....   | 4.0(6.0)                   |
| Humanities/Fine Arts Req. <sup>B</sup> ..... | 3.0-4.0(4.0-5.0)           | Humanities/Fine Arts or Social Science |                            |
|  | —                          | Requirement <sup>B</sup> .....         | 3.0-4.0(4.0-5.0)           |
|  | 14.0-18.0(18.0-23.0)       |  | —                          |
|  |                            |  | 15.0-16.0(20.0-21.0)       |

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

<sup>B</sup> See page 58. 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 degree distribution requirements (page 56) 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**

| <b>First Semester</b>                               | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                       | <b>Credit(Contact) Hrs</b> |
|---|----------------------------|--|----------------------------|
| 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 <sup>B</sup> ..... | 3.0(4.0-5.0)               | PLS 221 Political Science <sup>A</sup> ..... | 3.0(3.0)                   |
|   | 16.0(20.0-21.0)            |  | 18.0(21.0)                 |

**SECOND YEAR**

| <b>First Semester</b>                  | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>               | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|--------------------------------------|----------------------------|
| 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)                   |
|  | 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.

<sup>A</sup> Fulfills American Government Requirement.

<sup>B</sup> See page 58. 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 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 56) 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**

| <b>First Semester</b>                                  | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                     | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|--|----------------------------|
| 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 Western Civilization .....             | 3.0(3.0)                   | HST 122 History Western Civilization ..... | 3.0(3.0)                   |
| PLS 221 Political Science .....                        | 3.0(3.0)                   | Laboratory Science .....                   | 4.0(4.0)                   |
| MTH 123 College Algebra & An. Trig. <sup>1</sup> ..... | 4.0(4.0)                   | PLS 222 Political Science .....            | 3.0(3.0)                   |
| PSY 101 General Psychology .....                       | 3.0(3.0)                   | SOC 123 Sociology .....                    | 3.0(3.0)                   |
|  | -----                      |  | -----                      |
|  | 16.0(16.0)                 |  | 16.0(16.0)                 |

**SECOND YEAR**

| <b>First Semester</b>                      | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>              | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|-------------------------------------|----------------------------|
| ECN 231 Economics (Micro) .....            | 3.0(3.0)                   | ECN 232 Economics (Macro).....      | 3.0(3.0)                   |
| HST 221 United States History .....        | 3.0(3.0)                   | HST 222 United States History ..... | 3.0(3.0)                   |
| BUS 123 Principles of Accounting I .....   | 4.0(4.0)                   | Electives <sup>3</sup> .....        | 9.0(9.0)                   |
| SPE 121 Speech Communications .....        | 3.0(3.0)                   |                                     | -----                      |
| Social Science Elective <sup>2</sup> ..... | 3.0(3.0)                   |                                     | 15.0(15.0)                 |
|  | -----                      |                                     |                            |
|  | 16.0(16.0)                 |                                     |                            |

<sup>1</sup> It is recommended that transfer students determine math requirements at the university to which they will transfer.

<sup>2</sup> Social Science electives include any courses with the following prefixes which are listed in the course description section of this catalog:

- |                  |                       |
|------------------|-----------------------|
| ANP Anthropology | PLS Political Science |
| ECN Economics    | PSY Psychology        |
| GEO Geography    | SOC Sociology         |
| HST History      |                       |

<sup>3</sup> Select electives based on area of interest and transfer institution requirements.

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 degree distribution requirements (page 56) 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**

| <b>First Semester</b>  | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                   | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|--|----------------------------|
| 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 or CEM 121<br>General & Inorganic Chem ..... | 4.0-5.0(7.0-8.0)           | 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)                   |
|  | 14.0-15.0(19.0-20.0)       |  | 15.0(19.0)                 |

**SECOND YEAR**

| <b>First Semester</b>                  | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>  | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|---|----------------------------|
| American Govt. Req. <sup>A</sup> ..... | 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<br>Requirement <sup>B</sup> ..... | 3.0-4.0(4.0-5.0)           |
| PHY 121 General College Physics.....   | 4.0(6.0)                   |   |                            |
|  | 15.0 or 18.0(20.0 or 23.0) |   | 11.0-12.0(16.0-17.0)       |

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

<sup>B</sup> See page 58. 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 131 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 degree distribution requirements (page 56) 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**

| <b>First Semester</b>   | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                                      | <b>Credit(Contact) Hrs</b> |
|---|----------------------------|---|----------------------------|
| 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 Chem. or CEM 121 General<br>& Inorganic Chemistry .....       | 5.0-4.0(7.0-8.0)           | CEM 122 Inorganic Chemistry & Qualitative<br>Analysis ..... | 4.0(7.0)                   |
| MTH 131 Analytic Geometry & Calculus.....                                     | 5.0(5.0)                   | MTH 223 Statistical Methods.....                            | 4.0(4.0)                   |
| BIO 114 Intro to Biological Science or BIO 210<br>Introduction to Botany..... | 4.0(5.0)                   | HST 221 U.S. History.....                                   | 3.0(3.0)                   |
|   | _____                      |   | _____                      |
|   | 16.0-17.0(20.0-21.0)       |   | 14.0(17.0)                 |

**SECOND YEAR**

| <b>First Semester</b>           | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>  | <b>Credit(Contact) Hrs</b> |
|---------------------------------|----------------------------|---|----------------------------|
| 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 SOC 123<br>Sociology .....              | 3.0(3.0)                   |
| BIO 227 Microbiology.....       | 4.0(6.0)                   | SPE 121 Speech Communication or SPE 123<br>Public Communication ..... | 3.0(3.0)                   |
| HST 222 U.S. History .....      | 3.0(3.0)                   | Humanities/Fine Arts 200-lvl elective <sup>A</sup> . 3.0-4.0(4.0-5.0) |                            |
|                                 | _____                      | Elective.....   | 3.0(3.0)                   |
|                                 | 14.0(18.0)                 |   | _____                      |
|                                 |                            |   | 16.0-17.0(19.0-20.0)       |

<sup>A</sup> See page 58. 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 degree distribution requirements (page 56) 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**

| <b>First Semester</b>                                    | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                                      | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|---|----------------------------|
| 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<br>Analysis ..... | 4.0(7.0)                   |
| MTH 122 Plane Trigonometry .....                         | 3.0(3.0)                   | MTH 123 College Algebra & Analytic<br>Trigonometry .....    | 4.0(4.0)                   |
| Humanities/Fine Arts/Social Science Elect...3.0(4.0-5.0) | _____                      |   | _____                      |
|  | 17.0(22.0-23.0)            |   | 15.0(19.0)                 |

**SECOND YEAR**

| <b>First Semester</b>                  | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                       | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|--|----------------------------|
| 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. <sup>A</sup> ..... | 3.0 or 6.0(3.0 or 6.0)     | Humanities/Fine Arts Req. <sup>B</sup> ..... | 3.0-4.0(4.0-5.0)           |
|  | _____                      |  | _____                      |
|  | 15.0 or 18.0(20.0 or 23.0) |  | 15.0-16.0(22.0-23.0)       |

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

<sup>B</sup> See page 58. 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. It is intended for students who want to work in the field of psychology, are considering an associate in arts (AA) degree, or intending to transfer to obtain a bachelor's degree or advanced degree in psychology. Students should refer to the descriptions of Alpena Community College graduation requirements (page 44) and degree distribution requirements (page 55) and consult with an academic advisor concerning specific course selection. A minimum total of 60 credits is required for the AA degree.

**FIRST YEAR**

| <b>First Semester</b>                    | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                     | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|--|----------------------------|
| ENG 111 English or ENG 121 English ..... | 3.0(3.0)                   | ENG 112 English or ENG 122 English .....   | 3.0(3.0)                   |
| SPE 121 Speech Communication.....        | 3.0(3.0)                   | Lab Science Requirement <sup>A</sup> ..... | 4.0(4.0)                   |
| PSY 101 General Psychology .....         | 3.0(3.0)                   | SOC 123 Intro to Sociology.....            | 3.0(3.0)                   |
| Math <sup>A</sup> .....                  | 4.0-5.0(4.0-5.0)           | PSY 241 Social Psychology.....             | 3.0(3.0)                   |
|  | _____                      | Math Elective <sup>A</sup> .....           | 4.0(4.0)                   |
|  | 13.0-14.0(13.0-14.0)       |  | _____                      |
|  |                            |  | 17.0(17.0)                 |

**SECOND YEAR**

| <b>First Semester</b>                               | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                              | <b>Credit(Contact) Hrs</b> |
|---|----------------------------|---|----------------------------|
| PSY 242 Abnormal Psychology .....                   | 3.0(3.0)                   | PSY 226 Developmental Psychology .....              | 3.0(3.0)                   |
| PLS 221 Political Science <sup>B</sup> .....        | 3.0(3.0)                   | ANP 121 Cultural Anthropology .....                 | 3.0(3.0)                   |
| MTH 223 Statistical Methods.....                    | 4.0(4.0)                   | Humanities/Fine Arts Requirement <sup>C</sup> ..... | 3.0(3.0)                   |
| Social Science Elective <sup>D</sup> .....          | 3.0(3.0)                   | PSY 230 Human Sexuality .....                       | 3.0(3.0)                   |
| Humanities/Fine Arts Requirement <sup>C</sup> ..... | 3.0(3.0)                   | Social Science Elective <sup>D</sup> .....          | 3.0(3.0)                   |
|   | _____                      |   | _____                      |
|   | 16.0(16.0)                 |   | 15.0(15.0)                 |

<sup>A</sup> It is strongly recommended that transfer students determine mathematics requirements at the university to which they will transfer.

<sup>B</sup> Choose either 3 credits in Political Science (PLS 221 or 222) or 6 credits in U.S. History (HST 221 and 222).

<sup>C</sup> Humanities/Fine Arts electives include any courses with the following prefixes which are listed in the course description section of this catalog: ART Art; ENG English (only ENG 125, 126, and all 200-level ENG courses); HUM Humanities; HST History (only HST 121 and 122); MUS Music; PFA Performing Arts; PHL Philosophy; SPE Speech; SOC Sociology (only SOC 252 [satisfies either Social Science or Humanities requirements, but may not be used for both]).

<sup>D</sup> Social Science electives include any courses with the following prefixes which are listed in the course description section of this catalog: ANP Anthropology; ECN Economics; GEO Geography; HST History; PLS Political Science; PSY Psychology; and SOC Sociology.

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 Political Science, plus electives to total 62 hours.

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

<sup>A</sup> Included in occupational specialty.

<sup>B</sup> Waived for any student having the equivalent of one year of typewriting.

<sup>C</sup> Choose from the following suggested computer electives:

- BUS 257 Computerized Accounting Systems
- CIS 120 Introduction to Microcomputers
- MTH 119 Introduction to Computers — Programming

<sup>D</sup> 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

**SOCIAL WORK**

Program Number: 44.0701

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 Arts degree. A goal of this suggested program of study is to satisfy all English composition and mathematics requirements for a bachelor of arts degree while at Alpena Community College and to promote a foundation in the social sciences. Social work provides a more applied exposure to sociological applications while sociology provides a general academic discipline.

**FIRST YEAR**

| <b>First Semester<sup>1</sup></b>                                  | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                                   | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|--|----------------------------|
| ENG 111 English or ENG 121 English .....                           | 3.0(3.0)                   | ENG 112 English or ENG 122 English .....                 | 3.0(3.0)                   |
| HST 121 or HST 122 History of Western<br>Civilization .....        | 3.0(3.0)                   | Laboratory Science .....                                 | 4.0(4.0)                   |
| MTH 121 College Algebra or MTH 123<br>College Algebra & Trig ..... | 4.0(4.0)                   | PSY 101 General Psychology .....                         | 3.0(3.0)                   |
| SOC 110 Intro to Social Work .....                                 | 3.0(3.0)                   | SOC 210 Social Inequality: Race, Class<br>& Gender ..... | 3.0(3.0)                   |
| SOC 123 Intro to Sociology .....                                   | 3.0(3.0)                   | SPE 121 Speech Communications .....                      | 3.0(3.0)                   |
|  |                            |  | 16.0(16.0)                 |
|  | 16.0(16.0)                 |  |                            |

**SECOND YEAR**

| <b>First Semester</b>   | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                | <b>Credit(Contact) Hrs</b> |
|---|----------------------------|---------------------------------------|----------------------------|
| PLS 221 Political Science or<br>PLS 222 Political Science ..... | 3.0(3.0)                   | ANP 121 Cultural Anthropology .....   | 3.0(3.0)                   |
| PSY 242 Abnormal Psychology .....                               | 3.0(3.0)                   | PHL 228 Intro to Ethics .....         | 3.0(3.0)                   |
| SOC 230 Social Problems .....                                   | 3.0(3.0)                   | SOC 227 Marriage and the Family ..... | 3.0(3.0)                   |
| Elective <sup>2</sup> .....                                     | 3.0(3.0)                   | Elective <sup>2</sup> .....           | 3.0(3.0)                   |
| Elective <sup>2</sup> .....                                     | 3.0(3.0)                   |                                       | 12.0(12.0)                 |
|   | 15.0(15.0)                 |                                       |                            |

<sup>1</sup> CIS 110 Computer Essentials is highly recommended and is a requirement in many social work programs.

<sup>2</sup> Check transfer institution requirements.

NOTE: Electives should be selected to fulfill transfer institution requirements and the area of concentration (major or minor).

- ECN 231 Economics (Micro)
- ECN 232 Economics (Macro)
- GEO 125 Geography
- GEO 126 Cultural Geography
- HST 121/122 History of Western Civilization

- PHL 125 Language and Reason
- PHL 225 Philosophy
- PSY 226 Developmental Psychology
- PSY 230 Human Sexuality
- SPE 123 Public Communication

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. Students should refer to the descriptions of Alpena Community College graduation requirements and degree distribution requirements per the catalog and student handbook and consult with an academic advisor concerning specific course selection. A minimum total of 60 credits are required for the Associate in Arts degree. A goal of this suggested program of study is to satisfy all English composition and mathematics requirements for the bachelor of arts degree while at Alpena Community College and to promote a foundation in the social sciences. Sociology provides an exposure to more general academic discipline as opposed to social work that is more of an applied program.

**FIRST YEAR**

| <b>First Semester<sup>1</sup></b>                     | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                                  | <b>Credit(Contact) Hrs</b> |
|---|----------------------------|---|----------------------------|
| SOC 123 Intro to Sociology.....                       | 3.0(3.0)                   | SOC 210 Social Inequality: Race, Class<br>& Gender..... | 3.0(3.0)                   |
| ENG 111 English or ENG 121 English .....              | 3.0(3.0)                   | ENG 112 or ENG 122 English.....                         | 3.0(3.0)                   |
| HST 121 or 122 History of Western Civ.....            | 3.0(3.0)                   | Lab Science .....                                       | 4.0(5.0)                   |
| MTH 121 or MTH 123 College Algebra <sup>2</sup> ..... | 4.0(4.0)                   | SPE 121 Speech Communications .....                     | 3.0(3.0)                   |
| Elective <sup>2</sup> .....                           | 3.0(3.0)                   | PSY 101 General Psychology.....                         | 3.0(3.0)                   |
|   | 16.0(16.0)                 |   | 16.0(17.0)                 |

**SECOND YEAR**

| <b>First Semester</b>                  | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                      | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|---|----------------------------|
| SOC 230 Social Problems .....          | 3.0(3.0)                   | SOC 227 Sociology of Marriage & Family..... | 3.0(3.0)                   |
| PLS 221 or 222 Political Science ..... | 3.0(3.0)                   | ANP 121 Cultural Anthropology .....         | 3.0(3.0)                   |
| PSY 241 Social Psychology .....        | 3.0(3.0)                   | MTH 223 Statistical Methods.....            | 4.0(4.0)                   |
| PHL 228 Introduction to Ethics .....   | 3.0(3.0)                   | Elective <sup>2</sup> .....                 | 3.0(3.0)                   |
| Elective <sup>2</sup> .....            | 3.0(3.0)                   |   | 13.0(13.0)                 |
|  | 15.0(15.0)                 |   |                            |

<sup>1</sup> CIS 110 Computer Essentials is highly recommended and is a requirement in many Sociology programs.

<sup>2</sup> Check transfer institution requirements.

NOTE: Electives should be selected to fulfill transfer institution requirements and the area of concentration (major or minor).

- ECN 231 Economics (Micro)
- ECN 232 Economics (Macro)
- GEO 125 Geography
- GEO 126 Cultural Geography
- HST 121/122 History of Western Civilization

- PHL 125 Language & Reason
- PHL 225 Philosophy
- SPE 123 Public Communication
- PLS 228 International Relations
- PLS 230 Comparative Government

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.

| <b>First Semester</b>                                     | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                                 | <b>Credit(Contact) Hrs</b> |
|---|----------------------------|--|----------------------------|
| APP 106M Industrial Safety <sup>B</sup> .....             | 0.5(0.5)                   | UTT 201 Test Equip./Troubleshooting <sup>B</sup> ..... | 1.0(1.0)                   |
| APP 100E Electrical Studies for Trades <sup>B</sup> ..... | 3.0(4.0)                   | UTT 202 Transformer Fundamentals <sup>B</sup> .....    | 2.0(3.0)                   |
| MTH 110 Technical Math I or MTH 115                       |                            | UTT 204 System Design and Operation <sup>B</sup> ..... | 4.0(4.0)                   |
| App. Algebra and Trig. I.....                             | 3.0 or 5.0(4.0 or 6.0)     | UTT 206 Equipment/Vehicle Operation <sup>B</sup> ..... | 2.0(3.0)                   |
| UTT 101 Intro to the Utility Industry <sup>B</sup> .....  | 0.5(0.5)                   | UTT 207 Environmental Concerns of the                  |                            |
| UTT 102 Climbing Elevated Work Sites <sup>B</sup> .....   | 1.0(1.0)                   | Utility Industry <sup>B</sup> .....                    | 1.0(1.0)                   |
| UTT 103 Overhead Construction <sup>B</sup> .....          | 1.0(1.0)                   | UTT 208 Climbing & Working in Elevated                 |                            |
| UTT 110 Utility/Line Mechanics Lab.....                   | 6.0(10.5)                  | Work Sites <sup>B</sup> .....                          | 2.0(2.0)                   |
| UTT 203 Underground Construction <sup>B</sup> .....       | 2.0(2.0)                   | UTT 210 Utility/Line Mechanic Lab <sup>B</sup> .....   | 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(25.5)         |  | 18.0(24.0)                 |

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: \$1,300**

<sup>B</sup> 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: 46.0302

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**

| <b>First Semester</b>                                     | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                                 | <b>Credit(Contact) Hrs</b> |
|---|----------------------------|--|----------------------------|
| APP 106M Industrial Safety <sup>B</sup> .....             | 0.5(0.5)                   | UTT 201 Test Equip./Troubleshooting <sup>B</sup> ..... | 1.0(1.0)                   |
| APP 100E Electrical Studies for Trades <sup>B</sup> ..... | 3.0(4.0)                   | UTT 202 Transformer Fundamentals <sup>B</sup> .....    | 2.0(3.0)                   |
| MTH 110 Technical Math I or MTH 115                       |                            | UTT 204 System Design and Operation <sup>B</sup> ..... | 4.0(4.0)                   |
| App. Algebra and Trig. I .....                            | 3.0 or 5.0(4.0 or 6.0)     | UTT 206 Equipment/Vehicle Operation <sup>B</sup> ..... | 2.0(3.0)                   |
| UTT 101 Intro to the Utility Industry <sup>B</sup> .....  | 0.5(0.5)                   | UTT 207 Environmental Concerns of the                  |                            |
| UTT 102 Climbing Elevated Work Sites <sup>B</sup> .....   | 1.0(1.0)                   | Utility Industry <sup>B</sup> .....                    | 1.0(1.0)                   |
| UTT 103 Overhead Construction <sup>B</sup> .....          | 1.0(1.0)                   | UTT 208 Climbing & Working in Elevated                 |                            |
| UTT 110 Utility/Line Mechanics Lab .....                  | 6.0(10.5)                  | Work Sites <sup>B</sup> .....                          | 2.0(2.0)                   |
| UTT 203 Underground Construction <sup>B</sup> .....       | 2.0(2.0)                   | UTT 210 Utility/Line Mechanic Lab <sup>B</sup> .....   | 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**

| <b>First Semester</b>                        | <b>CrHrs</b> | <b>Second Semester</b>                         | <b>CrHrs</b>               |
|--|--------------|--|----------------------------|
| APP 107E Specialty Wiring <sup>B</sup> ..... | 3.0(4.0)     | APP 104E AC/DC Fundamentals <sup>B</sup> ..... | 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. <sup>A</sup> .....         | 3.0 or 6.0(3.0 or 6.0)     |
| SPE 123 Public Communication .....           | 3.0(3.0)     | EPT 230 Poly-Phase Metering <sup>B</sup> ..... | 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: \$1,300**

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

<sup>B</sup> 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.

| <b>First Semester</b>                        | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>                                 | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|--|----------------------------|
| MET 123 Welding Processes <sup>A</sup> ..... | 4.0(6.0)                   | CAD 102 Intro to AUTOCAD <sup>A</sup> .....            | 2.0(3.0)                   |
| MET 200 Material Science <sup>A</sup> .....  | 3.0(4.0)                   | MET 124 Welding Processes <sup>A</sup> .....           | 4.0(6.0)                   |
| MFG 101 Metal Cutting I <sup>A</sup> .....   | 4.0(6.0)                   | MET 240 Gas Tungsten Arc/Pipe Welding <sup>A</sup> ... | 4.0(6.0)                   |
| MFG 120 Applied Manufacturing                |                            | MET 242 Welding Fabrication <sup>A</sup> .....         | 3.0(5.0)                   |
| Print Reading I <sup>A</sup> .....           | 3.0(4.0)                   |  |                            |
| MTH 110 Technical Math I.....                | 3.0(4.0)                   |  | 13.0(20.0)                 |
|  | 17.0(24.0)                 |  |                            |

<sup>A</sup> Included in occupational specialty; GPA of 2.0 or higher must be maintained in the area of occupational specialty.

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.

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**

| <b>First Semester</b>   | <b>Credit(Contact) Hrs</b> | <b>Second Semester</b>  | <b>Credit(Contact) Hrs</b> |
|---|----------------------------|---|----------------------------|
| CEM 111 General Chemistry or CEM 121<br>General & Inorganic Chemistry ..... | 4.0-5.0(8.0)               | CEM 112 Organic & Biochem or CEM 122<br>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<br>Fitness Elective .....                         | 2.0(3.0)                   |
| PLS 221 or PLS 222 Political Science.....                                   | 3.0(7.0)                   | SPE 121 Speech Communication or SPE 123<br>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 Political Science ..... | 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         |
| <b>Total General Education Credits.....</b> | <b>33.0</b> |

For more information visit Delta's website  
at [www.delta.edu](http://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

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:**

| <b>Prerequisite Courses</b>                | <b>Credit(Contact) Hrs</b> | <b>Additional Courses</b>                | <b>Credit(Contact) Hrs</b> |
|--|----------------------------|--|----------------------------|
| 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 through Northwood University. Students can take third-year classes at ACC or Northwood. A minimum of 90 semester hours must be completed prior to transferring to Northwood to take full advantage of this agreement. The student's fourth year is completed through Northwood, on ACC's campus.

### Northwood University Bachelor Degrees

- **Bachelor of Business Administration Degree — Management**

This program treats the associate degree as one specialty area. In addition, it yields a major in management and a minor in social sciences. Students may incorporate additional minors, contingent upon the individualized portions of their programs.

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**

Students with an ACC associate in applied science degree in accounting are eligible to earn Northwood University's BBA with a major in 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 — Health Care Management/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.

A BBA in Health Care Management provides a solid foundation for those interested in a management position in healthcare, whether in a hospital, long-term care facility, insurance company,

managed-care organization, pharmaceutical company, or one of the many other healthcare-related industries.

- **Bachelor of Business Administration Degrees — 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.

Additional Northwood University bachelor degree programs include:

- **Bachelor of Business Administration Degrees — Automotive Marketing/Management (On-line portions)**
- **Bachelor of Business Administration Degrees — Automotive Supply Management/Management (On-line portions)**

For more information on these cooperative programs please contact:

**Lesslee Dort**

Northwood University Alpena Program Center Manager  
Madeline Briggs University Center  
(989) 358-7302

Or contact the Northwood University Main Campus Admissions Office:

(989) 837-4273  
Toll free: 1-800-445-5873

\*Some Northwood University HCM classes are offered only in Midland.

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  
**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
- Graphic Arts Technology
- Manufacturing Technology

**Alpena Community College  
MADELINE BRIGGS UNIVERSITY CENTER**

The Madeline Briggs University Center at Alpena Community College houses offices of accredited four-year institutions who are cooperating with ACC to make completion programs for selected bachelor's and master's degrees available in Northeast Michigan. It is a concept Alpena Community College is actively pursuing to bring staff, classes and services from partner colleges to existing facilities at the main campus in Alpena and at the 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 on page 141-142. For more information, please contact the following university representatives who have regular office hours:

**Northwood University**

Lesslee Dort, Northwood University Alpena Program Center Manager  
ACC Madeline Briggs University Center, Room 142  
(989) 358-7302  
dortl@northwood.edu

# ACC University Center Degree Programs

as of January 2009

## Northwood University Bachelor Degrees

- **Bachelor of Business Administration Degree — Management**

This program treats the associate degree as one specialty area. In addition, it yields a major in management and a minor in social sciences. Students may incorporate additional minors, contingent upon the individualized portions of their programs.

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**

Students with an ACC associate in applied science degree in accounting are eligible to earn Northwood University's BBA with a major in 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 — Health Care Management/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.

A BBA in Health Care Management provides a solid foundation for those interested in a management position in healthcare, whether in a hospital, long-term care facility, insurance company, managed-care organization, pharmaceutical company, or one of the many other healthcare-related industries.

- **Bachelor of Business Administration Degrees — 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.

## 144 Cooperative Programs

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- **Bachelor of Business Administration Degrees — Automotive Marketing/Management (On-line portions)**
- **Bachelor of Business Administration Degrees — Automotive Supply Management/Management (On-line portions)**

For more information on these cooperative programs please contact:

**Lesslee Dort**

Northwood University Alpena Program Center Manager  
Madeline Briggs University Center  
(989) 358-7302

Or contact the Northwood University Main Campus Admissions Office:

(989) 837-4273  
Toll free: 1-800-455-5873

\*Some Northwood University HCM classes are offered only in Midland.

# COURSE DESCRIPTIONS

## Understanding Course Descriptions

The course descriptions on the following pages are in alphabetical order by subject and each

1

### BUS 123 PRINCIPLES OF ACCOUNTING I

Normally 4 ed: 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 processing. Practice in accounting skill is obtained through the recording of transactions and preparation of financial statements.

**Prerequisite:** MTH 102 or equivalent.

2

3

4(4-0)

6

course appears in numerical order. The following diagram will help you understand each part of a course description.

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

## ANTHROPOLOGY

### **ANP 121 CULTURAL ANTHROPOLOGY ..... 3(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:** On Demand

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 WORLD ..... 3(3-0)**

**Normally Offered:** On Demand

Introduces the major religions of the world on a comparative basis. Original sacred documents will be read and underlying cultural assumptions studied. Objective is to develop an appreciation for the wide variety of religious experience and organization that exists in the world today. Student will come into contact with a wide variety of traditions ranging from the indigenous religious traditions of the United States to those of Buddhism, Hinduism and the world of Islam.

### **ANP 240 ARCHAEOLOGY ..... 3(.5-3.5)**

**Normally Offered:** On Demand

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 ARCHAEOLOGY ..... 3(3-0)**

**Normally Offered:** On Demand

This course will provide students with an introduction to theory, method, technologies, and practice in underwater archaeology, with a focus on prehistoric and historical sites, worldwide and in the Great Lakes, inland lakes, and streams of the State of Michigan. Course content will draw primarily from anthropology and the applied social or behavioral sciences.

**Prerequisite:** ANP 121 or permission of instructor.

## APPRENTICE — ELECTRICAL

### **APP 100E ELECTRICAL STUDIES FOR TRADES ..... 3(2-2)**

**Normally Offered:** On Demand

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:** On Demand

Course content includes residential wiring and blueprint reading in an organized manner.

**Prerequisite:** APP 100E, MTH 110 Technical Math I.

**APP 103E COMMERCIAL & INDUSTRIAL WIRING..... 3(2-2)**

**Normally Offered: On Demand**

Course content includes commercial and industrial applications of alternating current with applicable blueprint reading.

**Prerequisite:** APP 100E.

**APP 104E AC AND DC FUNDAMENTALS ..... 3(2-2)**

**Normally Offered: F**

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: On Demand**

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 CONTROLLERS ..... 3(2-2)**

**Normally Offered: On Demand**

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 ..... 3(3-0)**

**Normally Offered: On Demand**

A comprehensive study of the National Electric Code and its application to ensure a safe and adequate electrical installation. Capstone course of apprentice electrical program.

**Prerequisite:** APP 102E, APP 103E, APP 111E, or permission of instructor.

**APP 122E DIGITAL ELECTRONICS FOR ELECTRICIANS..... 3(2-2)**

**Normally Offered: On Demand**

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 ELECTRICIANS..... 3(2-2)**

**Normally Offered: On Demand**

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: On Demand**

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 READING..... 3(2-2)

**Normally Offered:**

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 REPAIR ..... 2.5(1-3)

**Normally Offered:**

This course provides the student with a basic working knowledge of principles of mechanical power transmission, belt drives, bearings, couplings, packing and seals, mechanical fasteners, pipe fittings, and pipe valves.

### APP 124M APPRENTICE-HYDRAULICS ..... 2.5(1-3)

**Normally Offered:**

This course introduces the student to the principles and maintenance practices of power hydraulics and provides the student with a basic working knowledge of hydraulic fluids, piping, seals, reservoirs actuators, directional controls, volume controls, pumps circuits and graphical schematics.

### APP 125M APPRENTICE MACHINE SHOP ..... 2.5(1-3)

**Normally Offered:**

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 ESTIMATING..... 1.5(1-1)

**Normally Offered: On Demand**

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

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

**Normally Offered:**

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

### APP 223M PREDICTIVE AND PREVENTATIVE MAINTENANCE ..... 3(1-3)

**Normally Offered:**

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

**Normally Offered: F**

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: 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**

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

**Normally Offered: 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 223 PAINTING I ..... 3(0-4)**

**Normally Offered: F**

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 II ..... 3(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 I ..... 3(0-4)**

**Normally Offered: F**

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: SP**

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 II ..... 3(2-2)**

**Normally Offered: F, SP**

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: On Demand**

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 IV ..... 3(0-4)**

**Normally Offered: On Demand**

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

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

**Normally Offered: On Demand**

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 IV ..... 3(0-4)**

**Normally Offered: On Demand**

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: SP**

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.

## **AUTOMOTIVE**

**AUT 115 AUTO BODY REPAIR ..... 17(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 REPAIR ..... 17(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 117 AUTO BODY REPAIR ..... 10(10-20)**

**Normally Offered: SUM**

Gives added instruction in gas welding and MIG welding. Refinishing processes including types of coatings, painting procedures, rubbing, and polishing are also covered. Meets six hours a day, five days per week.

**Prerequisite:** AUT 116.

**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 SYSTEMS ..... 5(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 SYSTEMS ..... 4(2-4)**

**Normally Offered: SP**

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 &  
ALIGNMENT ..... 5(2-6)**

**Normally Offered: F**

Acquaints the student with operating principles and nomenclature of the various suspension and steering components. Both manual and power steering components will be studied. Alignment geometry and suspension dynamics and wheel/tire balance will be studied. Emphasis will be placed on the diagnosis and repair of suspension, steering and alignment problems.

**AUT 124      AUTOMOTIVE ELECTRICAL & ELECTRONICS  
SYSTEMS I..... 5(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 151      AUTOMOTIVE SERVICE CO-OP ..... 6(0-6)**

**Normally Offered: SUM**

Employment experience allows the student an opportunity to gain "on-the-job" training. Culminates the certificate program or assists the transition from the freshman to sophomore year of the associate degree program.

**Prerequisite:** Completion of two semesters of Automotive Service Program and instructor recommendation.

**AUT 201      COMPUTERIZED ENGINE CONTROLS ..... 4(2-4)**

**Normally Offered: SP**

Provides the student in lecture and lab with the theory and operating principles of computerized engines. Reviews electrical and electronic principles, computer operation, and common computer components, followed by more in-depth studies of GM, Ford and Chrysler systems. The course concludes with an update as to what has been done during the last two years, along with a look at what is coming in the future.

**Prerequisite:** AUT 124 or instructor'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: F**

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 CONTROL ..... 3(2-2)**

**Normally Offered: SP**

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 TRANSMISSIONS ..... 5(2-6)**

**Normally Offered: SP**

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: SP**

Introduces the design and construction of the various automotive power plants. Engine mechanical system diagnosis and service procedures, with emphasis on spark ignition engines, are studied. Disassembly, inspection, measurement, reconditioning, and reassembly of the various engine components are practiced. Use of proper service procedures are stressed both in the classroom and lab. Students are expected to complete at least one engine overhaul assignment.

## **AVIATION**

**AVI 121      PRIVATE PILOT GROUND SCHOOL ..... 4(4-0)**

**Normally Offered: F**

This course covers the material in lecture format necessary to prepare students for the Federal Aviation Administration written examination for Private Pilot certificate. Includes instruction in: aerodynamics, federal aviation regulations, cross-country navigation and weather.

**AVI 221 INSTRUMENT PILOT GROUND SCHOOL..... 4(4-0)****Normally Offered: SP**

This course covers the material, in lecture format, which is necessary to prepare students for the Federal Aviation Administration written examination for the Instrument Rating certificate. Includes instruction in principles of instrument flight, ATC clearances, instrument charts and procedures.

**Prerequisite:** AVI 121 Private Pilot Ground School.

**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. Two years of high school biology with a “C” or higher grade within the last five years is equal to BIO 150 General Biology. Advanced Placement (AP): test score of 3 = BIO 114 Introduction to Biology; test score of 4 or 5 = BIO 150 General Biology.

**BIO 110 ESSENTIALS OF ANATOMY AND PHYSIOLOGY ..... 4(3-2)****Normally Offered: 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**

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 BIOLOGY..... 3(2-2)****Normally Offered: On Demand**

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 161 GENERAL COLLEGE BIOLOGY I ..... 4(3-2)****Normally Offered: F**

First installment of a year-long introductory course in biology for science majors. Topics include macromolecules, energy metabolism, cytology cellular reproduction, genetics, evolution, phylogeny, viruses, bacteria and protists.

**Prerequisite:** BIO 114 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: S**

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 equivalent; eligibility for placement in ENG 111 English.

**BIO 200 ANATOMY & PHYSIOLOGY FOR ALLIED HEALTH..... 6(4.5-3)****Normally Offered:**

This course is designed for students in allied health programs. It is an intensive lecture/laboratory course emphasizing the basic concepts and principles of human anatomy and physiology.

**Prerequisite:** BIO 110 or BIO 114 and CEM 100 or equivalent or permission of instructor.

**BIO 201 HUMAN ANATOMY ..... 4(3-2)**

**Normally Offered:** F, SP

This course is a comprehensive study of the microscopic and macroscopic structure of all the human body systems. In lecture, gross anatomy is incorporated with functional anatomy and clinically-related topics. Laboratory work includes the study of slides, human skeletons, anatomical models, and a prosected cadaver. Some animal organs are dissected and compared with those of humans.

**Prerequisite:** BIO 110 or BIO 114 or BIO 161.

**BIO 203 HUMAN PHYSIOLOGY ..... 4(3-2)**

**Normally Offered:** 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 210 INTRODUCTION TO BOTANY ..... 4(3-2)**

**Normally Offered:** F

A basic survey course covering the major divisions of plants from algae through the flowering plants. Two weeks are spent on local flora, as well as traditional aspects of plant anatomy, physiology, paleontology, genetics, and ecology.

**Prerequisite:** BIO 114 or equivalent.

**BIO 211 GENERAL ZOOLOGY ..... 4(3-2)**

**Normally Offered:** SP

A survey course on the major phyla of animals. Includes evolutionary relationships, structure, function, behavior, adaptations, and economic importance of major groups of phyla of animals.

**Prerequisite:** BIO 114 with a 2.0 or better or equivalent.

**BIO 215 FIELD BOTANY ..... 3(2-2)**

**Normally Offered:** SUM

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 MICROBIOLOGY ..... 4(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 PATHOPHYSIOLOGY ..... 4(4-0)**

**Normally Offered:**

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 121 INTRODUCTION TO BUSINESS..... 3(3-0)**

**Normally Offered: F, SP**

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 SELLING ..... 3(3-0)**

**Normally Offered: F**

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 I ..... 4(4-0)**

**Normally Offered: F**

Stresses the basic concept of accounting and financial reporting. The accounting cycle is presented, followed by discussion of current assets and liabilities, fixed assets and related depreciation methods, and systems of internal control and electronic data processing. Practice in accounting skill is obtained through the recording of transactions and preparation of financial statements.

**Corequisite:** MTH 102 or BUS 125.

**BUS 124 PRINCIPLES OF ACCOUNTING II ..... 4(4-0)**

**Normally Offered: SP**

Continues BUS 123. The basics of financial and managerial accounting are presented. Stock transaction, long-term assets and liabilities, cash flows, financial statement analysis, effect of income taxes on decisions, and an introduction to cost accounting and budgeting are covered.

**Prerequisite:** MTH 102 or equivalent and BUS 123.

**BUS 125 BUSINESS MATHEMATICS..... 3(3-0)**

**Normally Offered: F, SP**

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, SUM**

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, SP**

Examines the significant problems encountered by those who wish to manage their own small business. Solutions are offered to general, financial and personnel management problems, capital needs and sources, advertising and markets, credit and inventory contracts, pricing and accounting problems.

**BUS 131 APPLIED ACCOUNTING I ..... 3(2-2)**

**Normally Offered: F**

Stresses the basic concepts of accounting and financial reporting. Covers setting up accounts, analyzing transactions, journalizing and posting entries to special journals and ledgers, and creating financial statements. Adjusting entries and the closing process are covered. A computerized accounting software package is utilized to reinforce the materials taught.

**Corequisite:** BUS 125 Business Math, MTH 102 Elementary Algebra, or higher.

**BUS 132 APPLIED ACCOUNTING II ..... 3(2-2)**

**Normally Offered: On Demand**

Continues BUS 131 Applied Accounting I. Consolidates and reinforces the principles of the accounting cycle with application to payroll accounting sales and cash receipts, purchases and cash payments, vouchers, year-end accounting, accounts receivable, notes and interest, merchandise inventory, and long-term assets. Also introduces accounting for partnerships and corporations. It provides realistic work through the use of numerous forms, documents and a computerized accounting software package is utilized.

**Prerequisite:** BUS 131.

**BUS 201 INTERNATIONAL BUSINESS ..... 3(3-0)**

**Normally Offered: F**

This course provides an overview of the environment, concepts, and basic differences involved in international business. Topics include forms of foreign involvement, international trade theory, governmental influences on trade and strategies, international organizations, multinational corporations, personnel management, and international market. Upon completion, students should be able to describe the foundation of international business.

**Prerequisite:** BUS 121 or permission of instructor.

**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 I ..... 4(4-0)**

**Normally Offered: F**

This course covers principles applicable to the corporate balance sheet and income statement following a review of accounting procedures developed in Accounting Principles. Accounting for assets, liabilities and stockholders' equity of corporations, as well as income statement and cash flow reporting will be covered. Financial statement presentation and disclosures will be emphasized as well. The practice of working problems under supervision is continued.

**Prerequisite:** BUS 124 or consent of instructor.

**BUS 224 INTERMEDIATE ACCOUNTING II ..... 4(4-0)**

**Normally Offered: SP**

Continues study of valuation principles applicable to the liability and equity sections of the balance sheet. Interpretation of financial statements is emphasized, including preparation of a statement of cash flows. Procedures for correcting prior year's statements are evaluated and the problems of income tax allocation are studied. Students are encouraged to develop a philosophy of accounting.

**Prerequisite:** BUS 223 or consent of instructor.

**BUS 225 TAX ACCOUNTING ..... 3(3-0)**

**Normally Offered: F**

Includes general principles of federal taxation relative to individuals and small business firms. Covered are the concepts of income, exclusions, deductions, and credits as well as methods used to determine tax liability. Complex topics such as property transactions, alternative minimum tax and special corporate considerations will be discussed. Emphasizes the changing taxation regulations and how to apply statutory provisions to actual situations.

**Prerequisite:** BUS 124 or consent of instructor.



**BUS 228 COST ACCOUNTING..... 3(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 ADVERTISING..... 3(3-0)**

**Normally Offered: SP**

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 LEADERSHIP ..... 3(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 234 MANAGEMENT OF INFORMATION SYSTEMS..... 3(3-0)**

**Normally Offered: SP**

The various software and hardware components learned through previous computer courses are viewed from the point of developing a cohesive plan for computing and information services both for small and large companies. Students participate in problem solving and decision making for information services that will be reliable and relevant. Issues addressed include security, ethics, human relations, leadership and planning.

**Prerequisite:** Minimum of 12 credit hours of computer courses successfully completed and previous coursework/experience with work processing, spreadsheet and database software or permission of instructor.

**BUS 235 PERSONNEL MANAGEMENT ..... 3(3-0)**

**Normally Offered: F, 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 239 REAL ESTATE LAW..... 3(3-0)**

**Normally Offered: SP**

Covers real estate law including deeds, conveyances, mortgages, land contracts, titles, environmental issues, foreclosure and landlord-tenant issues. Emphasis on document preparation.

**Prerequisite:** LAW 125 or instructor's permission.

**BUS 241 PRINCIPLES OF MARKETING..... 3(3-0)**

**Normally Offered: F**

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 COMMUNICATIONS ..... 3(3-0)**

**Normally Offered: SP**

Develops skills in composing effective business letters, memoranda, reports, and resumes. The principle of written and oral communication and the underlying psychology are studied. Additional topics include nonverbal communications, job applications, integrity and ethics, and legal aspects of communication. Students write many business letters; a business report is required.

**Prerequisite:** Ability to keyboard or permission of instructor plus successful completion of ENG 101 or placement in ENG 111 or 121.

**BUS 249 PRINCIPLES OF NEGOTIATION..... 3(3-0)**

**Normally Offered:**

This course introduces methodology to assist people in arriving at mutually beneficial, value-oriented solutions to opportunities and problems. Settlements and solutions are built every day through discussions and conferencing in both formal and informal environments. While many people are instinctively or emotionally driven during these interactions, better results can be attained by using principle-centered, well thought out processes and procedures introduced and practiced in this course.

**BUS 255 BUSINESS APPLICATION SOFTWARE ..... 3(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 SYSTEMS..... 3(2-1)**

**Normally Offered: F**

Utilizes commercially available software for the small business accounting functions of accounts receivable, accounts payable, payroll, general ledger, accounting cycle reporting and inventory.

**Prerequisite:** BUS 123 or BUS 131.

**BUS 262 PROJECT MANAGEMENT ..... 3(2-2)**

**Normally Offered: F**

Students will be presented a number of techniques and tools used in guiding a project from concept through lifecycle completion. Topics 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 KEYBOARDING ..... 1(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 SKILLBUILDING ..... 1(0-2)**

**Normally Offered: F, SP**

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, or correct operation of all keys by touch and the ability to type 25 words per minute on a three-minute timed writing, or permission of instructor.

**BIS 140 PROOFREADING AND EDITING FOR BUSINESS PROFESSIONALS ..... 3(2-2)**

**Normally Offered: SP**

Teaches students to apply the principles of English grammar, style and usage to business correspondence. Topics include capitalization, numbers, abbreviations, word division, forms of address and 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 TERMINOLOGY ..... 4(4-0)****Normally Offered: F**

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: SP**

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 120 Introduction to Microcomputers.

**Prerequisite:** BIS 160 Medical Terminology and BIS 101 Keyboard Skillbuilding or permission of instructor.

**BIS 162 MEDICAL OFFICE COMPUTER APPLICATIONS ..... 1(0-2)****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.

**Prerequisite:** BIS 100 or equivalent.

**BIS 163 MEDICAL OFFICE CODING ..... 4(4-0)****Normally Offered: F**

Medical Office Coding covers ICD-9-CM and CPT coding guidelines for the physician's office. This course includes discussion and hands-on practice working with format, symbols, abbreviations, V codes and E codes. Course content will incorporate the basic step in coding a diagnosis or procedure; explain sequencing rules for reporting diagnostic or procedure codes and address specific guidelines when coding Evaluation and Management, surgical, pathology, and radiology procedures.

**Prerequisite:** BIS 160 Medical Terminology or can be taken as a corequisite.

**BIS 164 MEDICAL OFFICE INSURANCE BILLING..... 3(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**

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 166 LAW OFFICE MANAGEMENT, SYSTEMS AND TECHNOLOGY ..... 3(3-0)**

**Normally Offered: SP**

Introduces the management and organization of a law office, including equipment, timekeeping, staffing, legal systems, file organization and public relations.

**BIS 167 MEDICAL ETHICS AND LAW FOR HEALTH PROFESSIONALS ..... 1(1-0)**

**Normally Offered: F**

This course introduces allied health professionals to common, everyday ethical issues in the health professions. The student will learn to distinguish between morality and ethical issues and the reasoning of their importance. In addition, the student will be introduced to health care laws, which govern confidentiality issues. The course utilizes an online classroom environment, e-mail, and course book exercises to make study interesting and logical.

**BIS 170 ELECTRONIC HEALTH RECORDS ..... 1.5(1-1)**

**Normally Offered:**

This course familiarizes students with the electronic health record (CHR) and provides hands-on activities that assist the learner to become proficient in using HER software on the job. Students will gain a thorough understanding of both the terminology of HER 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.

**Prerequisite:** BIS 100 or equivalent.

**BIS 173 ADVANCED MEDICAL CODING ..... 3(2-2)**

**Normally Offered:**

This course is designed to expand upon and summarize the official guidelines for coding and reporting of complex diagnoses and procedures effecting acute care and skilled-care facilities. Emphasis is placed on ICDE-9-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 110.

**BIS 178 MACHINE TRANSCRIPTION ..... 3(2-2)**

**Normally Offered: F, SP**

In this course, students transcribe various types of documents that contain the current style and vocabulary associated with different career fields while learning to produce correspondence that meet office standards. Students learn the technical skill of transcribing business documents while strengthening their English language skills by practicing punctuation, spelling, grammar, vocabulary, editing, and proofreading skills. This course develops a high degree of proficiency in keyboarding continuously and accurately from dictation/transcription equipment while introducing the important skills of listening and decision making.

**Corequisite:** BIS 101 or touch typing ability, CIS 151, CIS 152, and CIS 153 or equivalent.

**BIS 220 MEDICAL ASSISTANT ADMINISTRATIVE PRACTICUM ... 2(0-2)**

**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 147, BIS 160, BIS 162, BIS 163, BIS 164, BIS 165, and BIS 167 with a grade of 2.0 or higher for these occupational specialty classes.

**BIS 230 BUSINESS OFFICE PROCEDURES ..... 3(2-2)**

**Normally Offered: F**

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.

**CAD ENGINEERING TECHNOLOGY**

**CAD 101 INTRODUCTION TO CAD CAREERS..... 5(5-0)**

**Normally Offered: F**

Explores a variety of career options for professionals within the computer-aided design and drafting field through field trips to area industries, guest speakers, research and lecture. Topics also include career placement requirements, job market statistics and salary ranges.

**CAD 102 INTRODUCTION TO AUTOCAD ..... 2(1-2)**

**Normally Offered: F, SP**

This course is designed as an elective for students who are not in the CAD program of study. It provides the student with the basic knowledge of the CAD system components and how to manipulate AutoCAD software in the creation of two dimensional drawings.

**Prerequisite:** Basic computer proficiency recommended or permission of instructor.

**CAD 104 INTRODUCTION TO SOLIDWORKS ..... 2(1-2)**

**Normally Offered: F**

This is an elective course introducing SolidWorks 3D modeling, mechanical design software. Students will create and modify feature-based parametric solid models while applying constraints to capture design intent. Design drawings with full associativity to 3D models and presentation techniques will also be studied.

**Prerequisite:** Basic computer proficiency recommended or permission of instructor.

**CAD 110 ENGINEERING GRAPHICS I..... 1.5(1-1)**

**Normally Offered: F, SP**

Introduces methods for construction of engineering geometry in two-dimensional design applications. Both CAD software and traditional manual drawing methods are utilized. Includes the use of various scales of measurement, preferred methods of lettering, and basic dimensioning of single view drawings.

**CAD 111 ENGINEERING GRAPHICS II..... 1.5(1-1)**

**Normally Offered: F, SP**

This course introduces fundamentals of orthographic projection, as applied in multi-view drawings. Three-dimensional visualization, representation of objects in principle views, standard projection methods, and basic dimensioning procedures for multi-view drawings are covered. Both CAD and manual methods are utilized.

**Prerequisite:** CAD 110.

**CAD 130 ADVANCED MULTIVIEW DRAWING..... 1.5(1-1)**

**Normally Offered: F, SP**

This course further explores the principles of orthographic projection as applied to the analysis of multiview representation of more complex geometry, primary auxiliary views, and basic sectional views. Dimensioning standards relative to such views will be identified and applied. Both manual and CAD techniques will be utilized.

**Prerequisite:** CAD 111 and CAD 132.

**CAD 131 PICTORIAL DRAWING AND SKETCHING ..... 1.5(1-1)**

**Normally Offered: SP**

Studies technical pictorial drawing and sketching techniques, including axonometric, oblique, and perspective drawing. Shaded wireframe and solids modeling CAD images will be achieved. Both manual and CAD methods will be employed.

**Prerequisite:** CAD 111 and CAD 114.

**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:** CAD 110, CAD 114 or instructor permission.

**Corequisite:** CAD 111 or instructor permission.

**CAD 134 ARCHITECTURAL DESIGN (RESIDENTIAL)..... 3.5(2-3)**

**Normally Offered: SP**

This course teaches the fundamentals of residential construction. The student is required to originate a plan and draw a complete set of working drawings for a residence. Use of an engineering copier to reproduce large documents is introduced.

**Prerequisite:** CAD 111 and CAD 132 or permission of instructor.

**CAD 135 INTERMEDIATE AUTOCAD..... 1.5(1-1)**

**Normally Offered:**

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 or CAD 102 Introduction to AutoCAD.

**CAD 140 3D MODELING..... 1.5(1-1)**

**Normally Offered: SP**

This is a course for students with previous CAD experience. It deals with creating and modifying three-dimensional, object-oriented, solid geometric models. Shading, rendering, and other presentation techniques will also be covered.

**Prerequisite:** CAD 102 Introduction to AutoCAD or CAD 132 AutoCAD Fundamentals or instructor permission.

**CAD 141 INTEGRATED CAD APPLICATIONS..... 1.5(1-1)**

**Normally Offered: SP**

This course utilizes technical drawing principles using advanced CAD functionality in both mechanical and architectural applications. Translation of data between formats and productivity improvement techniques are covered. Information services on the Internet are employed.

**Prerequisite:** CAD 140.

**CAD 220 MACHINE DRAWING..... 3.5(2-3)**

**Normally Offered: F**

Acquaints the student with industry standards in advanced mechanical drawing and dimensioning systems, such as dual, tabular, polar, and ordinate dimensioning. Assembly and detail drawings, revisions, fits and finishes, and geometric dimensioning and tolerancing fundamentals are covered. Computer applications are emphasized.

**Prerequisite:** CAD 130 and MTH 110 or consent of instructor.

**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 224 ARCHITECTURAL DESIGN (COMMERCIAL) ..... 3.5(2-3)****Normally Offered: SP**

Enhances the student's knowledge of the technology of architectural drafting by producing elements of working drawings for commercial projects. Assignments shall range from schematics to design development through production of plans and details representative of the common methods of commercial architectural construction.

**Prerequisite:** CAD 134 & MTH 115 & IND 225 & PHY 111 or consent of instructor.

**CAD 225 SCHEMATIC DIAGRAMS ..... 1.5(1-1)****Normally Offered: F**

Acquaints the student with the formats of hydraulic and pneumatic, electrical, and piping schematic diagrams, as the student develops drawings for each of these applications. Use of CAD libraries of standard symbols are emphasized.

**Prerequisite:** CAD 111, CAD 132 and IND 227 or instructor permission.

**CAD 226 INDUSTRIAL DESIGN ..... 3.5(2-3)****Normally Offered: SP**

Covers problems in the design of industrial products. The practical approach to the development of a product is utilized.

**Prerequisite:** CAD 220 or consent of instructor.

**CAD 229 DESCRIPTIVE GEOMETRY ..... 3.5(3-2)****Normally Offered: SP**

This course presents principles of projection relating to all areas of technical drawing, with a focus on spatial relationships visualization. Course topics include successive auxiliary views dealing with points, lines, planes, angles, piercing points intersections of planes and solids, developments, and revolutions.

**Prerequisite:** CAD 111 and CAD 132.

## 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**

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 CHEMISTRY ..... 5(5-3)****Normally Offered: F, SP**

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 122 and non-majors for CEM 112.

**Prerequisite:** One unit of high school algebra or consent of instructor.

**CEM 112 ORGANIC AND BIOCHEMISTRY ..... 4(4-3)****Normally Offered: SP**

A continuation of CEM 111 with emphasis on organic and biochemistry. This is a survey course covering organic structure, synthesis, reactions, mechanism, and nomenclature. The biochemistry of proteins, carbohydrates, lipids, cells, genetics, etc. are covered. Laboratory experiments in biochemical and organic identification, synthesis, separation and purification with use of instrumentation are emphasized. Fulfills the basic science requirement for non-science majors and several health science categories.

**Prerequisite:** CEM 111 or 121 or its equivalent and one year of algebra or consent of instructor.

**CEM 121 GENERAL 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 ANALYSIS.... 4(4-3)****Normally Offered: SP**

Continues CEM 111 or 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 111, 121 or equivalent.

**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 SKILLS..... 3(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 STUDENT ..... 2(2-0)****Normally Offered: F, SP, SUM**

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, SP**

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 SYSTEMS ..... 1(.75-.5)**

### **Normally Offered: F, SP**

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.

**Prerequisite:** CIS 110 and CIS 111 or equivalent skills, or permission of instructor.

## **CIS 140      INTRO TO MICROSOFT CLIENT OS..... 3(2-2)**

### **Normally Offered:**

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: BEGINNING ..... 1(.75-.5)**

### **Normally Offered: F, SP**

Introduces fundamental word processing concepts and operations to the student who has little or no word processing knowledge. Covers hardware and software, input, cursor movement, editing, utilities, file management and printing. Teaches fundamental formatting functions as well as layouts for basic business and personal documents.

**Prerequisite:** BIS 100 Computer Keyboarding or keyboarding skill, CIS 110 Computer Essentials and CIS 111 Computer Operating Systems or instructor permission.

**Corequisite:** CIS 110 or instructor permission.

## **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 FEATURES ..... 1(.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 160 INTRODUCTION TO COMPUTER NETWORKS ..... 3(2-2)**

**Normally Offered: SP**

Introduces students to networks by providing a comprehensive overview of the most popular Local Area Network hardware and software. The course identifies emerging technologies that are likely to have an impact on the role of LANs in enterprise networks. Lab activities provide hands-on initial exposure to basic Novell and Microsoft commands.

**Corequisite:** CIS 140 or instructor permission.

**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 APPLICATIONS ..... 1(.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 195 CURRENT TOPICS IN IT ..... 3(2-2)**

**Normally Offered: SP**

This course will help students prepare for the ever changing world of information technology. Through the evaluation and study of emerging technologies students will be presented with a framework to evaluate new products or services. This course will cover not only the considerations in evaluating a new technology, but the process of early adoption and its risks and benefits. At least one current emerging technology will be explored in depth.

**Prerequisite:** CIS 205 or instructor permission.

**Corequisite:** CIS 190 or instructor permission.

**CIS 204 PC OBJECT-ORIENTED PROGRAMMING ..... 3(2-2)**

**Normally Offered: F**

In-depth structured programming course utilizing an object-oriented programming language. Students develop structured algorithms to solve business problems. Limitations of traditional methods and potential advantages of object-oriented programming are discussed. Topics covered include: creating the interface (forms, tools, controls, objects, setting properties), procedures, functions, arrays, controlling execution and reading from and writing to files.

**Prerequisite:** MTH 119.

**CIS 240\* MULTIMEDIA PRESENTATIONS..... 3(2-2)**

**Normally Offered: SP**

Covers the fundamentals of modern usage of multimedia in presentations. Design techniques will be taught, along with using clip art, graphics and audio visual files to enhance presentations. Using computer software designed for this purpose, students produce overheads, interactive slide shows, handouts and speaker notes. Skills learned are demonstrated by doing a multimedia project.

**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: F**

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 PUBLISHING ..... 3(2-2)**

**Normally Offered: On Demand**

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 256 PC DATABASE PROGRAMMING..... 3(2-2)**

**Normally Offered: SP**

Using an object-oriented relational database in a Windows environment, students will design and program systems to solve business problems. Topics include: database modeling and design, normalization, implementing the design, macro development, form and report development, and database administration.

**Prerequisite:** CIS 204 or MTH 119.

**CIS 257 DATABASE CONCEPTS..... 2(1.33-1.34)**

**Normally Offered:**

This course gives an overview of database management on a microcomputer. The class covers creating and managing database tables, creating and modifying queries, forms, and reports. Students learn how to do advanced queries, forms with subforms, and using calculations and advanced commands and functions.

**Prerequisite:** CIS 120 or instructor permission.

**CIS 258 INTRODUCTION TO ENTERPRISE DATABASE..... 2(1-2)**

**Normally Offered: F**

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 INSTALLATION..... 4(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 & LAYOUTS..... 1(.75-.5)**

**Normally Offered: F**

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: F**

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 & MERGES ..... 1(.75-.5)**

**Normally Offered: F**

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 MANAGEMENT ..... 3(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 FUNDAMENTALS ..... 3(2-2)**

**Normally Offered: F**

This course will introduce hardware and software technologies utilized to build computer networks and communicate data among devices. Students will build a working Local Area Network (LAN) utilizing multiple protocols and operating systems.

**Corequisite:** CIS 140 and CNS 151 or instructor permission.

**CNS 151 NETWORK COMMUNICATION CABLING ..... 3(2-2)**

**Normally Offered: F**

This course is designed to provide the learner with the knowledge to install and support the physical layer of computer and telecommunications networks. Students will learn proper installation and certification techniques based on TIA/EIA standards for copper and fiber optic cabling.

**CNS 155 INTRODUCTION TO ROUTING AND SWITCHING ..... 3(2-2)**

**Normally Offered: S**

Using a basic knowledge of computer networks, students will learn how to link multiple networks together using VPN or WAN technologies. Using a multi-vendor approach, students will simulate a working Internet environment and explore a variety of techniques and routing protocols.

**Prerequisite:** CNS 150 or Network + Certification or instructor permission.

**CNS 170 PC REPAIR AND MAINTENANCE ..... 4(3-2)**

**Normally Offered: F**

Students will be introduced to techniques and tools utilized in repairing desktop and laptop computer systems and peripherals. In a lab environment students will practice the diagnosis, identification, and replacement of computer components using industry recognized processes and technical documentation.

**Corequisite:** CIS 140 or instructor permission.

**CNS 180 INTRODUCTION TO MICROSOFT SERVER..... 3(2-2)**

**Normally Offered: SP**

This course will introduce students to the Microsoft Server solution. Students in a lab experience will practice the deployment and administration of a Microsoft Server utilizing Active Directory to audit and manage user and computer accounts.

**Prerequisite:** CIS 140 or instructor permission.

**CNS 210 MICROSOFT NETWORK MANAGEMENT ..... 3(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 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 225 MICROSOFT ENTERPRISE MANAGEMENT ..... 3(2-2)**

**Normally Offered: SP**

This course provides students with the knowledge to manage multiple Microsoft Servers in a distributed enterprise environment. The material in this course takes prior knowledge from other coursework and applies it on a larger scale while using real world scenarios applied to a lab environment.

**Prerequisite:** CNS 180 and CNS 210 or instructor permission.

**Corequisite:** CNS 220.

**CNS 230 INFORMATION SECURITY..... 3(2-2)**

**Normally Offered: F**

This course will introduce techniques to reduce or mitigate risks to information technology assets. Specifically, desktop, network, and server applications will be discussed. A variety of case studies, ethical considerations, and penetration tools will be explored.

**Corequisite:** CNS 150 or instructor permission.

**CNS 235      ADVANCED INFORMATION SECURITY ..... 3(2-2)**

**Normally Offered:**

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 NETWORKING ..... 3(2-2)**

**Normally Offered: F**

Students will learn the foundational differences between open source and commercially purchased software. By utilizing LINUX in a lab setting, a comparison to and contrast with Microsoft Server products will be drawn. The class will help participants become familiar with freely available software using command line and graphical user interface options.

**Prerequisite:** CIS 140 or instructor permission.

## **CONCRETE TECHNOLOGY**

**CON 110      INTRODUCTION TO CONCRETE TECHNOLOGY ..... 1(1-0)**

**Normally Offered: F**

Introduces the various divisions of the concrete industry. Course reviews each divisions (Ready Mixed Concrete, Concrete Masonry, Prestress/Precast, Engineering, etc.), and shows the types and needs of employment in each division.

**CON 121      AGGREGATES ..... 3.5(2.1-2.8)**

**Normally Offered: F**

Studies the entire aggregate industry. The purpose and function of fine aggregates (sand) and coarse aggregates (gravels, crushed stone, etc.) and their relationship in the construction industry are examined. Both natural and manufactured lightweight aggregates are studied. Industrial standards for testing evaluation are covered in lecture and in a hands-on laboratory.

**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 PROPORTIONING ..... 4(2-4)**

**Normally Offered: SP**

Covers several theories of proportioning concrete mixes, including normal weight, lightweight, high strength and others. Emphasis is given to the effect of altering mix ingredients and proportions on the properties of plastic and hardened concrete. Lab exercises intended to assist in developing a better understanding of equipment and procedures standard to the industry.

**Prerequisite:** CON 121 and CON 123 or permission of instructor.

**CON 221      PLACED CONCRETE I ..... 4(3-3)**

**Normally Offered: F**

Studies the placed concrete industry from surveying for form layout to the final finishing of placed concrete. Mixing, placing, forming, finishing, curing and jointing are covered. Mix proportioning to solve placing problems is examined.

**Prerequisite:** CON 124 or permission of instructor.

**CON 222 PLACED CONCRETE II ..... 4(3-3)**

**Normally Offered: SP**

Continues Placed Concrete I in studying industrial standards including 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 CONCRETE..... 3(2-3)**

**Normally Offered: SP**

Covers the final use of various precast concrete masonry, prestress concrete, roofing tile, pavers, pipe, panels and other precast units. Special attention is given to the layout and manufacturing of prestress units according to industrial standards, engineering properties, testing methods and product specifications.

**Prerequisite:** CON 223.

**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 INSPECTION ..... 2(2-0)**

**Normally Offered: F**

Covers inspection procedures required in the construction industry with main emphasis on concrete related materials and procedures. Building codes, specifications, reporting procedures and contract requirements will be covered in detail.

**Prerequisite:** CON 124 or permission of instructor.

**CON 231 CONCRETE PROJECT LAB ..... 1(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 LAB ..... 2(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 TECHNOLOGY ..... 2(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 PRODUCTION ..... 2(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 CONTROLS ..... 2(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 PRODUCTION ..... 2(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 retraining wall units, pigmented masonry, mix design and paving stone units.

**CON 248 PREVENTATIVE MAINTENANCE ..... 2(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 PRODUCTION..... 2(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 CONTROLS ..... 2(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 111 BUILDING MATERIALS..... 5(3-4)**

**Normally Offered: F**

Studies concrete, cement, and aggregates. Covers the various types of aggregate, their properties, classification and production. Introduces the study of cementitious materials and their production.

**CST 112 BUILDING CONSTRUCTION ANALYSIS..... 3(3-0)**

**Normally Offered: F**

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 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.

## CRIMINAL JUSTICE

**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 SECURITY ..... 3(3-0)**

**Normally Offered:**

This course is a survey of threats (both natural disasters and terrorist type) and the response of the United States of America to these threats. Students will examine the statutory authority and organization of the Department of Homeland Security, the hazards that the United States will possibly face in the future, and how the Department plans to meet these challenges from a first responder’s and emergency planning perspective.

**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 124 HIGHWAY TRAFFIC ADMINISTRATION ..... 3(3-0)**

**Normally Offered: SP**

Covers the theories of traffic enforcement and effective traffic control procedures, social, economic and political impacts, survey of present and future needs, Michigan Vehicle Code, and Accident Investigation.

**CJ 126 INTRODUCTION TO PRIVATE SECURITY ..... 3(3-0)**

**Normally Offered: F**

Provides basic information to serve as an overview of the entire field of private security. Course covers the development, philosophy and responsibility of the security function from its earliest conception to modern times.

**CJ 211 ETHICS IN CRIMINAL JUSTICE ..... 3(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 DELINQUENCY ..... 3(3-0)**

**Normally Offered: F**

Analyzes the causes and control of crime, including juvenile delinquency, statistics of crime, problems of juvenile offenders, juvenile court procedures and the work of youth agencies.

**CJ 221 CRIMINAL LAW ..... 3(3-0)**

**Normally Offered: F**

Consists of the study of the origin, nature, and purpose of substantive law with particular emphasis on the basic elements of the crimes, both statutory and common law. Criminal law topics covered are: Crime defined, sources of, legal limits, elements of, scope, defenses, crimes against people, habitation and property; offenses against government and justice.

**CJ 222 CRIMINAL PROCEDURE ..... 3(3-0)**

**Normally Offered: SP**

A basic survey of criminal procedure and constitutional rights as they apply to the criminal process from apprehension through the appellate process. Topics covered: Arrest, search and seizure, self-incrimination, pre-trial proceedings, trial, punishment, appeal, juvenile offenders, prisoner's rights, double jeopardy, confessions.

**Prerequisite:** Consent of instructor or 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 TACTICS ..... 2(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: SP**

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 CORRECTIONS ..... 3(3-0)**

**Normally Offered: F**

Covers the history and development of penology, treatment of convicted law violators of all ages, appraisal of correctional treatment on post correctional behavior and an evaluation of rehabilitative efforts in modern penology.

**CJ 233 POLICE-COMMUNITY RELATIONS..... 3(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 ENFORCEMENT ..... 3(3-0)**

**Normally Offered: F**

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 CORRECTIONS ..... 3(3-0)**

**Normally Offered: SP**

This course will examine the dynamics of human interaction within correctional facilities. Human relations in general will be presented to establish a basis for more specific examination of the unique and complex situation found in corrections. The meaning and impact of culture will be explored, as well as the causes and influence of prejudice on clients and corrections staff. Considerable discussion time will focus on values, ethics, and professional responsiveness.

**CJ 236 CORRECTIONAL CLIENT GROWTH AND DEVELOPMENT ..... 3(3-0)**

**Normally Offered: F**

The purpose of this course is to give the student an understanding of and sensitivity to the motivations and behaviors of correctional clients. The course begins by reviewing general factors believed to be influential in human development, then analyzes specific problems of prisoners. The course examines prevention theories, as well as intervention and treatment strategies.

**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 240 CORRECTIONAL LAW ..... 1(1-0)**

**Normally Offered: F**

This one-credit course examines legal principles of processes which impact on the custody of inmates and the management of local correctional facilities. A prime objective of this course is to give the student more confidence through knowledge of the law. At the same time, resentment of legal parameters will be reduced, familiarizing the student with the basis for important legal decisions. By examining benchmark cases involving inmate and staff lawsuits as well as legislation, the student will gain insight about the basis for many of the laws which affect his or her daily duties.

**CJ 241 PRISONER CONTROL TACTICS ..... 2.5(1-3)**

**Normally Offered: F**

Prisoner Control Tactics introduces the corrections student to proven methods of both defensive and offensive techniques utilized in the control of violent inmates. The preferred programs used in the Local Corrections Training Program are Pressure Point Control tactics (PPCT), Inmate Control, PPCT GAGE, and PPCT Spontaneous Knife Defense.

**CJ 242 CUSTODY AND SECURITY ..... 1.5(1.5-0)**

**Normally Offered: F**

Custody and Security is designed to acquaint local correctional staff with security issues and procedures. Information includes weapons and key control, inmate counts and security checks, inmate movement, contraband recognition, and control and searches. Security issues relative to trustee and day-parole inmates are covered. Transportation of prisoners, courtroom security, hospital security, and unusual occurrences such as hostage situations are addressed.

**CJ 243 INTERPERSONAL COMMUNICATIONS IN A  
CORRECTIONS SETTING ..... 1(1-0)**

**Normally Offered: F**

This course has been used by correction agencies for several years to train officers in skills needed to effectively communicate with prisoners and defuse hostile encounters. This National Institute of Corrections (NIC) course is designed to be skills oriented and is a 16 hour course. The program uses a combination of text and video scenarios to demonstrate communication skills. In addition, students are involved in role playing exercises to practice the skills learned.

**CJ 244 SPECIAL ISSUES IN CORRECTIONS ..... 1(1-0)**

**Normally Offered: F**

Special Issues in Corrections is a collection of required topics that must be included in the Local Corrections Officer Certificate. The required topics are Cultural Diversity, Ethics in Corrections, Workplace Harassment, and Report Writing.

**CJ 245 CORRECTIONS WORKPLACE SAFETY ..... 1(1-0)**

**Normally Offered: S**

Fire Safety module — The purpose of the Fire Safety module is to acquaint the local correctional officer with basic fire science and an understanding of characteristics of smoke spread throughout a structure. Corrections officers also learn proper fire suppression techniques utilizing portable fire extinguishers and how to function with a smoke filled environment using a self contained breathing apparatus (SCBA). Emphasis is placed upon function and proper use and maintenance of the self contained breathing apparatus. Stress Management module — Stress is as much a part of corrections work as bars and keys. This module examines the causes of stress. The effects of stress on the mind and body, and effective methods of stress reduction will be presented.

**CJ 246 INTAKE AND PRISONER BEHAVIOR ..... 1(1-0)**

**Normally Offered: F**

The local corrections officer must know and understand the proper procedures for booking prisoners into their facilities. Additionally, the corrections officer must understand and appreciate his or her legal responsibilities and the consequences of his or her actions during the booking process. Proper booking and intake screening is designed to follow the normal flow of activity in a typical corrections facility. This course will familiarize the officer with all aspects of the booking and intake screening process. The Prisoner Behavior module addresses characteristics of human behavior, specifically the antisocial, manipulative behavior which many inmates engage in as well as specific mental disorders which are exhibited by many inmates. The module also explores methods of dealing with the behavior and illness effectively.

**CJ 247 PRISONER SAFETY ..... 1(1-0)**

**Normally Offered: F**

The prisoner Safety course is designed to cover two broad topics: Suicide Awareness and First Aid/CPR/AED. In the Suicide Awareness module, the training is designed to make the correctional officer aware of causes for suicidal behavior, symptoms of suicidal prisoner behavior, suicide prevention and intervention techniques, and emergency procedures for attempted suicide. The the First Aid/CPR/AED module, the training is designed to train the correctional officer in the required first responder skills. The approved programs are American Red Cross — Workplace Training and Standard First Aid, American Heart Association — Heart-Saver First Aid, and American Safety & Health Institute — First Responder.

**DIRECTED STUDIES**

**251 DIRECTED STUDIES ..... MAXIMUM 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 BANKING ..... 3(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 ECONOMY ..... 3(3-0)**

**Normally Offered:**

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**

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: 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.

**Prerequisite:** ECN 231.

## EDUCATION

### EDU 121 INTRODUCTION TO EDUCATION..... 3(3-0)

**Normally Offered: F**

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 EDUCATION..... 3(3-0)

**Normally Offered: SP**

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.

## ENGINEERING

### EGR 090 DRAFTING FUNDAMENTALS..... 1(1-0)

**Normally Offered: SUM, F**

A basic course in the use of traditional drafting tools such as T-square, scales, triangles, compasses, irregular curves, etc., for people who never had a drafting course and plan to enroll in a one hundred level drafting course.

### 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 125 ENGINEERING GRAPHICS COMMUNICATION..... 4(2-4)

**Normally Offered: SP**

This course covers principles of projection, orthographic practices in making working drawings, correct drafting practices, two- and three-dimensional sketching and drawing, 3D solid modeling, and various descriptive geometry topics. Both CAD and traditional tools are used in this course.

**Prerequisite:** Basic drafting skills and trigonometry are recommended or permission of instructor.

### EGR 221 STATICS ..... 3(3-0)

**Normally Offered: SP**

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 222 MECHANICS OF MATERIALS ..... 4(4-0)

**Normally Offered: F**

This course is an introduction to the mechanical behavior of materials. The concepts of stress/strain at a point, stress-strain relationships, principle stresses and strains, stresses and deformations due to axial loading, flexural loading of straight members, and torsional loading of circular cross sections will be examined.

**Prerequisite:** EGR 221 Statics with a grade of 2.0 or better.

**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 102 BASIC ENGLISH ..... 3.5(3-1)**

**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 ENGLISH ..... 3(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 ENGLISH ..... 3(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 COMMUNICATIONS ..... 3(3-0)**

**Normally Offered: F, SP**

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 ENGLISH ..... 3(3-0)**

**Normally Offered: F**

Provides instruction for the college freshman who has demonstrated above-average ability in communication skills. The instructor uses essays to teach a variety of expository writing forms.

**Prerequisite:** Above-average competence in grammatical and writing skills as determined by the English Department and placement tests.

**ENG 122 ENGLISH ..... 3(3-0)**

**Normally Offered: SP**

Non-fiction and short fiction materials are used to develop further the written communication skills introduced and practiced in ENG 121. Special emphasis is placed on critical thinking, critical analysis and research leading to academic writing.

**Prerequisite:** Grade of 2.0 or better in ENG 111 or ENG 121.

**ENG 123 TECHNICAL COMMUNICATION ..... 3(3-0)**

**Normally Offered:** F, 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 125 INTRODUCTION TO JOURNALISM ..... 3(3-0)**

**Normally Offered:** F

Familiarizes the prospective journalist with the essential skills of the profession. Provides the analysis of how to secure general and specific types of interviews, how to report quoted material, how to write news leads and structure news stories, and how to apply the ethics of journalism. Covers the basic analysis of the nature of news, the factors which determine the newsworthiness of an event, the methods used to stimulate reader interest and the writing style used in straight news, features and editorials, while using the college newspaper as a means of applying these methods and skills.

**ENG 126 INTRODUCTION TO JOURNALISM ..... 3(3-0)**

**Normally Offered:** SP

Reviews the basic newswriting types and styles and familiarizes the prospective journalist with the editorial skills of the profession, which involve page make up, lay out, paste up, headlining, news editing and copy reading while using the college newspaper as a means of applying these skills.

**Prerequisite:** ENG 125 or permission of the instructor.

**ENG 203 INTRODUCTION TO MYTHOLOGY ..... 3(3-0)**

**Normally Offered:** On Demand

Studies myths from several cultures. They are examined from the perspective of their common themes and capacity to be transformed through time while maintaining their universal motifs. Attention is also focused on the functions of mythology, including a primary one of providing guidance for the individual through important passages of life. Several works of literature are examined to demonstrate the mythic process at work and the fundamental part that myth plays in literary expression.

**Prerequisite:** Sophomore standing or permission of instructor.

**ENG 204 INTRODUCTION TO LITERATURE ..... 3(3-0)**

**Normally Offered:** F

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 205 INTRODUCTION TO POETRY ..... 3(3-0)**

**Normally Offered:** On Demand

A study of poetry as a form of literature and art. This course examines the elements of poetry, the historical development of poetry as a genre, major themes treated by poetry and the place of poetry in contemporary culture. The focus of this course is on reading and critical analysis, not writing poetry.

**Prerequisite:** ENG 112 English or ENG 122 English 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 II ..... 3(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 II ..... 3(3-0)**

**Normally Offered: On Demand**

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 228 ADVANCED COMPOSITION ..... 3(3-0)**

**Normally Offered: F**

Explores writing as a source of knowledge production. Includes the study of linguistics, rhetoric and the elements of nonfiction. Deals with the ways our use of language affects our perceptions of the world. Particularly recommended for students planning to transfer to bachelor's degree programs.

**Prerequisite:** ENG 112 or ENG 122.

**ENG 229 CREATIVE WRITING..... 3(3-0)**

**Normally Offered: On Demand**

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: SP**

Provides the second semester freshman and sophomore student with a general understanding of the development and uses of children's literature from its beginning to the present. Methods of analysis of both fiction and non-fiction prose as well as poetry are emphasized.

**Prerequisite:** Grade of 2.0 or better in ENG 111 or ENG 121

**ENG 243 THE SHORT STORY ..... 3(3-0)**

**Normally Offered: SP**

Presents an intensive study of the short story as a literary form. In addition to its primary focus on formal elements, the course considers historical context/development, author biography and critical theory. Readings are drawn from a variety of international as well as American literary sources.

**Prerequisite:** ENG 111 or ENG 121 and sophomore standing, or permission of instructor.

**ENG 244 THE NOVEL ..... 3(3-0)**

**Normally Offered: On Demand**

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.

**ENG 253 NEWS REPORTING..... 3(3-0)**

**Normally Offered: On Demand**

Provides training in advanced news reporting: how to find and follow leads; planning interviews; how to appeal to the five senses when writing observations; arranging the structure of a news story; and editing articles. The course will also cover the impact of the media on culture, examining selected readings, and using the Internet to link with student journalists from other community colleges.

**Prerequisite:** ENG 126 or instructor's permission.

**ENG 254 NEWS WRITING..... 3(3-0)**

**Normally Offered: On Demand**

Provides training in specialized news writing: writing about news of the neighborhood; writing about accidents, fires, crimes, natural disasters, etc.; writing for specialized pages; revising for deadlines; and avoiding errors involved with libel.

**Prerequisite:** ENG 253 or instructor's permission.

## **ELECTRICAL POWER TECHNOLOGY**

**EPT 230 POLY-PHASE METERING ..... 3(2-2)**

**Normally Offered:**

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..... 5(5-0)**

**Normally Offered: F**

This is a basic French course designed to introduce the French language to students, giving them a rudimentary knowledge of written and spoken French. Six skills will be addressed: reading, writing, listening, speaking, pronunciation, and translation. These skills will be developed throughout the course through instruction, drill, choral response, readings, music, and class interaction. Systemic grammar instruction as well as whole-language techniques will be incorporated to enhance learning. Students will also be introduced to French culture, literature, geography, famous persons, and history through a variety of media. Students who already have a strong background in French, e.g., having had more than two years in high school or other institutions, should refrain from taking this elementary class since it is intended for beginners. FRN 122 French II, which is offered in the spring semester, will be a better course for stronger students.

**FRN 122 FRENCH II..... 4(4-0)**

**Normally Offered: SP**

This second semester of college French corresponds roughly to one to two semesters of high school French. This basic French course will focus on the continued development of linguistic skills, i.e., reading, listening, speaking, and pronunciation, with emphasis on the written language.

**Prerequisite:** FRN 121 French I or two semesters of high school French.

## **GEOGRAPHY**

**GEO 125 GEOGRAPHY ..... 3(3-0)**

**Normally Offered: F**

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 GEOGRAPHY ..... 3(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.

**GERMAN**

**GER 123 GERMAN ..... 4(4-0)**

**Normally Offered:** F

An introductory course for anyone interested in developing basic speaking, reading, listening and writing skills in the German language. No previous experience with German is required.

**GER 124 GERMAN ..... 4(4-0)**

**Normally Offered:** SP

A second semester level course for anyone interested in developing and improving their basic speaking, reading, listening and writing skills in the German language.

**Prerequisite:** GER 123 or other previous experience with German is required

**GRAPHIC ARTS**

**GRA 111 PHOTOGRAPHY ..... 3(3-0)**

**Normally Offered:** F, SP

Covers basic principles of black and white photography and a wide range of photographic experiences. Designed for the amateur photographer. Student supplies own camera equipment.

**GRA 112 PHOTOGRAPHY ..... 3(3-0)**

**Normally Offered:** F

Continues the basic photography course. This course further acquaints the student with the photographic process. The photographic media is studied with emphasis on the artistic qualities of the image for adaptation of the individual's use in home or industry.

**Prerequisite:** GRA 111 or consent of instructor.

**GRA 114 PHOTOGRAPHY WORKSHOP ..... 2(1-2)**

**Normally Offered:** On Demand

Offers the participant the opportunity to work with a professional photographic and graphic artist to improve his/her skills and explore new directions in the medium of photography.

**Prerequisite:** GRA 111 and GRA 112.

**GRA 125 GRAPHIC DESIGN I ..... 3(2-2)**

**Normally Offered:** F

Introduces students to the various graphic design processes: offset, screen printing, intaglio, papermaking and bindery. Presents the technical know-how of the craft while providing the students with aesthetic challenges of the medium and design.

**GRA 126 GRAPHIC DESIGN II ..... 3(2-2)**

**Normally Offered:** SP

Continues Graphic Design I with closer regard to aesthetic quality and emphasis on offset platemaking and the complete offset printing process.

**Prerequisite:** GRA 125 or instructor's permission

**GRA 221 GRAPHIC DESIGN III ..... 3(2-2)**

**Normally Offered:** F

Continues Graphic Design II.

**Prerequisite:** GRA 126 or instructor's permission

**GRA 251 GRAPHIC DESIGN IV ..... 3(2-2)**

**Normally Offered: SP**

Emphasizes developing self-direction. Student will extend aesthetically and technically without sacrificing the definition of the graphic design process. Student will continue development of the creative idea, exploration of content and the medium and may work with both conventional and unconventional materials.

**Prerequisite:** GRA 221

## HEALTH

**HEA 102 NUTRITION ..... 3(3-0)**

**Normally Offered: FA, SP, SUM**

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 222 MEDICAL ASSISTANT CLINICAL PRACTICE ..... 4(0-12)**

**Normally Offered: SP**

Provides a 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:** HEA 223, HEA 224.

**HEA 223 MEDICATION ADMINISTRATION FOR MEDICAL ASSISTANTS ..... 3(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 conditions under which medical assistants may actually administer drugs. This course is restricted to Medical Assistants only.

**Prerequisite:** BIO 110, BIS 147, BIS 160, BIS 162, BIS 163, BIS 164, BIS 165, BIS 167, BIS 170, BIS 220.

**Corequisite:** HEA 224.

**HEA 224 MEDICAL ASSISTANT CLINICAL LAB ..... 7(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:** BIO 110, BIS 147, BIS 160, BIS 162, BIS 163, BIS 164, BIS 165, BIS 167, BIS 170, BIS 220.

**Corequisite:** HEA 223.

## HISTORY

**HST 121 HISTORY OF WESTERN CIVILIZATION ..... 3(3-0)**

**Normally Offered: F, SP, SUM**

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: F, 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 221 UNITED STATES HISTORY ..... 3(3-0)**

**Normally Offered: F, SP**

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 HISTORY ..... 3(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: On Demand**

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. HISTORY ..... 3(3-0)**

**Normally Offered: On Demand**

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 PROBLEMS ..... 3(3-0)**

**Normally Offered: On Demand**

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: F**

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 LITERATURE..... 3(3-0)**

**Normally Offered: SU**

Introduces the student to the Old Testament canon, its historical antecedents and development, cultural setting, literary styles, and subject matter. Attention is given to the importance of the Old Testament's leading ideas in developing Western culture. Critical problems related to the ancient texts will be introduced in the context of Medieval and modern debates.

**HUM 114 INTRODUCTION TO NEW TESTAMENT LITERATURE..... 3(3-0)**

**Normally Offered:** SU

Introduces the student to the New Testament canon, its historical antecedents and development, cultural setting, literary styles, and subject matter. Attention is given to the importance of the New Testament's leading ideas to developing Western culture. Critical problems related to the ancient texts will be introduced in the context of Medieval and modern debates.

**HUM 210 INTRODUCTION TO CINEMA..... 3(3-0)**

**Normally Offered:**

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 ..... 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 ..... 4(4-0)**

**Normally Offered:** SP

Continues HUM 241.

**Prerequisite:** HUM 241 or permission of instructor

## **INDUSTRIAL**

**IND 110 INDUSTRIAL ORGANIZATIONS ..... 3(3-0)**

**Normally Offered:**

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 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 227 PRINCIPLES OF FLUID POWER ..... 1.5(1-1)**

**Normally Offered:** F

Covers basic hydraulic and pneumatic principles and components of fluid power systems, as well as the primary laws and formulas used in simple fluid power calculations. Topics include pumps, control valves and fluids.

**Prerequisite:** MTH 115.

**IND 231 PROJECT LAB..... 1(0-1)**

**Normally Offered:** F

Requires writing a research paper, usually in conjunction with designing and producing a product which involves the use of various manufacturing processes. The course is taken during the entire sophomore year with hours to be arranged with the instructor. Each student is assigned an instructor in the field of his/her technical standing.

**Prerequisite:** Sophomore standing.

**IND 232 PROJECT LAB..... 2(0-2)**

**Normally Offered:** SP

Continues IND 231, Project Lab

**Prerequisite:** IND 231.

## INTERNSHIPS

**INT 290 INTERNSHIP ..... 1-4**

**Normally Offered:** F, SP, SUM

An internship is a method of earning college credit for knowledge gained in a supervised job situation. It is an actual work experience for students who want to explore career or interest areas. Students experience interviews, professional guidance, individual counseling, on-the-job training, report writing and evaluations. Internships are arranged at the place of work by the ACC Internship Coordinator, the work supervisor, and a supervising ACC faculty member. Internships can be developed in all liberal arts and occupational areas for one to four hours of elective credit. A maximum of four elective credit hours will count toward an Associate Degree. Internship credits may or may not transfer, depending on the four-year institution.

An internship 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 instructor, Vice President for Instruction and Campus Services Office. Before registering, the student is responsible for working with staff and following proper procedures in developing the individualized program.

|                          |                       |                    |
|--------------------------|-----------------------|--------------------|
| Anthropology             | Data Processing       | Mathematics        |
| Art/Art Education        | Economics             | Medical Assistant  |
| Automotive               | Education             | Music              |
| Biological Science       | Electronics/          | Network Admin.     |
| Botany                   | Engineering           | Physical Education |
| Broadcasting — TV, Radio | English               | Physics            |
| Business                 | Geography             | Political Science  |
| Business Info. Systems   | Graphic Arts          | Psychology         |
| Botany                   | Health Occupations    | Sociology          |
| Business                 | History               | Pre-Dental         |
| Chemistry                | Home Economics        | Pre-Pharmacy       |
| Computer-Aided           | Humanities/Fine Arts  | Pre-Veterinary     |
| Drafting & Design        | Industrial Technology | Social Sciences    |
| Computer Info. Systems   | Journalism            | Theatre            |
| Concrete Technology      | Law Enforcement       | Utility Technician |
| Construction Technology  | Legal Research        |                    |
| Criminal Justice         | Library Science       |                    |

## LATIN

**LTN 125 BASIC LATIN I..... 4(4-0)**

**Normally Offered:**

First in a two-semester sequence, this course introduces the most fundamental aspects of the Latin language: its pronunciation system, its inflectional systems, beginning syntax and vocabulary. Although students learn how to speak simple Latin, the focus is on learning how to read. Reading selections are devoted primarily to interesting aspects about Roman mythology, philosophy, legend, history and culture. In the process, students increase their knowledge, understanding and appreciation of English grammar and vocabulary.

**LTN 126 BASIC LATIN II..... 4(4-0)**

**Normally Offered:**

Second of a two-semester sequence, this course introduces the remaining elementary Latin forms and syntax and continues to improve language skills in both Latin and English. The Latin readings include thought-provoking selections of poetry and prose written by various authors — ancient, medieval, renaissance and modern.

**Prerequisite:** LTN 125 or instructor's permission

# LAW

## **LAW 125 INTRODUCTION TO LEGAL PRINCIPLES AND COURT SYSTEMS..... 3(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 LAW ..... 4(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 I ..... 3(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 II ..... 3(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 ESTATES..... 3(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 ETHICS ..... 3(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 PROCEDURE..... 4(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 100 MACHINERY'S HANDBOOK AND PROCESSES..... 3(2-2)**

**Normally Offered: SP**

This course explores the intent, use, and application of the Machinery's Handbook and applies the principles, concepts, and data in the Handbook to industrial related projects. Emphasis will be placed on chart usage and data retrieval from this handbook. This course also provides students with a comprehensive study of the materials, concepts and processes used in modern manufacturing which is augmented by field trips to local manufacturing plants.

**MFG 101 METAL CUTTING 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 METAL CUTTING II..... 6(3-7)**

**Normally Offered: SP**

Continuation of Metal Cutting I with more specialization in the same machine tool areas. Includes: gear cutting, thread cutting, taper turning, boring and methods of inspection.

**Prerequisite:** MFG 101.

**MFG 120 APPLIED MANUFACTURING PRINT READING I ..... 3(2-2)**

**Normally Offered: F**

Emphasizes interpreting lines and view positions, fundamentals of orthographic projection, and dimensioning of prints. Also, metric/English conversion and free-hand sketching will be introduced.

**MFG 122 MANUFACTURING PROCESSES ..... 3(3-0)**

**Normally Offered: F**

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 123 FUNDAMENTALS OF GD&T ..... 3(2-2)**

**Normally Offered: On Demand**

This course introduces the basic concepts and applications of geometric dimensioning and tolerancing (GD&T) used on engineering drawings as specified in ASME M14.5Y 1994. Emphasis is placed on proper interpretation of GD&T symbols and practical methods of measuring GD&T specifications.

**Prerequisite:** MFG 120 Applied Machinist Print Reading I or permission of instructor.

**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 Metal Cutting I, or instructor permission.

**MFG 202 ADV. 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 MANUFACTURING ..... 3(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 Metal Cutting I, basic computer skills or permission of instructor.

## 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 ALGEBRA..... 5(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 I..... 3(2-2)**

**Normally Offered: F**

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, SP**

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 ALGEBRA ..... 4(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, SP

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 II ..... 5(4-2)****Normally Offered:** F, 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 II ..... 3(3-0)****Normally Offered:** SP

Covers algebra, coordinate geometry, functions, geometric construction, rotation and symmetry, mapping, statistics and experimentation. This course is designed for elementary education majors and use of computers in the elementary classroom will be emphasized.

**Prerequisite:** MTH 111 with a grade of 2.0 or higher.

**MTH 119 INTRODUCTION TO COMPUTERS — PROGRAMMING.... 3(3-0)****Normally Offered:** F, SP, SUM

Studies a selection of contemporary microcomputer applications, including operating system concepts, programming concepts, word processing, database management systems and spreadsheets. Computer terminology is introduced; however, major emphasis is placed upon computer applications. Students should have some keyboarding skills.

**MTH 121 COLLEGE ALGEBRA..... 4(4-0)****Normally Offered:** F, SP

Reviews previous mathematics, stressing modern approach; less rigorous coverage of topics in MTH 123, College Algebra and Analytic Trigonometry, including topics related to business such as compound interest, installment buying and annuities, introduction to probability, matrices, linear algebra and logarithms. For non-science majors who need only one course in college mathematics.

**Prerequisite:** One and a half years of high school algebra or consent of instructor.

**MTH 122 PLANE TRIGONOMETRY ..... 3(3-0)****Normally Offered:** F, SP

Includes the study of trigonometric functions, identities, graphing, inverse trigonometric functions and sinusoidal functions. Exponential and trigonometric equations are solved. Oblique and right triangles are studied, as well as radian measure and complex numbers. This is a required course for students who plan to take advanced mathematics and lack a high school background in this subject.

**Prerequisite:** 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 SCIENCES ..... 4(4-0)****Normally Offered:** SP

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 I ..... 5(5-0)**

**Normally Offered:** F, SP

Covers rate of change of functions, limits, differentiation, and integration of algebraic and trigonometric functions and applications.

**Prerequisite:** MTH 123 or equivalent with a grade of 2.0 or higher.

**MTH 132 ANALYTIC GEOMETRY AND CALCULUS II ..... 5(5-0)**

**Normally Offered:** F, SP

Includes transcendental functions, techniques of integration, analytic geometry, polar coordinates, parametric equations and infinite series.

**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 permission of instructor.

**MTH 223 STATISTICAL METHODS ..... 4(4-0)**

**Normally Offered:** SP

Reviews elementary probability. Includes conditional probability; Bayes' Theorem; the nature of statistical methods; frequency distributions and graphs; measures of central tendency; dispersion; binomial,  $t$ -, chi-square and F-distributions; and non-parametric statistics. Computer software is used to reinforce student mathematical skills.

**Prerequisite:** MTH 121 or MTH 123 with a grade of 2.0 or higher, or permission of instructor.

**MTH 231 ANALYTIC GEOMETRY AND CALCULUS III ..... 5(5-0)**

**Normally Offered:** F, SP

Covers linear algebra, vector analysis, partial differentiation, multiple integrals, vector analysis and complex functions.

**Prerequisite:** MTH 132 with a grade of 2.0 or higher.

**MTH 232 DIFFERENTIAL EQUATIONS ..... 4(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.

## **METALLURGY**

**MET 123 WELDING PROCESSES ..... 4(2-4)**

**Normally Offered:** F

Gives the student experience in shield metal arc welding, oxyacetylene welding, arc and oxyacetylene cutting, and plasma arc cutting. Welding equipment, welding theory, electrodes, welding safety, metals, joint design, and welding symbols will be covered.

**MET 124 WELDING PROCESSES ..... 4(2-4)**

**Normally Offered:** SP

Gives the student experience in gas metal arc welding, gas tungsten arc welding, brazing and braze welding, soldering, and out-of-position shield metal arc welding. Welding equipment, welding theory, nonferrous metals, testing and inspection, welding design, welding blueprints, and general welding shop equipment will be studied.

**Prerequisite:** MET 123 or consent of instructor.

**MET 138 AMERICAN WELDING SOCIETY LEVEL I ..... 4(2-4)**

**Normally Offered: ON DEMAND**

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:**

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.

**MET 240 GAS TUNGSTEN ARC AND PIPE WELDING ..... 4(2-4)**

**Normally Offered: F**

The students will develop, lay out and cut different pipe/tube joints. Students will weld the joints in different welding positions using Gas Tungsten Arc Welding (GTAW) methods. American Welding Society (AWS) welder certification practices will be covered.

**Prerequisite:** MET 123 Welding Processes.

**MET 242 WELDING FABRICATION..... 3(1-4)**

**Normally Offered: SP**

This course covers sheet metal, structural steel, joint design, pattern development, CNC plasma cutting and layout, design of a weldment, cost estimating of the design, material processing, welding procedure development and fabrication of the design. Students will be required to complete a capstone fabrication project.

**Prerequisite:** MET 123 Welding Processes.

**MUSIC**

**MUS 110 MUSIC APPRECIATION ..... 3(3-0)**

**Normally Offered: On Demand**

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 121 PIANO ..... 2(0-2)**

**Normally Offered: On Demand**

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: On Demand**

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**

Student begins his/her study of voice with simple folk songs and easily-learned art songs. Subject matter includes: an attitude of enthusiasm, pleasure and confidence in singing, proper posture and diaphragmatic breathing, clear enunciation of pure vowel sounds and precise articulation of consonant sounds. A variety of styles are studied including: art songs and arias, texts in foreign languages and proper pronunciation of these texts.

**MUS 124 VOICE II..... 2(0-2)**

**Normally Offered: SP**

This course continues one-on-one instruction and builds upon concepts learned in MUS 123 Voice I. Students will add some foreign language songs in this course.

**Prerequisite:** MUS 123 Voice I for instructor permission.

**MUS 125 MUSIC THEORY..... 4(4-0)**

**Normally Offered: F**

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 THEORY..... 4(4-0)**

**Normally Offered: 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 141 COLLEGIATE SINGERS I..... 1(0-2)**

**Normally Offered: On Demand**

The vocal music performing organization of the college. Affords student the opportunity to sing secular and sacred music for the choir, to perform for the college and community, to learn proper group singing techniques such as phrasing and style interpretation, and to learn about literature available for the medium.

**MUS 142 COLLEGIATE SINGERS II..... 1(0-2)**

**Normally Offered: On Demand**

Continues MUS 141.

**Prerequisite:** MUS 141

**MUS 151 CONCERT BAND I..... 1(0-2)**

**Normally Offered: F, SP**

This course is dedicated to the rehearsal and performance of fine literature. The ensemble will present concerts on campus and in the community.

**Prerequisite:** Prior experience in a band setting or instructor's permission.

**MUS 152 CONCERT BAND II..... 1(0-2)**

**Normally Offered: F, SP**

This course is a continuation of MUS 151 and is dedicated to the rehearsal and performance of "classical" music. The ensemble will present concerts on campus and in the community.

**Prerequisite:** MUS 151 or instructor's permission.

**MUS 153 CONCERT BAND III..... 1(0-2)**

**Normally Offered: F, SP**

This course is a continuation of MUS 152 and is dedicated to the rehearsal and performance of "classical" music. The ensemble will present concerts on campus and in the community.

**Prerequisite:** MUS 152 or instructor's permission.

**MUS 154 CONCERT BAND IV ..... 1(0-2)**

**Normally Offered:** F, SP

This course is a continuation of MUS 153 and is dedicated to the rehearsal and performance of “classical” music. The ensemble will present concerts on campus and in the community.

**Prerequisite:** MUS 153 or instructor’s permission.

**MUS 155 COLLEGIATE SINGERS III..... 1(0-2)**

**Normally Offered:** On demand

Continues MUS 142.

**Prerequisite:** MUS 142.

**MUS 157 COLLEGIATE SINGERS IV ..... 1(0-2)**

**Normally Offered:** F, SP

Continues MUS 155.

**Prerequisite:** MUS 155.

**MUS 160 APPLIED FLUTE I**

**Normally Offered:** F

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 221 PIANO ..... 2(0-2)**

**Normally Offered:** On Demand

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:** On Demand

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:** F

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:** F and/or SP

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.

**MUS 241 JAZZ ENSEMBLE I ..... 1(0-2)**

**Normally Offered:** F, SP

Students rehearse instrumental music in various jazz styles, leading to performance before an audience.

**MUS 242 JAZZ ENSEMBLE II ..... 1(0-2)**

**Normally Offered:** F, SP

Students rehearse instrumental music in various jazz styles, leading to performance before an audience.

**Prerequisite:** MUS 241 or permission of instructor.

**MUS 243 JAZZ ENSEMBLE III..... 1(0-2)**

**Normally Offered:** F, SP

Students rehearse instrumental music in various jazz styles, leading to performance before an audience.

**Prerequisite:** MUS 241 and 242 or permission of instructor.

**MUS 244 JAZZ ENSEMBLE IV..... 1(0-2)**

**Normally Offered:** F, SP

Students rehearse instrumental music in various jazz styles, leading to performance before an audience.

**Prerequisite:** MUS 241, 242 and 243 or permission of instructor.

**MUS 250 CHAMBER ENSEMBLE I..... 1(0-2)**

**Normally Offered:** F, SP

Provides the student with knowledge of a broad range of chamber music, literature and composing, appreciation of the medium, an understanding of musical concepts, rehearsal, and performance before the public.

**Prerequisite:** Some experience necessary playing a traditional instrument or recorder and limited audition with instructor.

**MUS 252 CHAMBER ENSEMBLE II..... 1(0-2)**

**Normally Offered:** F, SP

Continues MUS 250.

**Prerequisite:** MUS 250.

**MUS 253 CHAMBER ENSEMBLE III..... 1(0-2)**

**Normally Offered:** F, SP

Continues MUS 252.

**Prerequisite:** MUS 252.

**MUS 254 CHAMBER ENSEMBLE IV ..... 1(0-2)**

**Normally Offered:** F, SP

Continues MUS 253.

**Prerequisite:** MUS 253.

## NURSING

**NUR 107 NURSING CLINICAL PRACTICE III ..... 1.5(0-6)**

**Normally Offered:** SUM

Offered to the practical nurse student for development proficiency in nursing treatments, medication administration, and planning, organizing, and delivering patient care.

**Prerequisite:** Successful completion of all fall and spring Nursing Level I Program (LPN) courses.

**Corequisite:** NUR 103 Nutrition.

**NUR 121 PARENT/CHILD NURSING THEORY I ..... 2(2-0)**

**Normally Offered:** F

Covers maternal and child nursing. Includes anatomy and physiology of the reproductive system, principles of health teaching during and after pregnancy, labor and the postpartum period, and characteristics and nutritional needs of the newborn.

**NUR 128 PHARMACOLOGY I..... 1.5(1.5-0)**

**Normally Offered:** F, SP

This course establishes the metapardigm concepts within the LPN's scope of practice.

**Prerequisite:** BIO 201, CEM 111, ENG 111, PSY 101.

**Corequisite:** HEA 102, NUR 133, NUR 140, NUR 141, NUR 142, NUR 143.

**NUR 129 PHARMACOLOGY II..... 1.5(1.5-0)**

**Normally Offered:** SP

Completes the study of the effect of specific medications on the body systems and ways to promote therapeutic effect and recognize and treat side effects or toxic effects.

**Prerequisite:** Successful completion of NUR 128.



**NUR 133      DOSAGE CALCULATIONS ..... 0.5(5-0)**

**Normally Offered: F, SP**

This course prepares the Level I nursing student for the administration of medications safely. The Level I nursing student learns how to calculate dosages for oral, injectable, and intravenous medications.

**Prerequisite:** BIO 201, CEM 111, ENG 111, PSY 101.

**Corequisite:** HEA 102, NUR 128, NUR 140, NUR 141.

**NUR 140      FOUNDATIONS OF NURSING ..... 2(2-0)**

**Normally Offered: F, SP**

This course establishes the metaparadigm concepts within the LPN's scope of practice.

**Prerequisite:** BIO 201, CEM 111, ENG 111, PSY 101.

**Corequisite:** HEA 102, NUR 133, NUR 128, NUR 141.

**NUR 141      NURSING FOUNDATIONS LAB ..... 2(2-6)**

**Normally Offered: F, SP**

This is a clinical course designed to prepare the nursing student to provide safe care to clients by learning how to do various skills within the LPN's scope of practice in the nursing lab.

**Prerequisite:** BIO 201, CEM 111, ENG 111, PSY 101.

**Corequisite:** HEA 102, NUR 133, NUR 128, NUR 140

**NUR 142      MEDICAL-SURGICAL NURSING I ..... 2(2-0)**

**Normally Offered: F, SP**

This course provides the theoretical background to prepare the Level I nursing student to provide aspects of care in a long-term facility.

**Prerequisite:** BIO 201, CEM 111, ENG 111, PSY 1201, NUR 133, NUR 140, NUR 141.

**Corequisite:** HEA 102, NUR 128, NUR 143

**NUR 143      MEDICAL-SURGICAL I CLINICAL ..... 2(2-6)**

**Normally Offered: F, SP**

This is a clinical course in a long-term care setting. Skills acquired in the nurse lab and information acquired in NUR 128, NUR 133, NUR 140, and NUR 142 are incorporated into care assignments to promote the development of the Level I nursing student.

**Prerequisite:** BIO 201, CEM 111, ENG 111, PSY 101, NUR 133, NUR 140, NUR 141.

**Corequisite:** HEA 102, NUR 128, NUR 142.

**NUR 150      MEDICAL-SURGICAL NURSING II ..... 2.5(2.5-0)**

**Normally Offered: F, SP**

This course provides the theoretical background to prepare the Level I nursing student to provide care in an acute care setting to adults with a variety of medical-surgical problems.

**Prerequisite:** BIO 201, CEM 111, ENG 111, HEA 102, PSY 101, NUR 128, NUR 133, NUR 140, NUR 141, NUR 142, NUR 143.

**Corequisite:** PSY 226, NUR 151, NUR 152, NUR 153, NUR 154, NUR 156.

**NUR 151      MEDICAL-SURGICAL II CLINICAL ..... 2(2-6)**

**Normally Offered: F, SP**

This is a clinical course in an acute care setting that builds upon skills and knowledge acquired in the first semester of Level I. Students provide care to adults with a variety of medical-surgical problems.

**Prerequisite:** BIO 201, CEM 111, ENG 111, HEA 102, PSY 101, NUR 128, NUR 133, NUR 140, NUR 141.

**Corequisite:** PSY 226, NUR 150, NUR 152, NUR 153, NUR 154, NUR 156.

**NUR 152      OBSTETRICS/REPRODUCTIVE HEALTH ..... 1(1-0)**

**Normally Offered: F, SP**

This course provides the theoretical background to prepare the Level I nursing student to provide care to a pregnant client, and aspects of care during labor, delivery, and postpartum phase, aspects of newborn care, and care to the women hospitalized for reproductive health problems.

**Prerequisite:** BIO 201, CEM 111, ENG 111, HEA 102, PSY 101, NUR 128, NUR 133, NUR 140, NUR 141, NUR 142, NUR 143.

**Corequisite:** PSY 226, NUR 150, NUR 151, NUR 153, NUR 154, NUR 156.

**NUR 153 OBSTETRICS CLINICAL ..... 1.5(1.5-4.5)**

**Normally Offered: F, SP**

This is a clinical course in an acute care setting or units providing care during labor and delivery, and postpartum/newborn care. Care of clients admitted for conditions related to reproductive health is included as are observations experiences with pre-school children and children with disabilities.

**Prerequisite:** BIO 201, CEM 11, ENG 11, HEA 102, PSY 101, NUR 128, NUR 133, NUR 140, NUR 141, NUR 142, NUR 143.

**Corequisite:** PSY 226, NUR 150, NUR 152, NUR 153, NUR 154, NUR 156.

**NUR 154 PEDIATRIC NURSING ..... 1(1-0)**

**Normally Offered: F, SP**

This course provides the theoretical background to prepare the Level I nursing student for health care encounters with children and various health problems and issues that occur during childhood.

**Prerequisite:** BIO 201, CEM 111, ENG 11, HEA 102, PSY 101, NUR 128, NUR 133, NUR 140, NUR 141, NUR 142, NUR 143.

**Corequisite:** PSY 226, NUR 150, NUR 151, NUR 152, NUR 153, NUR 156.

**NUR 156 PHARMACOLOGY II..... 1(1-0)**

**Normally Offered: F, SP**

This course provides additional theoretical background to prepare the Level I nursing student to safely administer medications. The student studies the effects of specific medications on body systems, ways to promote therapeutic effect, and how to recognize and treat side effects or toxic effects.

**Prerequisite:** BIO 201, CEM 111, ENG 111, HEA 102, PSY 101, NUR 128, NUR 133, NUR 140, NUR 141, NUR 142, NUR 143.

**Corequisite:** PSY 226, NUR 150, NUR 151, NUR 152, NUR 153, NUR 154.

**NUR 240 ADVANCED MEDICAL-SURGICAL NURSING I..... 2(2-0)**

**Normally Offered: F**

This course provides the theoretical background to prepare the Level II nursing student to care for clients with multiple acute and chronic conditions.

**Prerequisite:** BIO 201, BIO 203, BIO 227, CEM 111, ENG 111, PSY 101, PSY 226, HEA 102, LPN admitted to Level II.

**Corequisite:** ENG 112, NUR 241, NUR 242, NUR 243, NUR 244, NUR 246.

**NUR 241 ADVANCED MEDICAL-SURGICAL NURSING CLINICAL..... 2(2-6)**

**Normally Offered: F**

This is a clinical course, occurring primarily on medical-surgical units with supplemental learning experience options. Level II nursing students provide care to clients with complex needs resulting from acute and chronic health problems within the scope of practice for the Registered Nurse in Michigan.

**Prerequisite:** BIO 201, BIO 203, BIO 227, CEM 111, ENG 111, PSY 101, PSY 226, HEA 102, LPN admitted to Level II.

**Corequisite:** ENG 112, NUR 240, NUR 242, NUR 243, NUR 244, NUR 246.

**NUR 242 ADVANCED PARENT-CHILD NURSING ..... 1.5(1.5-0)**

**Normally Offered: F**

This course provides the theoretical background to prepare the Level II nursing student to care for childbearing families, children with health problems, and clients hospitalized with reproductive health problems.

**Prerequisite:** BIO 201, BIO 203, BIO 227, CEM 111, ENG 111, PSY 101, PSY 226, HEA 102, LPN admitted to Level II.

**Corequisite:** ENG 112, NUR 240, NUR 241, NUR 243, NUR 244, NUR 246.

**NUR 243 ADVANCED PARENT-CHILD NURSING CLINICAL ... 1.5 (1.5-4.5)**

**Normally Offered: F**

This is a clinical course, occurring on a women's health unit, with supplemental learning experience options. Level II nursing students provide care during labor and delivery, postpartum and newborn hospitalization, and to women hospitalized for reproductive health problems.

**Prerequisite:** BIO 201, BIO 203, BIO 227, CEM 111, ENG 111, PSY 101, PSY 226, HEA 102, LPN admitted to Level II.

**Corequisite:** ENG 112, NUR 240, NUR 241, NUR 242, NUR 244, NUR 246.

**NUR 244 PHYSICAL ASSESSMENT ..... 2 (2-0)**

**Normally Offered: F**

This course prepare the Level II nursing student with the knowledge of techniques to do health status assessments of clients needing nursing care.

**Prerequisite:** BIO 201, BIO 203, BIO 227, CEM 111, ENG 111, PSY 101, PSY 226, HEA 102, LPN admitted to Level II.

**Corequisite:** ENG 112, NUR 241, NUR 240, NUR 242, NUR 243, NUR 246.

**NUR 246 NURSING ISSUES ..... 1 (1-0)**

**Normally Offered: F**

This course provides the theoretical background to prepare the Level II nursing student for issues within the environment of care that impact nursing practice.

**Prerequisite:** BIO 201, BIO 203, BIO 227, CEM 111, ENG 111, PSY 101, PSY 226, HEA 102, LPN admitted to Level II.

**Corequisite:** ENG 112, NUR 240, NUR 241, NUR 242, NUR 243, NUR 244.

**NUR 249 ADVANCED MEDICAL-SURGICAL THEORY II ..... 2 (2-0)**

**Normally Offered: SP**

The nursing program is based on the metaparadigm concepts: person, health, environment, and nursing. This course continues to focus primarily on the student acquiring knowledge of advanced medical-surgical concepts associated with multiple acute and chronic conditions of persons receiving nursing care. The Level II emphasis is on the student nurse evolving into the role of the professional nurse.

**Prerequisite:** BIO 201, BIO 203, BIO 227, CEM 111, ENG 111, ENG 112, HEA 102, PSY 101, PSY 226, nursing courses leading to LPN licensure, NUR 240, NUR 241, NUR 242, NUR 243, NUR 244, NUR 246.

**Corequisite:** PLS 221, NUR 250, NUR 252, NUR 253, NUR 254, NUR 256.

**NUR 250 ADVANCED MEDICAL-SURGICAL II CLINICAL ..... 2 (2-6)**

**Normally Offered: SP**

This is a clinical course, occurring primarily on a medical-surgical unit. Level II nursing students progress to assume additional aspects of the scope of practice of the Registered Nurse in Michigan by providing and coordinating care for clients with complex needs resulting from acute and chronic health problems.

**Prerequisite:** BIO 201, BIO 203, BIO 227, CEM 111, ENG 111, ENG 112, HEA 102, PSY 101, PSY 226, nursing courses leading to LPN licensure, NUR 240, NUR 241, NUR 242, NUR 243, NUR 244, NUR 246.

**Corequisite:** PLS 221, NUR 249, NUR 252, NUR 253, NUR 254, NUR 256.

**NUR 252 PSYCHIATRIC NURSING ..... 1.5 (1.5-0)**

**Normally Offered: 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:** BIO 201, BIO 203, BIO 227, CEM 111, ENG 111, ENG 112, HEA 102, PSY 101, PSY 226, nursing courses leading to LPN licensure, NUR 240, NUR 241, NUR 242, NUR 243, NUR 244, NUR 246.

**Corequisite:** PLS 221, NUR 249, NUR 250, NUR 253, NUR 254, NUR 256.

**NUR 253 PSYCHIATRIC NURSING CLINICAL ..... 1.5 (1.5-4.5)**

**Normally Offered: 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:** BIO 201, BIO 203, BIO 227, CEM 111, ENG 111, ENG 112, HEA 102, PSY 101, PSY 226, nursing courses leading to LPN licensure, NUR 240, NUR 241, NUR 242, NUR 243, NUR 244, NUR 246.

**Corequisite:** PLS 221, NUR, 249, NUR 250, NUR 252, NUR 254, NUR 256.

**NUR 254 NURSING TRANSITIONS ..... .5 (5-0)**

**Normally Offered: SP**

This course explores RN role expectations, job-seeking skills for an entry level, staff nurse position, and possible career paths.

**Prerequisite:** BIO 201, BIO 203, BIO 227, CEM 111, ENG 111, ENG 112, HEA 102, PSY 101, PSY 226, nursing courses leading to LPN licensure, NUR 240, NUR 241, NUR 242, NUR 243, NUR 244, NUR 246.

**Corequisite:** PLS 221, NUR 249, NUR 250, NUR 252, NUR 253, NUR 256.

**NUR 256 DIAGNOSTIC READINESS ..... .5 (5-0)**

**Normally Offered: SP**

This course is designed to assess the readiness of the second semester Level II student and develop strategies for first-time success on the NCLEX-RN upon completion of the program.

**Prerequisite:** BIO 201, BIO 203, BIO 227, CEM 111, ENG 111, ENG 112, HEA 102, PSY 101, PSY 226, nursing courses leading to LPN licensure, NUR 240, NUR 241, NUR 242, NUR 243, NUR 244, NUR 246.

**Corequisite:** PLS 221, NUR 249, NUR 250, NUR 252, NUR 253, NUR 254.

**NUR 232 HOLISTIC NURSING..... 3(3-0)**

**Normally Offered: SP**

This three-credit course prepares nurses and nursing students to assist clients with self-care deficits in a holistic manner. The premise is that nurses need to address self-care requisites of the mind, body, and spirit. Integrative nursing promotes healing relationships with clients by assimilating biomedical skills with fundamental caring modalities of nursing. An emphasis is placed on the art of demonstrating a caring practice that encompasses various independent nursing interventions such as therapeutic touch, massage therapy, and reflexology. This course is designed for the novice nurse as well as experienced nurses who are re-evaluating their practice.

**Prerequisite:** Successful completion of Level I Nursing Program.

## PHYSICAL EDUCATION & HEALTH FITNESS

**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 II..... 2(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 123 AMERICAN RED CROSS LIFEGUARDING ..... 1.5(1-1)**

**Normally Offered:**

This course offers students the knowledge and skills to prevent and respond to aquatic emergencies, following the American Red Cross Lifeguarding curriculum. Students who successfully complete this course according to American Red Cross (ARC) standards will receive two ARC Universal Certificates: Lifeguarding/First Aid and CPR/AED (Cardiopulmonary Resuscitation/Automatic Electronic Defibrillation). Students must successfully demonstrate the ability to swim 300 yards continuously using these strokes in the following order during the first session in order to continue the class: (1) 100 yards of front crawl, using rhythmic breathing and a stabilizing, propellant kick. (2) 100 yards of breaststroke using a pull, breathe, kick, and glide sequence. (3) 100 yards of either the front crawl or breaststroke. The 100 yards may be a combination of front crawl and breaststroke.

**Prerequisite:** See course description.

**PEH 140 GOLF..... 2(1-2)**

**Normally Offered: SP, SUM**

Includes development of fundamental motor skills, rules, playing etiquette and safety, types and care of equipment, and playing strategies. Students are required to play a minimum of 27 holes of golf to successfully complete the course. Greens fees are the responsibility of the student.

**PEH 181 YOGA FOR FITNESS I..... 2(0-4)**

**Normally Offered: F**

This course incorporates powerful poses with relaxation poses. The sequential order allows for flowing movements designed to increase flexibility, strength and balance.

**PEH 182 YOGA FOR FITNESS II..... 2(0-4)**

**Normally Offered: SP**

This course incorporates powerful poses with relaxation poses. The sequential order allows for flowing movements designed to increase flexibility, strength and balance. The poses will build on skills acquired in PEH 181 Yoga for Fitness I and, therefore, will be more advanced.

**PEH 200 COLLEGE SPORTS..... 1(0-1)**

**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. The coach of each of the respective sports is responsible for deciding if a student has successfully satisfied the sports season requirement. Only one credit per semester may be issued for PEH 200.

**PEH 247 ADVANCED KARATE TANG SOO DO II ..... 2(0-4)**

**Normally Offered: F, SP**

Continuation of the study and practice of Tang Soo Do Karate. Students may train and test for the next belt level in Tang Soo Do.

**Prerequisite:** PEH 162 or instructor permission.

**PEH 263 WORKPLACE FIRST AID/CPR/AED..... 1(1-0)**

**Normally Offered: F, SP**

This course seeks to help participants identify and eliminate potentially hazardous conditions in their environment, recognize emergencies and make appropriate decisions for first aid care. It teaches the knowledge and skills that individuals in the workplace need to know to give immediate care to an ill or injured person until more advanced medical care arrives. Students who successfully complete this course according to American Red Cross standards will receive adult, child, and infant First Aid, CPR and AED certification.

## PERFORMING ARTS

**PFA 101 INTRODUCTION TO DANCE ..... 3(3-0)**

**Normally Offered: F**

This course will introduce the student to the basic components in ballet and jazz techniques.

**PFA 102 DANCE II ..... 3(3-0)**

**Normally Offered: SP**

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**

Acting I will focus on improvisation, creative dramatics and basic acting skills.

## 202 Course Descriptions

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**PFA 110 ACTING II ..... 3(3-0)**

**Normally Offered: S**

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: F**

This course is geared for the student of dance who has a background in dance and would like to continue their education in ballet and jazz techniques. An introduction to choreography will also be covered.

**Prerequisite:** PFA 102 or instructor permission.

**PFA 204 DANCE IV ..... 3(3-0)**

**Normally Offered: SP**

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 205 DANCE FOR THEATRE ..... 3(3-0)**

**Normally Offered: F or SP**

This course is geared for the student who has an interest in dance and theatre. Dance steps commonly used in musical theatre will be taught. We will also study different choreographers that have made a significant impact in musical theatre history both by studying their work and by recreating some of their more memorable pieces.

**Prerequisite:** PFA 101 or instructor permission.

**PFA 211 ACTING III ..... 3(3-0)**

**Normally Offered: F**

Acting III will focus on developing audition techniques, script analysis and advanced character analysis utilizing the Stanislavski technique.

**Prerequisite:** PFA 110.

**PFA 212 ACTING IV ..... 3(3-0)**

**Normally Offered: S**

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.

**PFA 223 INTRO TO THEATRE (PLAY PRODUCTION) ..... 3(3-1)**

**Normally Offered: On Demand**

Exists for the beginning student interested in theater. There will be an exploration of the basic principles of drama, both in the performance and technical areas. Lecture and laboratory experiences culminate in a theater production.

**PFA 224 INTRO TO SET DESIGN ..... 3(3-1)**

**Normally Offered: SP**

Introduces students to the theory and practice of scenic design, including computer-aided design and construction of stage scenery. Student work is showcased in ACC student productions.

**PFA 229 THEATRE PRACTICUM ..... 1-4(1-4)**

**Normally Offered: On Demand**

Meets the equivalent of one hour per week. Students involved in a production register for one hour of credit per semester for a total of not more than four hours. Students in the class are not required, however, to participate in a theatrical production.

## PHILOSOPHY

### PHL 125 LANGUAGE AND REASON ..... 3(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 PHILOSOPHY ..... 3(3-0)

**Normally Offered:** SP

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

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 SCIENCE..... 4(3-2)

**Normally Offered:** F, SP

Develops fundamental concepts in mass, energy, space and time through use of selected material from the areas of physics, chemistry, astronomy and earth science. Attention is given to methods and the process of scientific investigation. May be elected by those not majoring in science to meet science requirements.

**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:** 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 ASTRONOMY..... 3(3-0)**

**Normally Offered: On Demand**

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: On Demand**

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 POLITICAL SCIENCE ..... 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 GOVERNMENT ..... 3(3-0)**

**Normally Offered: F, SP**

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: On Demand**

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 GOVERNMENT ..... 3(3-0)**

**Normally Offered: On Demand**

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 PSYCHOLOGY ..... 3(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 PSYCHOLOGY ..... 3(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:**

This course will cover the biological, psychological and socio-cultural aspects of human sexuality.

**Prerequisite:** PSY 101 and ENG 111 or instructor permission.

**PSY 234 PSYCHOLOGY OF DEATH AND DYING ..... 3(3-0)**

**Normally Offered: SP**

Explores the taboo of death and its antecedent fears. It treats death as a final stage of human growth with emphasis upon life's values, hopes, and productivity. This course helps make one's life more meaningful in the pursuit of economic social goals.

**Prerequisite:** PSY 101 and ENG 111 or instructor permission.

**PSY 241 SOCIAL PSYCHOLOGY ..... 3(3-0)**

**Normally Offered: SP**

This course begins with a discussion surrounding the methods used to study social psychology. 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 PSYCHOLOGY..... 3(3-0)**

**Normally Offered:** F, SP

This course will familiarize students with the history of how people have reacted to abnormal behavior in others, biological and psychosocial theories about the origins and dynamics of mental illness and abnormal behavior, classification and assessment of disorders and therapeutic methods to treat these disorders.

**Prerequisite:** PSY 101 and ENG 111 or instructor permission.

## **SOCIOLOGY**

**SOC 110 INTRODUCTION TO SOCIAL WORK ..... 3(3-0)**

**Normally Offered:** F

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:** SOC 123.

**SOC 123 INTRODUCTION TO SOCIOLOGY ..... 3(3-0)**

**Normally Offered:** F, SP

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.

**SOC 210 SOCIAL INEQUALITY: RACE, CLASS AND GENDER ..... 3(3-0)**

**Normally Offered:** 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 EDU 121.

**SOC 225 SOCIOLOGY OF GENDER AND SEX ROLES ..... 3(3-0)**

**Normally Offered:** SP

The implications of gender for social behavior in cross-cultural and historical perspective as well as in contemporary West. This course addresses gender roles and biological sex in terms of social norms and social expectations; including the differences of men and women, how each perceives the world, how society dictates specific role scripts, gendered communication, and how society implicates social obligations in terms of gender roles and biological sex.

**Prerequisite:** SOC 123 or PSY 101.

**SOC 227 SOCIOLOGY OF MARRIAGE AND THE FAMILY ..... 3(3-0)**

**Normally Offered:** SP

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 230 SOCIAL PROBLEMS ..... 3(3-0)**

**Normally Offered:** F

This course explores the causes of and possible solutions to selected social problems such as inequality, crime and deviance, and poverty. Students will examine the interrelationship of social problems and their roots in fundamental societal institutions.

**Prerequisite:** SOC 123 or EDU 121.

**SOC 252 GREAT BOOKS ON LEADERSHIP ..... 3(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 120 SIGN LANGUAGE I ..... 2(2-0)**

**Normally Offered: F**

Designed for students who have no experience but desire to learn to communicate with the hearing impaired through manual communication. Students will achieve fluency in basic conversational sign language utilizing a signed English system in a total communication approach. This course also provides information on aspects of deafness and the communication disabled as well as technology for the deaf. This course is especially appropriate for people in nursing, teaching, special education, law enforcement and other human services fields.

**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 LITERATURE ..... 3(3-0)**

**Normally Offered: On Demand**

An introduction to the analysis, interpretation, rehearsal and oral performance of literature. Students work with selections of prose, poetry and drama written for adults and children.

**SPE 130 SIGN LANGUAGE II ..... 2(2-0)**

**Normally Offered: SP**

For students who have had SPE 120 or who have had previous experience in signing and have the instructor's permission. Students will continue to increase their fluency in conversational sign language utilizing a Signed English system in a total communication approach. Vocabulary skills and expressiveness in signing will both be increased through weekly unit assignments.

**SPE 132 SIGN LANGUAGE III ..... 2(2-0)**

**Normally Offered: On Demand**

Continues SPE 130. Completion of SPE 130 or consent of instructor required.

**SPE 133 SIGN LANGUAGE IV ..... 2(2-0)**

**Normally Offered: SP**

Emphasis is placed on developing beginning interpreter and transliteration skills. The fourth in a series of courses designed to teach sign language (Signed English).

**Prerequisite:** SPE 132 or instructor's permission.

## SPANISH

**SPN 117 CONVERSATIONAL SPANISH..... 1(1-0)**

**Normally Offered: On Demand**

An introductory, exploratory course for prospective travelers or those who are considering enrolling in a full language study course.

**SPN 125 SPANISH ..... 4(4-0)**

**Normally Offered: F**

Promotes grammatical, cultural and geographic appreciation of the Spanish language and the people who speak it. This introductory course will begin to develop the student's fluency in listening to, speaking, reading and writing Spanish.

**SPN 126 SPANISH ..... 4(4-0)**

**Normally Offered: SP**

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 STRATEGIES..... 1(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 INDUSTRY ..... .5(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 I..... 6(1.5-9)**

**Normally Offered: F**

Orient students, in an outdoor lab setting, to proper and safe climbing techniques and the use of aerial lift devices. Students will construct overhead and underground primary and secondary electrical systems. Safe equipment operation will be stressed.

**Corequisite:** UTT 102, UTT 103, UTT 203.

**UTT 201 TEST EQUIPMENT & TROUBLE SHOOTING..... 1(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 FUNDAMENTALS ..... 2(1-2)**

**Normally Offered: SP**

Orients student to the operation of and types of transformers used by the utility industry. Selection of proper transformer for a given application and maintenance of transformers will be stressed.

**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 OPERATION..... 2(1-2)**

**Normally Offered: SP**

Orients student to equipment and vehicles common to the utility industry.

**UTT 207 ENVIRONMENTAL CONCERNS OF THE UTILITY INDUSTRY..... 1(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.

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**RON BELLENIR**

Custodian

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**RICHARD BUCHLER**

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**SARAH BURT**

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**JAMES CHAPMAN**

Parking Lot Attendant

**VICKI CRIPPS**

Secretary, World Center for Concrete Technology

**JILL DORCEY**

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**KATHERINE EVANS**

Secretary, Volunteer Center

**YUKO FELLOWS**

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**GARTH GAPSKE**

Automotive Tool Room Attendant

**SUZANNE GEIERSBACH**

Secretary to the Assistant Dean of Health Occupations

**GLENN HELWIG**

Computer Technician

**MARJORIE HOPPE**

Custodian

**THERESA HOWES**

Biology Lab Assistant

**KELLY JACKSON**

LRC Library Technician

**CONNIE KACZOROWSKI**

Word Processing Operator

**DEBRA KLEMENS**

Secretary, Upward Bound

**LYN KOWALEWSKY**

Secretary, Accounts Payable

**STEPHEN LEFEBVRE**

Custodian

**JAY LIBKA**

Groundskeeper

**FRANK McCOURT**

Athletic Director

**VICKY McCOY**

Health Fitness Activities Technician

**KATHERINE MEHARG**

Campus Services Secretary

**MICHAEL MEYER**

Lab Technician, World Center for Concrete Technology

**JOAN MISIAK**

Secretary/Buyer, ACC Bookstore

**KATHRYN MOMRIK**

Cashier

**CHARLES NOWAK**

Custodian

**JOHN PARRIS**

LRC Media Technician

**JOHN PULDA**

Maintenance, Huron Shores Campus

**LORRAINE PULDA**

Secretary, Huron Shores Campus

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**ED RETHERFORD**

Administrative Technician, Upward Bound Student Advocate

**KIM SALZIGER**

Developmental Studies Technician

**NATHANIEL SALZIGER**

LRC Library Technician

**ANN SCHULTZ**

Management Information Systems Clerical/Operator Assistant

**CHARLES SEGUIN**

Maintenance

**JOHN SEGUIN**

Mail Processing Technician

**NANCY SEGUIN**

Secretary, Instructional Services

**SANDRA SENGENBERGER**

Secretary, Community-Based Job Training Grant

**SALLY SHUBERT**

Secretary, Facilities Management

**LISA SNYDER**

Programmer/Analyst

**RHONDA SNYDER**

Art Technician — Ceramics

**LINDA SOUVA**

Testing Coordinator

**RODNEY STEPANSKI**

Maintenance

**MARY BETH STUTZMAN**

Communications/Instructional Development  
Technician

**BEVERLY SUSZEK**

LRC Library Technician

**GENEVIEVE TESSMER**

Custodian

**BARBARA SZCZESNIAK**

Secretary, ACC Foundation

**PHYLLIS TIPPMAN**

Assistant to the Director of Admissions

**JENNIFER TURSKE**

Custodian

**MARLENE VANDERWYST**

Financial Aid Coordinator

**KATHLEEN VOUGHT-SKUSE**

Clerical Assistant

**JEAN WAEISS**

Secretary, Educational Talent Search

**FRED WENN**

Machine Tool Room Attendant

**YVONNE WHITE**

The Learning Center Coordinator/Technician

**CAROL WHITEHEAD**

Switchboard Operator

**SUE WILLYARD**

Secretary, Administrative Services

**JACKIE WITTER**

Clerical Assistant, The Learning Center

**GREG WOODS**

Auto Body Tool Room Attendant

**FACULTY EMERITI**

(Note this list only includes living emeriti faculty.)

**JUDITH S. BEYER, R.N.**

Nursing

**DR. LAWRENCE BOYER**

English

**BRENDA BUCHNER**

Office Technology

**JAMES F. CHANDLER**

Drafting & Design, Metals, Construction

**RICHARD D. CLUTE**

Sociology, Anthropology

**RICHARD L. COUNSELLOR**

Student Services Coordinator

**ROBERT DICKINSON**

Accounting

**DAVID W. DIERKING**

Computer Science

**ROBERT DOMINIC**

Chemistry, Biology

**DR. ELBRIDGE L. DUNCKEL**

Physical Science, Biological Science

**SANDY EASTWAY**

Mathematics

**ROBERT ELLER**

Concrete Technology

**JOSEPH G. FABER**

Psychology

**DOROTHY FANCHER**

The Learning Center

**HERBERT GAMAGE**

Engineering, Mathematics

**RUSSELL A. GARLITZ**

Biology

**KATHRYN GOUIN**

Nursing

**TERRY HALL**

Humanities

**GERALD M. HARDESTY**

Industrial Technology

**CAROL HART**

Nursing

**THELMA SNEIDE HARTWICK**

Mathematics

**HANS HATOPP**

Engineering and Mathematics

**KENNETH HUBBARD**

Computer Science/Network Administration

**ARTHUR HUNT**

Machine Tool

**OWEN C. LAMB**

Drafting, Design

**LORETTA LATULIP**

Business, Secretarial

**FORD W. LEMIEUX**

Auto Body

**RICHARD LESSARD**

English

**RICHARD MATTESON**

History

**FRANK McCOURT**

Counselor, Coordinator of Employment Services and Athletics

**JOHN MCGILL**

Biology

**IVAN McLAREN**

Machine Tool &amp; CNC Apprentice

**JAMES H. MIESEN**

English

**RICHARD E. MILES**

Health Fitness

**JEFFREY MONROE**

Manufacturing Technology

**BARBARA J. MORAN**

Secretarial Science

**DR. RICHARD MOREAU**

Chemistry

**ROGER M. PHILLIPS**

English

**TERRY QUINN**

English

**CHARLEY ROSEBUSH**

Mathematics

**CHARLES SCHEUFLER**

Utility Technician Training

**GARY E. SPARKS**

Physics, Computer Science

**MICKEY STRONG**

Educational Talent Search

**LINDA SUNESON**

Accounting

**JACQUELYN R. TIMM**

English

**KEITH S. TITUS**

Speech

**SONYA TITUS**

English, Speech

**BONNIE URLAUB**

Counselor and Director of the Women's Resource Center

**ROBERT B. WISENER**

Business Management

**WILLIAM J. YULE**

Electrical

## **ADMINISTRATORS EMERITI**

(Note this list only includes living emeriti administrators.)

### **LYLE BECK**

Director of Management Information Services

### **DR. CURTIS DAVIS**

Vice President for Instruction/Student/  
Community Services

### **EUGENE EDWARDS**

Director, Huron Shores Campus

### **JOHN E. HEIMNICK**

Dean of Liberal Arts & Sciences

### **SANDRA LIBKA**

Director, Human Resources

### **GAYLE MARSHALL**

Executive Assistant to the President & Secretary  
to the Board of Trustees

### **JOHN W. McCORMACK**

Dean of External Affairs

### **KATHLEEN MCGILLIS**

Dean of Health Occupations

### **VERNIE NETHERCUT**

Director of the Volunteer Center

### **DR. DONALD L. NEWPORT**

President

### **CARLENE PRZYKUCKI**

Director of Public Information

### **CATHERINE ROGG**

Development Director and Executive Director  
of the Alpena Community College Foundation

### **CHARLES TETZLAFF**

Associate Dean, Learning Resources Center/  
Media, The Learning Center Director, TRiO  
Coordinator

### **CHARLES N. WIESEN**

Dean of Technology & Economic Development

### **DONALD WITT**

Director of Facilities Management

## **STAFF EMERITI**

(Note this list only includes living emeriti staff.)

### **RICHARD GROCHOWSKI**

Maintenance









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