# 2013 - 2014 Institutional Calendar

July 13 – August 10 ................................................................Fall Semester Fee Payment
August 8............................................................................Fall Evening Orientation
August 15 .................................... Fall Orientation - Afternoon and Fire/Rescue Orientation
August 16 .......................................... Fall Orientation - Morning and Afternoon
August 26 ....................................................................Fall Semester Classes Begin
September 2 ..................................................................Labor Day – College Closed
September 6 ..............................................................Bookstore – Last Day for Returns
September 16 ..................................................................Last Day to Add Classes
October 17 ..................................................... First–Half Semester Classes End
October 18 ......................................... Second-Half Semester Classes Begin
November 4 .....................................Registration Begins for Current Students
November 11 ..........................................Veterans Day – College Closed
November 18 .......................................... Last Day to Withdraw from Classes
November 27.................................... Thanksgiving Break – College Open
November 28 & 29 ................................Thanksgiving Break – College Closed
November 15 – January 3.................................Spring Semester Fee Payment
December 9 .......................................... Registration Begins for New Students
December 9 – 13.........................................................Bookstore Buyback
December 13 ........................................... Last Day of Fall Semester Classes
December 16 – January 10 ...............................................Semester Break
December 16 – January 2 ....................................................Bookstore Closed
December 25 ........................................Christmas Day – College Closed
January 1 ................................................New Year's Day – College Closed
January 3 ...............................................................Bookstore Opens
January 9................................................ Spring Orientation - Afternoon
January 10 ....................................................Spring Orientation - Morning
January 13 ..................................................... Spring Semester Classes Begin
January 20 ..........................................................MLK Day – College Closed
January 24 ..............................................Bookstore – Last Day for Returns
February 3................................................................Last Day to Add Classes
February 17 ...........................................Presidents Day – College Closed
March 6 ...................................................... First–Half Semester Classes End
March 7 ........................................Second–Half Semester Classes Begin
March 10 – 14.......................................Spring Break – No Classes, College Open
March 31.................................Registration Begins for Current Students
April 11.......................................... Last Day to Withdraw from Classes
April 28 – May 2...........................................................Bookstore Buyback
May 2.................................. Last Day of Spring Semester Classes
May 3........................................................................Graduation
May 5.................................. Registration Begins for New Students
May 12 .................................................... Summer Semester Classes Begin

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# Dean's Welcome

May I personally extend a warm welcome to you from Helena College University of Montana, one of Montana's premier centers of higher education since 1939. We are excited that you have expressed an interest in our College and are considering what the future might hold for you through the completion of one of our 34 degrees or certificates.

From my own personal experience, I know that selecting a college or educational program can, at times, seem like an overwhelming venture. The staff and faculty at Helena College have developed a wide range of academic and student support services to help you succeed, and they would be happy to personally guide you through your educational endeavors. They can also help you identify potential scholarship, financial aid, and work study opportunities.

Helena College is a vibrant center of higher education committed to educational excellence and your personal success. Responding to the educational needs of our community of learners, the College has recently completed a ten-year strategic plan focused on building the educational capacity to meet the essential elements of a 21st Century College. The faculty and staff at Helena College are committed to the ongoing development of our instructional facilities and equipment and to a learning environment that fosters opportunity for academic program development, diversification, schedule expansion, and the capacity to accommodate the needs of Montana's growing workforce. As a comprehensive two-year college, we are focused on achieving our mission to succeed in meeting the needs of our community through the creation of a responsible and accessible learning environment.

I believe you will find Helena College is an exciting place to explore a variety of career opportunities, to prepare to transfer to a four year college, to develop a diverse range of technical skills, or to simply take a class for personal enrichment. Our carefully designed degrees, certificates, and personal interest courses will prepare you for the challenging world in which we live and for any new horizons you may face in the future.

I am convinced Helena College will prove to be an excellent choice for you and extend a personal invitation to explore the many academic programs, activities, and services that we have to offer.

Sincerely,

Daniel J. Bingham, PhD, Dean/CEO

# General Information

## Mission Statement

Helena College University of Montana, a comprehensive two-year college, provides access to and support of lifelong educational opportunities to our diverse community.

## Core Themes

1. Provide access to and support for high quality educational activities and programs important to a student achieving success.
2. Maintain academic excellence by requiring a high degree of integrity, quality, and reliability in all academic and non-academic programming.
3. Strengthen the community by meeting regional workforce needs, strengthening employee knowledge and skills, providing a bridge to advance degrees, and serving as a facilitator for cultural enrichment.

## Vision Statement

Helena College will be recognized as a responsive regional center of technical and academic education, as a partner in economic and community development, and as a diverse and accessible community of learners. Helena College University of Montana will promote excellence in education; maintain fiscal and operational integrity; and cultivate an environment of fellowship, inclusiveness, and respect.

## Helena College Strategic Plan

**Student Success**

Direction: Helena College develops and offers instructional programs and student services that help students succeed in reaching their goals.

Priorities for action:
- Assist students in balancing life and school demands
- Provide transition services for students from application through graduation
- Develop and evaluate quality educational programs
- Increase access to student resource areas for the varying student populations

**Connect with the Community**

Direction: Helena College builds connections with a broad range of groups to respond to the diverse needs of the community we serve.
Priorities for action:
- Work collaboratively with business and industry, local and state governments, community organizations, and educational partners to accomplish common goals for statewide economic development
- Create communication avenues with the surrounding community
- Fully develop internships and service learning opportunities for students
- Identify and incorporate community interests/business and industry needs in future planning
- Foster faculty, staff, and student involvement in community organizations and events

**Create Access**

Direction: Helena College makes access to higher education possible for the communities we serve.

Priorities for action:
- Develop alternative delivery methods for courses and degree obtainment including distance learning, evening and weekend offerings, and collaboration with other educational institutions to enhance access to higher education
- Lessen the financial burden of higher education through the development and marketing of scholarship opportunities
- Improve access and services to people with disabilities

**Develop Resources**

Direction: Helena College proactively develops its fiscal, capital, technological, and human resources to ensure the effective, efficient management of quality programs and services.

Priorities for action:
- Improve technological infrastructure and services including electronic mail, wireless networks, and computers
- Develop criteria for managing enrollment to sustain the quality of our programs and services, including marketing and development
- Develop staffing and salary structure plans
- Expand the college's fiscal resource base through grants, private funding, and entrepreneurial activities that support college priorities
- Develop public/private partnerships and corporate sponsorship and in-kind donations
- Promote legislative awareness and support
- Support the excellence and growth of college faculty and staff members through professional development programs

## Accreditation, Certification, and Approval

Helena College is accredited by the Northwest Commission on Colleges and Universities, 8060 16th Ave NE, Suite 100, Redmond, WA 98052-3981. The NWCCU is an institutional accrediting body recognized by the Council for Higher Education and the U.S. Department of Education.

In addition, the Automotive Technology program is certified by the National Automotive Technicians Education Foundation (NATEF), the Aviation Maintenance Technology program is approved by the Federal Aviation Administration, and the Practical and Registered Nursing programs are approved by the Montana State Board of Nursing.

All educational programs offered at Helena College are approved by the Montana Board of Regents, United States Department of Education, United States Bureau of Indian Affairs, The United States Department of Veterans Affairs, and the Montana Department of Vocational Rehabilitation Services.

# Adult Learning Opportunities

Dual Credit Courses
On Campus Experience
Access to Success
TRiO Student Support Services
Continuing Education
Online Education

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# Learning Opportunities for High School Students

High school students seeking an early start on earning college credit have a number of opportunities at Helena College through Dual Credit courses, On Campus Experience, and Big Sky Pathways. College Level Examination Program (CLEP) and Advanced Placement (AP) credits are also accepted.

## Dual Credit Courses

Helena College provides dual credit courses for high school students through interlocal agreements across the region with the following districts and high schools: Broadwater County, Drummond, Granite County, Helena School District, Jefferson County, and Three Forks. Dual credit allows students to enroll in courses at their high schools that satisfy diploma requirements and provide college credits applicable towards degree and certificate programs at Helena College University of Montana.

- Dual credit courses are provided at a reduced cost for tuition and fees.
- Earned credits are accepted by the high school and Helena College University of Montana.
- Earned credits can be transferable to other colleges and universities.
- Course availability varies by high school location.
- Certain eligibility requirements apply, and students must satisfy all course prerequisites and placement requirements. (See Admission Requirements beginning on page 11)

Students interested in dual credit courses should contact their high school counselors and the Registrar's Office at Helena College University of Montana, 406-447-6910.

## On Campus Experience

The On Campus Experience Program allows area high school students the opportunity to experience the college environment by taking classes at Helena College University of Montana. Eligible students can start working on a degree or certificate program offered by the college or earn transferable credits towards a four-year degree from the Montana University System.

- Courses are open based upon seat availability one week prior to the beginning of each semester.
- Students pay only the cost for fees, books, and supplies. Tuition is free.
- Students may register for up to seven credits per semester and must satisfy any course prerequisites or placement requirements.
- Students must be 16 years of age, in their junior or senior year, and must provide proof of high school enrollment or participation in a home schooling program.
- Students must submit a Dual Enrollment Application and Registration Form. .

Students interested in participating in the On Campus Experience Program should contact Admissions and Records at 406-447-6910. Course registration opens one week prior to the beginning of each semester.

## Career Pathways

Helena College is a former member of the Central Montana Tech Prep Consortium and presently an active participant in the development of Big Sky Pathways. In conjunction with these efforts, high schools and colleges have partnered to create agreements that provide college credits for certain high school classes related to business and office technology, allied health technology, trades technology, human services, hospitality services, and commercial and graphic arts.

As the statewide efforts in developing and implementing Big Sky Pathways continue, Helena College will recognize new agreements developed through the Pathways. Students should check with their high school counselor for approved Tech Prep classes or contact Admissions and Records at 406-447-6912.

# Access to Success

## A Youth Dropout Recovery/Reengagement Initiative

In an effort to improve options for those students severely at-risk or who have completely dropped out of high school, the Helena School District began an exciting new initiative in the spring of 2008. Bringing together school district personnel, college personnel, and community members to identify the needs of the community was the first step in creating a new pathway called Access to Success. This pathway serves as a model dropout recovery/reengagement program in the Helena community.

Access to Success is a high school diploma completion program with an emphasis on starting a professional certificate or degree in a high wage, high skill, and high demand career area while also completing high school requirements. All coursework is provided in an adult learning environment. The program is housed on the Helena College campus. Eligibility is limited to those between the ages of 16-21 who meet minimum reading levels, who are not currently enrolled in high school, and do not already have a high school diploma. Those not meeting eligibility requirements will be referred to other skill-building programs within the district.

In Access to Success, students have the opportunity to pursue their education in an adult learning environment, while also given the chance to obtain credits that count as dual credit towards their high school diploma and professional certificate or degree. For students meeting the entry level course placement requirements, the option for dual credit will be provided at no cost to the student. The program is funded through a combination of local adult education monies and in-kind match, which includes free tuition and classroom and office space provided by the two-year college.

Students begin Access to Success as part of a small cohort group. Maintaining small class sizes is essential to creating a supportive learning environment. All students begin by taking a course titled "Strategies for Success" while concurrently taking courses required for their high school diploma or career path. Each student will be supported through individual case management and small class size. Students also have access to all the support services provided on the Helena College campus.

This is an exciting program that we feel has great potential. It is our hope that this opportunity will open new doors for those in need within our community.

For more information:

Kari Sutlovich, Case Manager for Access to Success
406-447-6381
kari.sutlovich@umhelena.edu

Helena College (Room 004)
1115 N. Roberts Street
Helena, MT 59601

# TRiO Student Support Services

**CONTACT INFORMATION:**

**TRiO Student Support Services**
**Helena College**
**1115 North Roberts**
**Helena, Montana 59601-3098**
**406-447-6956**
**kendall.may@umhelena.edu**

## Program Description:

TRiO Student Support Services program serves 140 Helena College students at any given time. It is grant funded and services oriented to assist students who are from traditionally underrepresented populations, and who may be considered at-risk, or potentially at risk, in regard to completing a college education. TRiO SSS offers a partnership to its participants in overcoming academic, career, financial, and personal challenges that could hinder college completion.

## Eligibility Criteria:

- Being a citizen or national of the United States, or meeting the residency requirements for Federal student financial assistance.
- Being a degree-seeking student enrolled in a minimum of 9 credit hours per regular semester, or having the objective of completing 18-24 credit hours per year, or being accepted at Helena College University of Montana in the next academic term with the intention of doing one of the two previously mentioned types of attendance.
- Having a need for academic support, as determined by this program through an application process, in order to successfully pursue a post-secondary educational program.
- Being at least one of the following:
     a) First generation college student status (neither parent has a 4-year degree completed);
     b) Income qualified (as described by the U.S. Department of Education guidelines);
        or
     c) An individual with a documented disability (physical, mental, or learning).

## Program Services:

### Academic Advising and Planning:

Participants will receive one-to-one and/or cluster advising from an TRiO SSS staff each semester. Educational information and assessments will be utilized to identify academic needs and addressed accordingly through an IDP (Individualized Development Plan). There will be collaboration with Helena College faculty and staff to provide an "Early Alert Referral" notification to Retention Services and TRiO SSS if a participant is having difficulty in order that the program can assist as an active partner.

### Personal Guidance and Counseling:

Guidance relating to college transition, campus/community resources, social and cultural enriching activities, and general personal concerns is provided by all TRiO SSS. Limited professional counseling is available with a licensed counselor.

### Financial Guidance:

Each participant receives guidance in financial preparation, aid in applications and scholarship/grant letters, etc.

### Tutoring:

Tutoring is available to assist participants with subject difficulties.

### Computer Access:

There is additional computer access available for use by participants in the program area. TRiO SSS computers can be utilized for class research projects, typing papers, etc. Additional assistance can be made available at the participant's request.

### Needs and Skills Development:

Additional services are available to assist each participant as needed.

## Lifelong Learning and Professional Development

Helena College Continuing Education extends the resources of the college by providing a wide range of high quality non-credit training and educational opportunities, developed and delivered in response to the community – for individuals, businesses, and families. Enrichment programs allow individuals to pursue quality education and explore interests through an ever-changing array of short courses in:

- Painting, drawing, creative writing, foreign languages
- Digital photography, basic computers, knife building, welding
- Wildland firefighting, small business class
- Professional development and career training courses and more

Our non-credit professional certificate programs and professional development courses are designed to help each individual reach his/her full potential, whether you are new the workforce, enhancing your current career, or working to meet licensure/certification requirements. Courses are designed to meet industry standards and many prepare you to test for state and national certification. A wide array of our career training certificate courses are offered online while courses such as our Certified Nursing Assistant, Certified Medical Assistant, Pharmacy Technician and Phlebotomy Technician are offered on a traditional classroom setting.

Classes are offered on an ongoing and continuous basis. They range in length from one hour to 30+ hours in duration and may be eligible for college credit or continuing education units. Our courses are affordable and convenient for your lifestyle. We offer evening, weekend, lunchtime and online courses to meet the needs of working professionals and families. For a listing of our current course offerings, view our website at www.umhelena.edu, click on Continuing Education and view the Continuing Education classes. To register for classes, please use our convenient, online registration or call Continuing Education at 406-447-6946.

For more information please contact:

Mary Lannert, Director of Continuing Education
406-447-6944
mary.lannert@umhelena.edu

## Meet   Indulge   Complete

# Online Education

As a student taking an online or hybrid course, you will be able to access your online course content through the Moodle course portal available from the Helena College website.  Moodle is our online learning management system where you will interact with your courses, instructors and peers through discussion forums, assignments, chat rooms, etc.

Once you have accessed Moodle, you will find a variety of drop down menus across the top of the website. 'Moodle Help' offers links to FAQs and tutorials to further assist you with learning and navigating Moodle.

In order to locate your class in Moodle, go to www.umhelena.edu.  Moodle is one of the available icons in the gray bar across the top of the page.

1.  Click on the Moodle icon.
2.  Click on 'NetID Login.'
3.  Enter your NetID and Password.
4.  Click on 'My Courses.'

Delivery methods using Moodle include the following as outlined in BOR Policy 303.7:

* Distance Education is defined as planned learning that normally occurs in a different place from teaching, requiring specialized course design, instructional techniques, communication through various technologies, and special organizational and administrative arrangements. Both synchronous and asynchronous learning are included in this definition.
* Face-to-Face/Enhanced delivery is characterized when instruction occurs in a traditional classroom with face-to-face interaction between the instructor and students, at any local campus or remote site, and includes utilization of technology to enhance the class without reducing student seat-time.
* Internet or Online delivery implies that 100% of the course section is offered completely online and delivered asynchronously, with no face-to-face interaction between instructors and students.**
* Blended or Hybrid learning is designed specifically to be delivered partially online in an asynchronous format and partially through face-to-face (F2F) interaction, typically in the classroom. Both online and F2F interactions are required for the course. This delivery is characterized by the expectation of reduced F2F class meeting time when compared to the equivalent credit classroom course.

**Some online classes may require synchronous (e.g. chat rooms, webinars, etc.) and or onsite learning events (e.g. field trips, testing sites, etc.).  Contact the instructor for more details on a specific class.

All Hybrid (HO) and Online (O) have an associated per credit fee of $12.50 for Hybrid and $25 for Online Courses.

If you need any assistance with online education, please contact Judy Siler, Director of Online Learning.

Donaldson Campus
406-447-6957
406-447-6900

Judy Siler, Director of Online Learning
judy.siler@umhelena.edu

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# Admission Requirements and Procedures
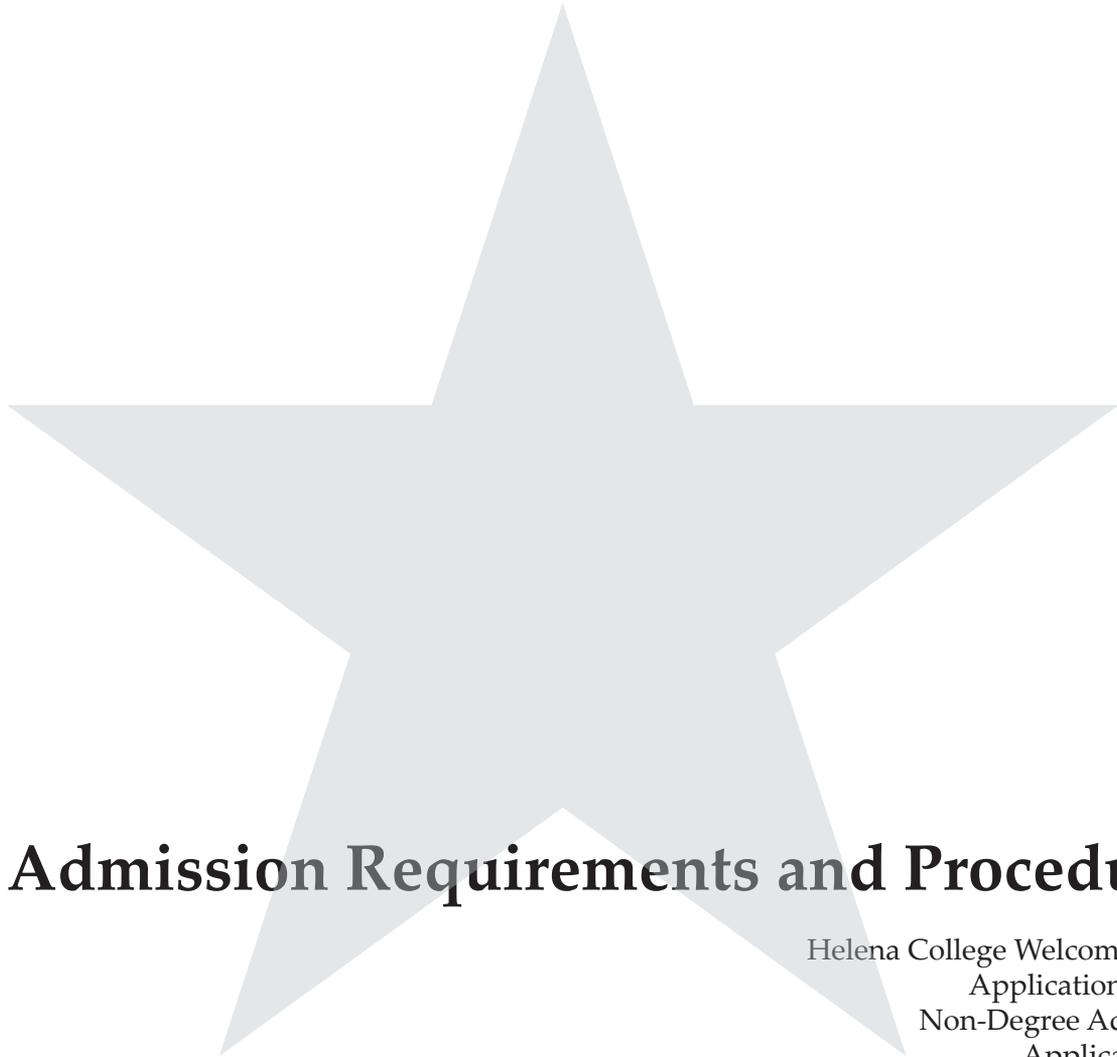
# Admission Requirements and Procedures

**Helena College Welcome Center**

The Welcome Center provides assistance to new and re-admitting students. Prospective students in search of an application, class schedule, information about courses and programs of study, admissions guidance, or who want to check the status of a submitted application may contact the Welcome Center at 406-447-6900. The Welcome Center is located near the main entrance to the Donaldson Campus (Room 101).

**Application Process**

Open admission allows any student who might benefit from a Helena College education the opportunity to enroll in classes. Applications for admission are accepted and processed in the order they are received. The deadline for priority admission consideration is one month prior to the start of each semester and complete applications are due by the initial fee payment/finalization date before the start of each semester. Students are encouraged to apply early, as financial aid is offered and programs are filled on a first-come, first-served basis. Acceptance for admission to the college does not guarantee acceptance or placement in any particular program. Prospective students should review the Program Offerings section of the catalog for specific program requirements. Falsification or willful suppression by a student of any information called for on an application for admission may be grounds for cancellation or denial of admission.

**First-Time and Transfer Admission**

Students who plan to earn a degree or certificate, or enroll in seven or more credits in any one semester need to submit the following information:
1. A completed and signed application for admission.
2. A $30 nonrefundable application fee.
3. Proof of immunization if born after December 31, 1956; proof of age if born before January 1, 1957.
   *(See Immunization section)*
4. Official high school transcripts received from an accredited high school with a graduation date posted, a copy of GED scores, or COMPASS test scores demonstrating ability to benefit. Home-schooled and non-accredited high school graduates will be required to provide GED scores or meet ability to benefit requirements. Students admitted under ability to benefit will not be eligible for financial aid.
5. Official college transcripts, if applicable.

**Non-Degree Admission**

Non-Degree admission is designed for students seeking personal enrichment who do not plan to earn a degree or certificate, do not seek financial aid, and who enroll in six credits or fewer in any one semester. The deadline for non-degree admission/registration is the fifth day of classes each semester. The following information needs to be submitted:
1. A completed and signed application for admission.
2. A $30 nonrefundable application fee.
3. Demonstrated completion of any prerequisites or necessary placement testing.

**Readmission**

Students who have previously attended Helena College as degree-seeking students must reapply for admission if they have been absent from the college for two or more academic semesters (excluding summer). Readmitted students must follow current catalog requirements upon return. The procedure for readmission to Helena College is as follows:
1. Submit a completed and signed application for readmission.
2. Submit official transcripts from all college(s) attended since last attending Helena College, if applicable.
3. If readmission follows academic suspension from Helena College, applicants must submit an academic plan with their application for readmission. Readmission is conditional upon approval of the academic plan by the Admissions Review Committee.

**Application Fee**

A $30 nonrefundable application fee is required of all first-time applicants to The University of Montana campuses, including The University of Montana, The University of Montana College of Technology, Montana Tech, Montana Tech College of Technology, The University of Montana - Western, and Helena College. If a student does not enroll within one calendar year of application fee payment, the application fee expires.

**Orientation**

Orientation is held for all new students before the beginning of each semester. College policies, procedures, regulations, and financial aid information are explained to students. Orientation information is mailed to all accepted students approximately three weeks prior to the orientation session. All degree-seeking students, new and readmitting, are charged a $15 orientation fee. Orientation is mandatory.

# Admission Requirements and Procedures

## Immunizations

All students enrolling in seven or more credits are subject to the following requirements in accordance with Montana state law (ARM 37.114.711):

1. Students born in 1957 or later must provide evidence that they have received two measles and two rubella immunizations, with dose one administered at 12 months of age or later and dose two administered at least 28 days after dose one. No measles vaccination before 1967 is valid. No rubella vaccination before 1969 is valid. As an alternative, students may supply a laboratory report from a CLIA approved laboratory indicating that the student is immune to measles and/or rubella.
2. Student may be conditionally enrolled for an initial term if they have not received the second dose of measles and/or rubella vaccine provided they receive the second dose at least 28 days after the first dose and before the beginning of the succeeding school term.
3. A student may be exempt from the above requirements for medical reasons (ARM 37.114.715) providing the student supplies a statement from a physician (MD or DO) holding a license to practice in the United States or Canada stating: a) The specific immunization that is contraindicated; b) The time period the immunization is contraindicated; and c) The reasons for the contraindication.
4. A student may be exempt from the above requirements for religious reasons providing the student supplies a notarized statement that immunizations are contrary to the student's religious beliefs. This notarized statement must be submitted annually by any student claiming a religious exemption (ARM 37.114.716).

## Placement Assessment

Students must submit COMPASS test scores to assist with placement. A writing sample may be required from students to assist with placement into the appropriate writing course. ACT and SAT scores, the Montana University Writing Assessment (MUSWA), and transferable college credits will also be considered for math and English placement in accordance with Board of Regents policies. Placement testing results demonstrating a need for developmental coursework preparatory to program requirements may require lengthening a student's program of study. Placement test scores older than three years from the time of enrollment are not accepted. Placement testing results are not used to determine a student's admission status to Helena College except as necessary to determine ability to benefit. There is a $15 fee for COMPASS testing. Please call 406-447-6939 to schedule a COMPASS test session.

## Residency Requirements

The Montana University System classifies applicants for admission and current students as either in-state or out-of-state for fee purposes. In general, a person must meet the requirements listed below to qualify for in-state status:

1. A person must be physically present in Montana 12 or more consecutive months without an absence in excess of a total of 30 days. One must demonstrate by appropriate actions during the twelve-month period the intent to make Montana one's permanent home. The required twelve-month period does not begin until specific actions are taken to change legal ties to Montana.
2. An individual must be at least 51% financially self-sufficient during the entire twelve-month period, and that person must not be claimed as an exemption under federal income tax regulations by someone filing an out-of-state federal tax return.
3. A person must have filed a Montana income tax return or have had Montana income tax withheld as required by state tax laws during the twelve-month period.
4. If a person drives a motor vehicle in Montana, he or she must obtain a Montana operator's license within the required legal time limit.
5. If a person owns or operates a motor vehicle in Montana, he or she must license the vehicle in Montana within the required legal time limit.
6. An individual must register to vote in Montana if he or she expects to exercise the right to vote.
7. If an individual chooses to attend any unit of the Montana University System during the twelve-month period of continuous physical presence, he or she must limit enrollment to a maximum of six credits per semester.

There are additional regulations concerning married persons and others with special circumstances. The basic rules for making the classification are found in the *Student Guide to Montana's Residency Policy*, which can be obtained from Admissions and Enrollment Services. Contact Admissions and Records at 406-447-6912.

# Admission Requirements and Procedures

Subject to Board of Regents Policy 940.1, a student may petition for a change in classification status or appeal an initial residency determination. Petitions for reclassification should be directed in writing to the Helena College Admissions Evaluator. The burden of proof, including production of required documentation, is upon the individual seeking reclassification. To be eligible to receive in-state status for a particular term of enrollment, the individual must be eligible for in-state status on or before the 15th instructional day of the term, and the reclassification petition must be submitted by that date. Otherwise, a change in classification is effective on the first official day of enrollment for the first term following the date the petition is received by the admissions office unless the late filing of a Montana individual income tax form is required, in which case the effective date is the date of filing the tax form. An individual may appeal an initial classification decision or a reclassification decision. Any such appeal should be made in writing to the Helena College Registrar and should be accompanied by any written materials the student wishes to submit that are relevant to the classification decision. The final decision by the Registrar may be appealed to the Commissioner of Higher Education, and the Commissioner's decision may be appealed to the Board of Regents. An appeal shall be submitted to the campus administration for transmittal to the Commissioner and must be submitted within 14 calendar days of the final campus decision.

## Western Undergraduate Exchange (WUE)

Students who are residents of Alaska, Arizona, California, Colorado, Hawaii, Idaho, Nevada, New Mexico, North Dakota, Oregon, South Dakota, Utah, Washington, and Wyoming may be eligible to participate in the Western Undergraduate Exchange (WUE) program. If selected, students pay reduced fees which are approximately one and one-half times current resident fees. WUE application materials will be sent to students from participating states. Contact Admissions and Enrollment Services with WUE-related questions. Admissions and Enrollment Services will award available WUE waivers on a first-come first-served basis to qualifying applicants. This award extends to the completion of a student's program or two years, whichever comes first, provided the student: 1) maintains a 2.5 cumulative grade point average; 2) does not change his or her program of study; 3) completes a minimum of 12 credits each semester of enrollment; and 4) does not change his or her state of legal residence. Students who change any of these conditions stated above may lose the WUE award. Appeals will be considered on a case by case basis and should be directed to the Director of Admissions and Records.

## Safety and Security Considerations

Pursuant to Board of Regents Policy 301, Helena College may deny or condition admission, readmission, or continuing enrollment of any individual who, in the judgment of the campus, presents an unreasonable risk to the safety and welfare of the campus and persons thereon. In making such judgment, the campus may, among other things, take into account the individual's history and experience relative to (1) violence and destructive tendencies, (2) behavior at other educational institutions, and (3) any rehabilitative therapy the individual may have undergone. A decision to utilize the authority conferred by this paragraph shall be communicated to the individual in writing. Any such decision may be appealed in writing to the Assistant Dean of Student Services.

## CLEP/AP/CBE Credit

Students may be awarded credits by examination through the following three options:

- **CLEP (College Level Examination Program)**
  Required scores on the respective CLEP exams will warrant full course credit in the equivalent Helena College University of Montana course. Official results must be sent directly from the CLEP Testing Center to Admissions and Enrollment Services.
- **AP (Advanced Placement)**
  A score of 3, 4, or 5 on an AP exam for any equivalent Helena College University of Montana course will warrant the award of full course credit. Official results must be sent directly from the AP testing center to Admissions and Enrollment Services.
- **Credit By Exam**
  Students may receive credit through nationally recognized professional licenses or certificates gained through examinations. Students must be able to provide the original certification document and examples of the curriculum for the certification. The student must verify the certification through his or her advisor and the Registrar's Office. If curriculum and certification can not be verified, the student may be able to show competencies through the challenge process. Students should refer to the Challenge Policy for more information.

A student will receive a grade of "EC" for any credits awarded through CLEP/AP/CBE. The total credits awarded for CLEP/AP/CBE for a student cannot exceed 25% of the credits required for his or her degree.

**Transfer of Credit**

Students who have previously attended a regionally accredited technical school, college, or university may be eligible to receive transfer credits. Upon receipt of an official transcript, Helena College will cooperate with students to make a fair decision with regard to their transfer credits. Students should be aware of the following transfer credit guidelines:

- Courses must be college level, defined as those courses that are applicable toward a certificate, an associate of applied science, associate of arts, associate of science, or baccalaureate degree at their respective institution. In all cases, such courses shall not include remedial or developmental courses.
- Montana Board of Regents Policy 301.5.2 guarantees that coursework completed in the last five years will be reviewed for possible use in a student's specific program of study, and coursework completed in the last fifteen years will be reviewed for possible use to satisfy general education requirements or as elective coursework. The guarantee provides only that courses falling into the relevant time periods will be analyzed for possible use in a student's degree program. It does not guarantee that the courses will be automatically accepted. Further, the policy allows individual Montana University System campuses discretion with regard to consideration of outdated coursework; however, since it is a discretionary decision, it cannot be challenged. The provisions of this policy also govern the evaluation of "outdated" classes that have been completed at Helena College. Students with outdated coursework are encouraged to contact Admissions and Enrollment Services or the appropriate academic department.
- Courses must have been completed with a letter grade of C- or higher, *or* a Pass from a Pass/No Pass grading method *only* if the course would apply to the student's intended program of study. (Students should refer to the Academic Information section for limits on pass/no pass credits.)
- All programs of study require that one-half of the academic credit hours be earned at Helena College.
- Courses accepted for transfer credit will appear on a student's transcript. The credits will be calculated into the total credits earned, but grades earned for accepted transfer credits will not be included in the grade point average (GPA).
- Completion of a student's admission file by the priority deadline, which is one month prior to the first day of classes of the term for which a student has applied, will facilitate the processing of evaluation of transcripts for transfer credit.

Students will be notified in writing of the admission decision, the total number of credits accepted for transfer to Helena College, and the transferability of general education and/or elective credits within ten working days of the receipt of a completed transfer application on or before the priority deadline. Students seeking transfer of credits to satisfy degree and/or certificate requirements must have their official transcripts reviewed by faculty from the appropriate academic program. Students completing their transfer application before the priority deadline will be notified of the transferability of credits towards specific degree and/or certificate requirements no later than the last day to add classes for the intended term of entry.

Students who complete their transfer application after the priority deadline will receive a complete evaluation of their credits for transfer and will be notified of the results prior to registration for the following academic term.

Students wishing to appeal decisions made regarding their transfer credits must submit a signed written request to the admissions office. Appeals with regard to the transferability of credits to satisfy degree and/or certificate requirements will be reviewed by the appropriate program faculty and/or division chair as needed. Appeals with regard to the transferability of general education and/or elective credits will also be reviewed by the appropriate faculty and/or division chair as needed. Students who have submitted their appeal in a timely manner will receive a response and final decision prior to registration for the following academic term.

Students wishing to transfer Helena College credits to another college or university should contact the admissions office at the receiving institution for information and policies concerning the evaluation and acceptance of transfer credits.

Students with questions or who need further information about transfer policies should contact Admissions and Records at 406-447-6912.

# Admission Requirements and Procedures

**Montana University System Transfer Initiative**
To help students plan their transfer within the Montana University System, a transfer initiative was implemented in 2007. The initiative incorporates common course name and numbering to make the transition from institution to institution easier for students. For more information see the MUS Common Course Numbering Transfer Guide online at www.mus.edu. Students wishing to transfer Helena College credits to another college or university should contact the admissions office at the receiving institution for information and policies concerning the evaluation and acceptance of transfer credits.

**Policy of Nondiscrimination**
Helena College is committed to providing all persons an equal opportunity for education, employment, and participation in activities as provided by law. It is unlawful:
1.  To exclude, expel, limit, or otherwise discriminate against an individual seeking admission as a student or an individual enrolled as a student in the terms, conditions, or privileges of the institution because of race, creed, religion, sex, marital status, color, age, physical handicap, national origin, or mental handicap, unless based on reasonable grounds;
2.  To make or use a written or oral inquiry or form of application for admission that elicits or attempts to elicit information or to make or keep a record concerning the race, color, sex, marital status, age, creed, religion, physical or mental handicap, or national origin of an applicant for admission;
3.  To print, publish, or cause to be printed or published a catalog or other notice or advertisement indicating a limitation, specification, or discrimination based on the race, color, creed, religion, age, physical or mental handicap, sex, marital status, or national origin of an applicant for admission; or,
4.  To announce or follow a policy of denial or limitation of educational opportunities of a group of its members through a quota or otherwise, because of race, color, sex, marital status, age, creed, religion, physical or mental handicap, or national origin.

In addition, this facility may not be used in the furtherance of any discriminatory practice, nor become a party to an agreement, arrangement, or plan which has the effect of sanctioning discriminatory practices. Racial or sexual harassment of students or faculty is unlawful.

This policy is in compliance with the requirements of Titles VI and VII of the Civil Rights Act of 1964 as amended, Title IX of the Educational Amendments of 1972, Titles VII and VIII of the Public Health Act, the Rehabilitation Act of 1973, the Americans with Disabilities Act, the Montana Human Rights Act and the Montana Governmental Code of Fair Practices. Helena College is an equal opportunity/affirmative action employer. The catalog, advertisements, and recruitment material will present programs and information in a way to discourage sexual stereotyping.

Helena College shall ensure that the non-discrimination policy, as it affects applicants and students, is published and disseminated. Students who have disabilities should contact Disability Services if accommodations are needed or if obstacles are encountered at Helena College. Students should follow the complaint procedure outlined in the Helena College Student Handbook if they believe this policy of nondiscrimination is not being followed.

# Expenses

2013 - 2014 Fee Schedule
Books and Supplies
Deferred Fee Payment Plan
Non-Payment
Payment of Tuition and Fees
Tuition Refunds

# Expenses

**2013 – 2014 FEE SCHEDULE**

*All fees are subject to Board of Regents approval.*

The Board of Regents had not reviewed this schedule prior to the print date of this catalog – fees are subject to change without notice. Final approved schedules will be available in the Business Services and online on the Commissioner of Higher Education's website. Tuition and fees are based on credit hours and are paid by the student each semester. Different fee schedules are applied for students with WUE residency. Contact Business Services for more information. The $30.00 registration fee is nonrefundable.

| Crs | Reg Fee | Tuition | Bldg Maint Fee* | Comp Tech Fees** | Equip Fee | Aca Fac Fee | Stud Gov | Library Fee | SU Bldg Fee | Res Total | NR Bldg Fee | NR Inc Fee | Non Res Total |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 30.00 | 98.25 | 3.75 | 8.00 | 3.80 | 2.00 | 15.00 | 1.50 | 5.20 | 167.50 | 3.40 | 217.25 | 388.15 |
| 2 | 30.00 | 196.50 | 7.50 | 16.00 | 7.60 | 4.00 | 15.00 | 3.00 | 10.40 | 290.00 | 6.80 | 434.50 | 731.30 |
| 3 | 30.00 | 294.75 | 11.25 | 24.00 | 11.40 | 6.00 | 15.00 | 4.50 | 15.60 | 412.50 | 10.20 | 651.75 | 1074.45 |
| 4 | 30.00 | 393.00 | 15.00 | 32.00 | 15.20 | 8.00 | 15.00 | 6.00 | 20.80 | 535.00 | 13.60 | 869.00 | 1417.60 |
| 5 | 30.00 | 491.25 | 18.75 | 40.00 | 19.00 | 10.00 | 15.00 | 7.50 | 26.00 | 657.50 | 17.00 | 1086.25 | 1760.75 |
| 6 | 30.00 | 589.50 | 22.50 | 48.00 | 22.80 | 12.00 | 15.00 | 9.00 | 31.20 | 780.00 | 20.40 | 1303.50 | 2103.90 |
| 7 | 30.00 | 687.75 | 26.25 | 56.00 | 26.60 | 14.00 | 15.00 | 10.50 | 36.40 | 902.50 | 23.80 | 1520.75 | 2447.05 |
| 8 | 30.00 | 786.00 | 30.00 | 64.00 | 30.40 | 16.00 | 15.00 | 12.00 | 41.60 | 1025.00 | 27.20 | 1738.00 | 2790.50 |
| 9 | 30.00 | 884.25 | 33.75 | 72.00 | 34.20 | 18.00 | 15.00 | 13.50 | 46.80 | 1147.50 | 30.60 | 1955.25 | 3133.35 |
| 10 | 30.00 | 982.50 | 37.50 | 80.00 | 38.00 | 20.00 | 15.00 | 15.00 | 52.00 | 1270.00 | 34.00 | 2172.50 | 3476.50 |
| 11 | 30.00 | 1080.75 | 41.25 | 88.00 | 41.80 | 22.00 | 15.00 | 16.50 | 57.20 | 1392.50 | 37.40 | 2389.75 | 3819.65 |
| 12 | 30.00 | 1179.00 | 45.00 | 96.00 | 45.60 | 24.00 | 15.00 | 18.00 | 62.40 | 1515.00 | 40.80 | 2607.00 | 4162.80 |
| 13 | 30.00 | 1179.00 | 45.00 | 96.00 | 45.60 | 24.00 | 15.00 | 18.00 | 67.60 | 1520.20 | 40.80 | 2607.00 | 4168.00 |
| 14 | 30.00 | 1179.00 | 45.00 | 96.00 | 45.60 | 24.00 | 15.00 | 18.00 | 72.80 | 1525.40 | 40.80 | 2607.00 | 4173.20 |
| 15 | 30.00 | 1179.00 | 45.00 | 96.00 | 45.60 | 24.00 | 15.00 | 18.00 | 78.00 | 1530.60 | 40.80 | 2607.00 | 4178.40 |
| 16 | 30.00 | 1179.00 | 45.00 | 96.00 | 45.60 | 24.00 | 15.00 | 18.00 | 83.20 | 1535.80 | 40.80 | 2607.00 | 4183.60 |
| 17 | 30.00 | 1179.00 | 45.00 | 96.00 | 45.60 | 24.00 | 15.00 | 18.00 | 88.40 | 1541.00 | 40.80 | 2607.00 | 4188.80 |
| 18 | 30.00 | 1179.00 | 45.00 | 96.00 | 45.60 | 24.00 | 15.00 | 18.00 | 93.60 | 1546.20 | 40.80 | 2607.00 | 4194.00 |
| 19 | 30.00 | 1179.00 | 45.00 | 96.00 | 45.60 | 24.00 | 15.00 | 18.00 | 93.60 | 1546.20 | 40.80 | 2607.00 | 4194.00 |
| 20 | 30.00 | 1179.00 | 45.00 | 96.00 | 45.60 | 24.00 | 15.00 | 18.00 | 93.60 | 1546.20 | 40.80 | 2607.00 | 4194.00 |
| 21 | 30.00 | 1179.00 | 45.00 | 96.00 | 45.60 | 24.00 | 15.00 | 18.00 | 93.60 | 1546.20 | 40.80 | 2607.00 | 4194.00 |
| 22 | 30.00 | 1179.00 | 45.00 | 96.00 | 45.60 | 24.00 | 15.00 | 18.00 | 93.60 | 1546.20 | 40.80 | 2607.00 | 4194.00 |
| 23 | 30.00 | 1179.00 | 45.00 | 96.00 | 45.60 | 24.00 | 15.00 | 18.00 | 93.60 | 1546.20 | 40.80 | 2607.00 | 4194.00 |
| 24 | 30.00 | 1179.00 | 45.00 | 96.00 | 45.60 | 24.00 | 15.00 | 18.00 | 93.60 | 1546.20 | 40.80 | 2607.00 | 4194.00 |
| 25 | 30.00 | 1179.00 | 45.00 | 96.00 | 45.60 | 24.00 | 15.00 | 18.00 | 93.60 | 1546.20 | 40.80 | 2607.00 | 4194.00 |

*\* Includes Access Fee of $1.25 and Building Fee of $2.50 per credit*
*\*\* Includes Computer Fee of $3.85 and Technology Fee of $4.15 per credit*

*Students will be charged a $25 per credit fee associated with courses provided by online (O) delivery.*

*Students will be charged a $12.50 per credit fee associated with courses provide by hybrid (HO) delivery.*

*Students enrolled in seven or more credits each semester are required to have and maintain medical insurance while attending Helena College. Please see Enrollment Services for more information.*

*All new students are charged a $12.50 Identification Card fee, and all new degree-seeking students are charged a $15.00 Orientation fee in addition to the above schedule.*

**Additional fees may be charged for students registered in some programs and/or courses. Contact Business Services at 447-6921 for information.**

# Expenses

## Books and Supplies

Books and supplies are purchased on a semester basis. Students should budget approximately $200 - $750 per semester depending on program of study. Textbooks and supplies are available at the bookstore located on the Donaldson Campus at 1115 North Roberts Street. Tools are required by each student entering Automotive, Aviation Maintenance, Carpentry and Construction, Machine Tool, Diesel, and Welding Technology programs. Students should refer to the tool section of the catalog (see pages 169-172).

## Deferred Fee Payment Plan

A deferred fee payment plan is authorized providing that 1) at least one-third of total fees are paid at the time the deferred fee payment plan is initiated, 2) an additional one-third is paid within the first 30 days of the semester and 3) the full amount is paid within 60 days of the beginning of the semester. Tuition and mandatory fees less any financial aid are eligible for deferral. Execution of a promissory note with the terms and conditions of the deferment will be required. This plan is not available for the summer semester or to any person with an outstanding debt to the College. The Deferred Payment Agreement must be renewed in Business Services at the beginning of each semester.

Students participating in this plan will be assessed an administrative charge of $30 each semester. Failure to make scheduled payments will result in a student being ineligible for future deferment and may result in cancellation of a student's enrollment with no refund of payments already collected. A $15 fee will be assessed each time a scheduled payment is late.

## Non-Payment

Any person who owes the College any fees, fines, or other charges will not be permitted to receive a transcript, diploma, certificate, or academic record; to register or attend classes; or to access any College facilities or services until the debt has been paid or satisfactorily adjusted through Business Services. Interest may be charged at the rate of 10% on the balance due from the day after the due date until the full amount has been paid, and any attorney's fees or other costs or charges necessary for the collection of the amount owed may be added to the balance due.

## Payment of Tuition and Fees

After registration, a schedule bill will be available through the student's MyHC web portal. Students are encouraged to review the corresponding Registration Guide for each semester's tuition and fee payment policies and deadlines. Dates and policies are subject to change each semester.

Students must finalize their payment by signing and returning their bill or finalizing on MyHC by the appropriate date, even if their bill reflects a balance of zero or they have an approved third party payment.

If the bill indicates an amount due, a student must arrange for payment on or before the payment due date. Payment may be made on-line at the MyHC web site accessible through the home page at www.umhelena.edu. The online system accepts VISA, MasterCard, and e-Checks. Students must finalize their bill online if they are paying online.

Students may also pay by mailing a check or providing credit card information (VISA, Discover, or MasterCard accepted), including the verification number from the signature line on the back of the card. A signed bill must accompany payment if students are mailing in their payment.

Students may also pay in person at the cashier in the Donaldson Building at 1115 North Roberts. At the cashier, students may pay by cash, check, debit card or credit card (VISA, Discover or MasterCard accepted). Students must bring their signed schedule bill with them when paying in person at the cashier.

*All students must sign and return a schedule bill.*

# Expenses

**Tuition Refunds**

Tuition refunds are made through Business Services subsequent to a student's withdrawal from a course(s). Refunds of fees are authorized according to the following procedures only if the student officially withdraws from the College and/or drops courses in the required manner:

1. The $30 registration fee and the $30 application fee are non-refundable.
2. Class days are determined by the College calendar of instructional days, not by the student's class schedule.
3. Refunds for withdrawal or dropping a class for courses for summer semester are computed on a pro-rated basis.

Withdrawal from school applies only to students dropping all courses: (Registration and Application Fees are non-refundable.)

- 100% of all remaining tuition and fees are refunded before the first class day of the semester or half semester in which the course begins.
- 90% of all remaining fees will be refunded to the end of the 5th day of the semester or half semester in which the course begins.
- 75% of all remaining fees will be refunded to the end of the 10th instructional day of the semester or half semester in which the course begins.
- 50% of all remaining fees will be refunded to the end of the 15th instructional day of the semester or half semester in which the course begins.
- Beginning the 16th instructional day of the semester or half semester in which the course begins, no refunds will be made.

Course drop/adds apply to students making course schedule changes but remaining in attendance at the College:

1. An individual course dropped will be refunded at 100% for the first 15 days of the semester or half semester in which the course begins.
2. Beginning the 16th instructional day of the semester or half semester in which the course begins, no refunds will be made.
3. A processing fee of $10 per request will be assessed to add a course or courses after the 5th day of the semester or to drop a course or courses after the 15th day of classes.

# Student Information
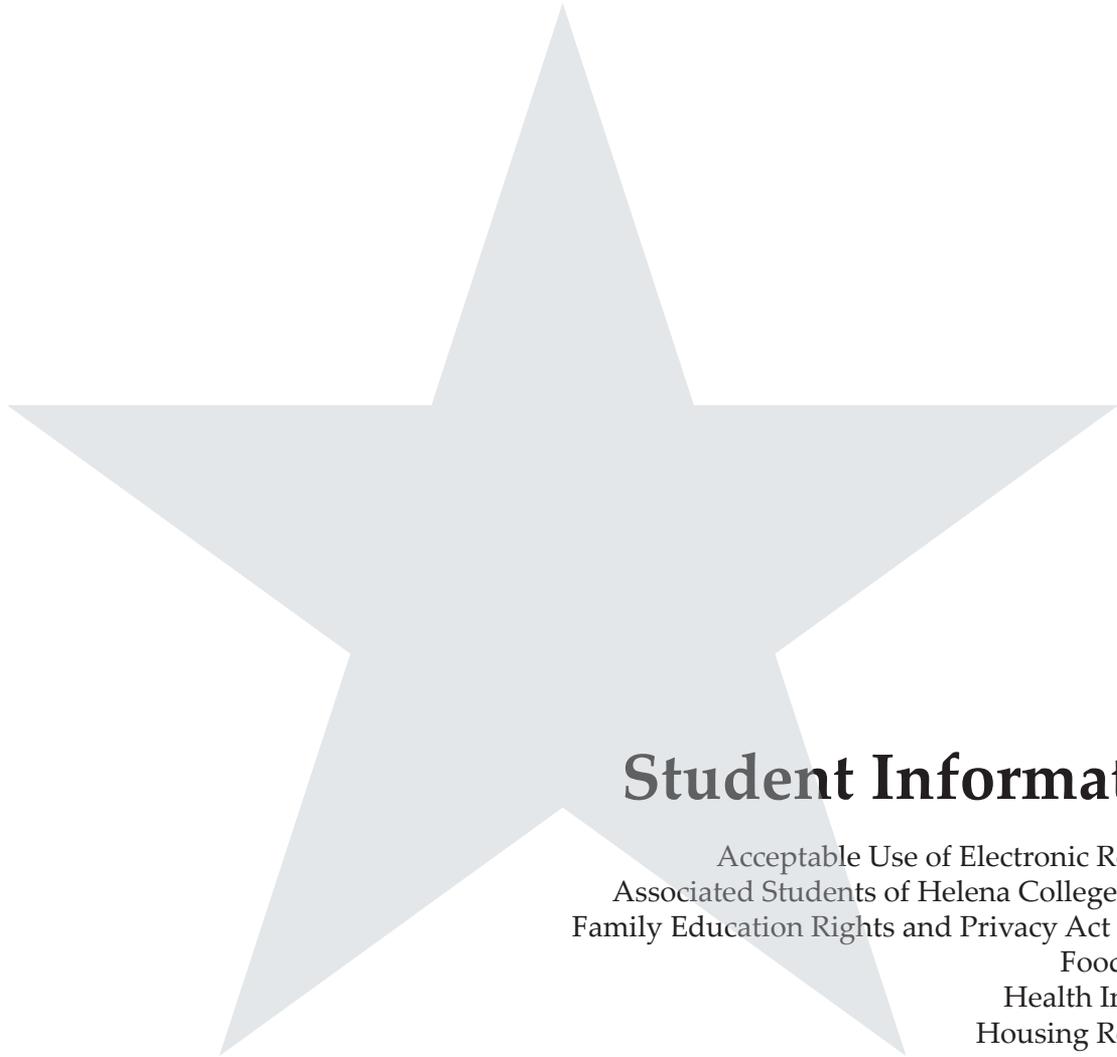
# Student Information

## Acceptable Use of Electronic Resources

As an institution of higher education, Helena College endeavors to develop resources and provide services that meet its students' educational needs. It is within this context that the College provides students with access to computers, along with access to a wide variety of online material.

Students may find some of the material available online to be inaccurate, incomplete, or outdated; they may find other material sexually explicit or offensive. Helena College does not guide, monitor, or censor students' computer research. The College does, however, restrict the use of computers, computer files, or network resources in the following ways:

1. Students are prohibited from violating copyright law and from engaging in theft or file theft with regard to College computers.
2. Students may not use College computers to violate others' privacy, to harass or intimidate others, to send abusive or patently offensive and unwanted material to others, or to interfere with the work of others. As students distribute or make material available to others, they need to be aware of people's sensitivities toward information or graphics that may seem offensive.
3. Students may not deliberately crash, or otherwise impair workstations or computer systems at the College, modify files without authorization, damage files, alter data, introduce viruses, penetrate or harm operating systems, resell bandwidth, or engage in any other illegal acts promulgated from or targeting the College's computers.
4. Students are prohibited from concealing or misrepresenting their names or affiliations to mask irresponsible, offensive, or illegal behavior.
5. Students are prohibited from sharing their Helena College network username and password with other students or family members.

Misuse of computer or network resources may constitute trespass, disruptive behavior, or sexual harassment and will not be tolerated by Helena College. Failure to comply with these guidelines may result in loss of electronic access, expulsion from a course or the College, and/or legal prosecution.

## Associated Students of Helena College

Helena College has an active, dynamic, and involved student organization called the Associated Students of Helena College (ASHC). The goals of ASHC are to help provide the students with a quality educational environment, provide a forum for student expression, promote the general welfare of the college, and establish student activities. ASHC sponsors social activities throughout the year, including barbecues, student contests and competitions, holiday parties, and awareness/fundraising events on behalf of various community service organizations. The organization also uses its funds for the promotion of future projects, clubs, and scholarships.

ASHC is comprised of student representatives from each academic program and all officially recognized student organizations. Representatives are elected by student vote in the spring. Student representatives serve as the main communication link between ASHC and the student body. Representatives bring student suggestions to the organization and keep students informed about student government, school activities, and important campus issues.

## Family Education Rights and Privacy Act (FERPA)

The College interprets and develops procedures for implementation of the Family Educational Rights and Privacy Act (FERPA) of 1974 and Montana Statutes specifically as they apply to the Helena College University of Montana for affording students certain rights with respect to their education records.

### Definition of a Student Education Record

Education records do not include an instructor's or staff's personal notes on a student which are in the sole possession of the maker, employment records (except work-study records), records created or maintained by a physician, psychiatrist, psychologist, or other recognized professionals, library records, and alumni records.

### Rights Afforded to Students under FERPA

Students have specific rights concerning their education record:

1. The right to inspect and review their education record.
2. The right to request amendment of the student's education records to ensure they are not inaccurate, misleading, or in violation of the student's privacy or other rights.
3. The right to consent to disclosures of personally identifiable information contained in the student's education records, except to the extent that FERPA authorizes disclosures without consent.
4. The right to file complaints with the Family Policy Compliance Office concerning alleged failures of Helena College University of Montana to comply with the requirements of FERPA. Written complaints should be directed to:

   The Family Policy Compliance Office
   U.S. Department of Education
   400 Maryland Ave, SW
   Washington, D.C. 20202-5920
   Email: ferpa@ed.gov

# Student Information

## Disclosures Made without Student's Consent

Helena College may disclose student information under the following circumstances in accordance with FERPA:

- To employees with a legitimate educational interest. Legitimate educational interest is defined as needing the records to carry out employee responsibilities.
- To authorized representatives of the United States Comptroller General, Attorney General, Secretary of Education, or state and local educational authorities.
- In connection with the application or receipt of financial aid when the information is necessary to determine eligibility, amount of the aid, determine the conditions of the aid, and enforce the conditions of the aid.
- To another institution where a student seeks to enroll or is enrolled.
- To state and local juvenile justice systems or their officials.
- To organizations conducting educational studies.
- To contractors, consultants, or volunteers providing the institution services.
- To accrediting organizations carrying out their accrediting functions.
- In compliance with a judicial order or lawfully issued subpoena.
- To appropriate parties in an emergency if the information will help assist in resolving the emergency.
- To victims of an alleged perpetrator of a crime, disciplinary records maintained by colleges concerning the alleged crime.
- In connection with a disciplinary proceeding at the college.
- To parents of a student under 21 in connection with alcohol or controlled substances violations at the college.
- If designated as directory information (and the student has not opted out).

Students may request that directory information not be released without their consent. Requests for non-disclosure need to be made through the Registrar's Office. They are in effect the date the student makes the request and will only be revoked if the student requests it in writing. Students should be aware that if they choose this option, Helena College will not provide enrollment or graduation verifications without the student's written consent.

## Disclosure to Parents

In accordance with Montana Statute §20-25-515 MCA, Helena College will not give out information to parents unless the student has provided written permission. If students would like to provide access to their parents, they need to sign a Release of Information Form at the Registrar's Office.

## Disclosure of Records to Students

Helena College requires students to present their picture identification for all transactions. Any student wishing to receive information over the phone will need to fill out a Release of Information Form at the Registrar's Office. Students will be required to know a password and their student identification number to receive information over the phone.

## Disclosure to Potential Employers

Helena College discloses graduation dates and dates of attendance as part of its directory information. Students interested in a specific job reference from a faculty member, including performance in courses, must complete the Student Release for Job Referral/Reference form with the appropriate faculty member.

## Access to Records

Students may access their records by providing a written request to the office where the records are held. The office will make arrangements to provide access to the records within 45 days of the request. Students may not have access to the following records:

- Financial information submitted by parents.
- Confidential letters and statements of recommendation, which the student has waived the right to review.
- Education Records containing information about another student; however, the student will have access to the parts of the record that only concern the student requesting the information.

## Directory Information

Helena College has defined the following as directory information and may release it to the public without notifying the student:

- Name
- Address
- Telephone Number
- Date and place of birth
- Major Field of Study
- Enrollment Status (full-time, part-time)
- Participation in officially recognized activities
- Dates of Attendance
- Degrees and academic awards (e.g. dean's list, honor roll, graduation honors)
- Most recent educational agency/institution attended
- College assigned student email address
- Photographic, video, or electronic images

## Fees for Copies of Records

There is a $3 fee for official academic transcripts. A copy of all other records is provided free of charge.

## Right of Helena College to Refuse Copies of Records

Helena College reserves the right to refuse students copies of their student records, including their transcript, if the student has an outstanding financial obligation to the school or an unresolved disciplinary action against the student.

## Compliance

Students should address questions, concerns, or problems concerning this policy to the Registrar's Office, Donaldson Campus, 1115 North Roberts, Helena, MT 59601.

## Food Service

The Helena College food service is located in the Student Center at the Donaldson Campus and provides breakfast and lunch menus, beverages and snacks, Monday through Friday when class is in session during the academic year. Daily specials and a limited selection of vegetarian options are available. Menus and daily specials can be found on the Helena College website and in the *Helena College News*, the campus' weekly electronic bulletin. The food service accepts cash, credit cards, and checks made payable to Helena College for the amount of purchase only. Vending machines are located in the Student Center at the Donaldson Campus and in the Student Lounge on the second floor at the Airport Campus.

## Health Insurance

Students enrolled in seven or more credits each semester are required to have and maintain medical insurance while attending Helena College. The college makes coverage available for students through the Montana University System Student Insurance Plan (MUSSIP) provided by Blue Cross Blue Shield of Montana (BCBSMT). The insurance plan is available to all students taking a minimum of seven credits. The insurance plan provides major medical and prescription coverage including but not limited to hospitalizations, outpatient surgery, and emergency services. The plan does not cover vision or dental. High school students participating in dual enrollment programs are not eligible for the insurance plan.

The student insurance plan is elected or waived during registration for the fall and spring semesters and students must purchase or refuse the coverage each semester by the 15th day of instruction. Students having major medical insurance coverage may waive the student insurance plan. Coverage begins on the first day of the semester provided that payment is made as required within the enrollment period. Students who elect coverage and then withdraw for nonmedical reasons or drop below seven credits before the 15th day of instruction will receive a full refund of the premium cost for that semester. There are no refunds after the 15th day of instruction. Students who withdraw or drop below seven credits after the 15th day of instruction will be fully charged for and covered by the student insurance plan for the duration of the policy period applicable to each semester. Students will not be allowed to enroll in the student insurance plan after the 15th class day unless proof is furnished that the student was dropped from his or her other insurance coverage during the 30 days immediately preceding the date of the request to join the student insurance plan. In such cases, the premium will not be prorated, and the cost will be the same as the beginning of the semester. Plan coverage and premium costs are published each academic year in the MUSSIP campus brochure and on the Helena College and BCBSMT websites. For more information visit www.umhelena.edu, www.bcbsmt.com or contact the Assistant Dean of Student Services at 406-447-6903

## Housing Resources

Helena College is a non-residential campus. Apartment rentals in the Helena area average $500 - $800 per one/two bedroom apartment. The College's housing brochure offers some tips on finding housing as well as helpful contact information for newspapers, apartment finders, housing complexes, and child care. A Housing Bulletin Board is also maintained in the Welcome Center at the Donaldson Campus. Students are encouraged to consult the classified advertising section of the *Helena Independent Record* which can be accessed online at www.helenair.com.

## Library

The library, located on the Donaldson Campus, provides resources and access to information in support of the College's programs. A variety of media formats and access is offered to complement instruction and encourage learning in all program areas, as well as to provide reading and listening materials for enjoyment and lifelong learning.

The library houses over 9,000 titles, two daily newspapers, and many magazines reflecting the diversity of programs at the College. The virtual library website (http://umhelena.edu/library) provides online access to articles from periodicals (magazines, journals, newspapers), reference sources, best sellers, and audio books. All electronic resources are available from home or other off-campus locations.

In addition to the collection, the library provides computers/printers-with Internet access, group and quiet study areas, a photocopier, and a reference section. Professional library staff are available for individual assistance or group instruction.

The library has reciprocal borrowing agreements with local libraries and access to libraries throughout Montana and other states via the Montana Library Network and WorldCat, a nationwide database of library collections. Free interlibrary loan is available on request.

# Student Information

## Montana Campus Compact

Helena College is a member in good standing of The Montana Campus Compact. Through this affiliation, Helena College has shown its commitment to civic engagement by students, faculty, and staff.

The Montana Campus Compact is a coalition of college and university presidents, chancellors, and deans committed to fostering the values and skills of citizenship in Montana students through active involvement in civic engagement activities. To meet this goal, The Montana Campus Compact works to:

- Award student scholarships, faculty grants, and resources to member campuses to support civic engagement activities;
- Organize conferences, forums, and workshops to develop civic engagement initiatives;
- Foster partnerships between campus, business, community, and government leaders;
- Provide timely research and service related to its member campuses; and,
- Assist in state legislation promoting public and community service.

Students interested in finding out more about Campus Compact opportunities at Helena College should contact Alan Thompson, Career Services Coordinator, at 406-447-6941.

## Parking

Permits are required in all Helena College parking areas. Permits are obtained by application from the Cashier's Office at the Donaldson Campus for a $15 fee and are valid for each academic year. Temporary permits good for one day are also available from the Cashier's Office. Parking permits must be displayed so that they are clearly visible from the outside of the vehicle. Citations for unpermitted vehicles are $10, and in the event a vehicle is towed the owner will be responsible for a minimum $75 impoundment fee. Penalties for violation of handicapped parking laws will be applied to the fullest extent of the law.

## Handicapped Parking

Everyone who parks in handicapped parking in the Helena College parking lot must purchase a Helena College parking permit for the school year. Parking permits are $15 at the cashier's window.

You must register your handicapped parking permit with the Administrative Assistant to the Academic Dean within the first two weeks of classes. Please have the following documentation available:

- your handicapped permit
- your identification
- your Helena College parking permit

It is against the law to use anyone else's handicapped parking permit. This law also applies to disabled veteran plates.

You must use the vehicle to which your parking permit applies.

If you park illegally in any part of the handicapped parking stalls or ramps, you will be ticketed appropriately. If it happens again, your vehicle could be towed, and you would be responsible for recovery expenses.

If you believe that someone is parked illegally in a handicapped parking space, please contact the Administrative Associate to the Academic Dean at 447-6929 or Gary Frankforter at 447-6936.

## Parts and Supplies (Airport Campus)

Mechanical parts and technical supplies necessary for trades programs are available from the parts department located in Room 105 at the Airport Campus. All parts and materials for assigned projects must be ordered through the parts department. Invoices will be posted to the work order at a 20% mark-up above the cost to the College. Personal work done by students must also have assigned work orders; however, the College is not liable for any personal work performed by students.

## Personal Property Responsibility

Each student is responsible for his or her own personal property brought on campus, and students are encouraged to provide adequate security for their possessions. Any theft or damage to personal property should be reported to campus maintenance.

# Student Information

## Student Handbook

The Helena College Student Handbook is intended to provide students with basic information about services as well as policies and procedures related to student rights, responsibilities, and conduct as members of the campus community. The handbook is published each academic year and includes a weekly calendar planner. Student handbooks can be obtained at orientation programs or from Enrollment Services, the Advising, Learning, and Career Center (ALCC), or the college bookstore. They are also available online at the college website, www.umhelena.edu.

## Student Information Change

Students may change their address and phone number through the online student information system "MyHC" on the Helena College website. Students may also make the change by completing a "Name and Address Form" at the Registrar's Office.

## Student Name Change

A student who needs to update his or her name needs to complete the "Name and Address Form" at the Registrar's Office. Valid proof of the name change will need to be presented at the time the form is completed. Examples of proof include a marriage certificate or an updated Social Security Card.

## Student Records and Transcripts

Student records are only released with a written request from the student. The request must include the student's signature, dates of attendance, student ID or SSN, and information on where the transcript should be sent. There is a $3 fee for official transcripts. Requests for transcripts may be sent to Helena College with a check, money order, or credit card, to the following address:

> Registrar's Office
> 1115 North Roberts
> Helena, MT 59601

Transcripts may also be ordered online through the Helena College website at www.umhelena.edu.

Students attending Helena College after school year 2000 can access their unofficial transcripts through our website by clicking on "MyHC" and logging into a secure area.

Transcripts/Diplomas are withheld if a student owes a debt to the College or has not completed Loan Exit Counseling.

## Student Code of Conduct

The Student Conduct Code embodies the ideals of academic integrity, honesty, and responsible citizenship. It governs all academic work and student behavior at Helena College. The principles and policies that make up the Code set forth the standards of acceptable student conduct, disciplinary sanctions, and procedures to be followed in adjudicating charges of both academic and non-academic misconduct. For information regarding student rights and responsibilities, conduct code, and due process, please refer to the current Helena College Student handbook or contact the Assistant Dean of Student Services at 406-447-6903.

## Student Support Services

### Advising and Academic Assistance

The Advising, Learning, and Career Center (ALCC), located in Donaldson Campus Room 139, provides academic and personal support to enable students to succeed in college. The center provides placement testing, advising, and academic support. Academic advising available in the center includes initial and ongoing academic advising, transfer information, career planning, and academic success strategies. For appointments or for services offered in the Advising, Learning, and Career Center, students can call 406-447-6939. Walk-ins are welcome.

### Career Services

Career Services helps students gain skills and information to secure employment. The Career Services Coordinator provides workshops and individual counseling assisting students with exploring career choices, resume writing, and interviewing. Placement after graduation is not guaranteed and is influenced by the economy, occupational demand, student aptitudes, and academic records. Students interested in obtaining assistance with employment should contact the Career Services Coordinator at 406-447-6941. More information can be found on the Career Services page of the College's website: http://umhelena.edu/current/career/default.aspx.

### Counseling

Short-term personal support is available to students who are experiencing difficulties that may be interfering with their educational progress. The emphasis is on clarifying choices, handling difficult situations, and accessing community resources. Appointments with a licensed counselor can be made through the Office of Disability and Veterans Resources located in Donaldson Campus Room 119.

**Learning Center**

The Learning Center supports academic programs at the College. Students will find a computer lab for their use that includes various software applications and printing capability, as well as peer and faculty tutors who offer free tutoring in most academic areas of the College. All instruction is designed to meet the specific learning needs of each student. Study skills and other student-based workshops can be offered through the Learning Center for faculty upon request. These services are housed in the Advising, Learning, and Career Center (ALCC) in Donaldson Campus Room 139, which is staffed by tutors in the fall and spring semesters as well as during summer sessions, subject to availability and funding.

**Disability Resources**

Services for students with disabilities are provided at Helena College under the guidelines of Section 504 of the Rehabilitation Act of 1973 and the Americans with Disabilities Act of 1990 (as amended). Access to the College's programs and facilities is provided for all qualified students, and discrimination based on disability against any student is specifically prohibited under these laws. Services are housed in the Office of Disability and Veterans Resources on the Donaldson Campus, and students are encouraged to contact the Director of Disability Resources as early as possible to plan for possible accommodations. Accommodated testing is also available in this area. It is the student's choice to disclose any disability as well as his or her responsibility to request accommodations. Certain persons with disabilities may qualify for educational assistance through Montana Vocational Rehabilitation and should contact that office at 406-444-1710 for more information. All documentation related to the Helena College student's disability is kept in separate and confidential files in the office of Disability Resources, although it is still part of the student's educational record. More information can be found on the Disability Resources page of the College's website: http://umhelena.edu/current/disability/default.aspx. Students may also want to call 406-447-6952 for information.

**Veterans Education Benefits**

Veterans Resources, located in room 119, serves as a liaison between the college and the Veteran's Administration. Applications for Veteran's benefits are obtained online at www.gibill.va.gov. The Veteran Resources Program Coordinator can be contacted at 1-406-447-6953. More information can be found at http://umhelena.edu/veteran.

The Veterans Administration expects veterans to make satisfactory academic progress and pursue a final objective. All veterans and eligible persons receiving benefits are required to report promptly when they drop or add courses, or withdraw completely.

A Veterans Fee Waiver may be available for veterans who have exhausted their chapter benefits. Students should contact the Financial Aid Office for further information.

**Higher Education Assistance (HEA) and Tribal Grants**

Native American students may be eligible for need-based grants from the HEA or the student's tribe. For more information, students should contact the Tribal Educational Specialist.

Note: All benefit information must be reported to the Financial Aid Office.

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# Academic Information
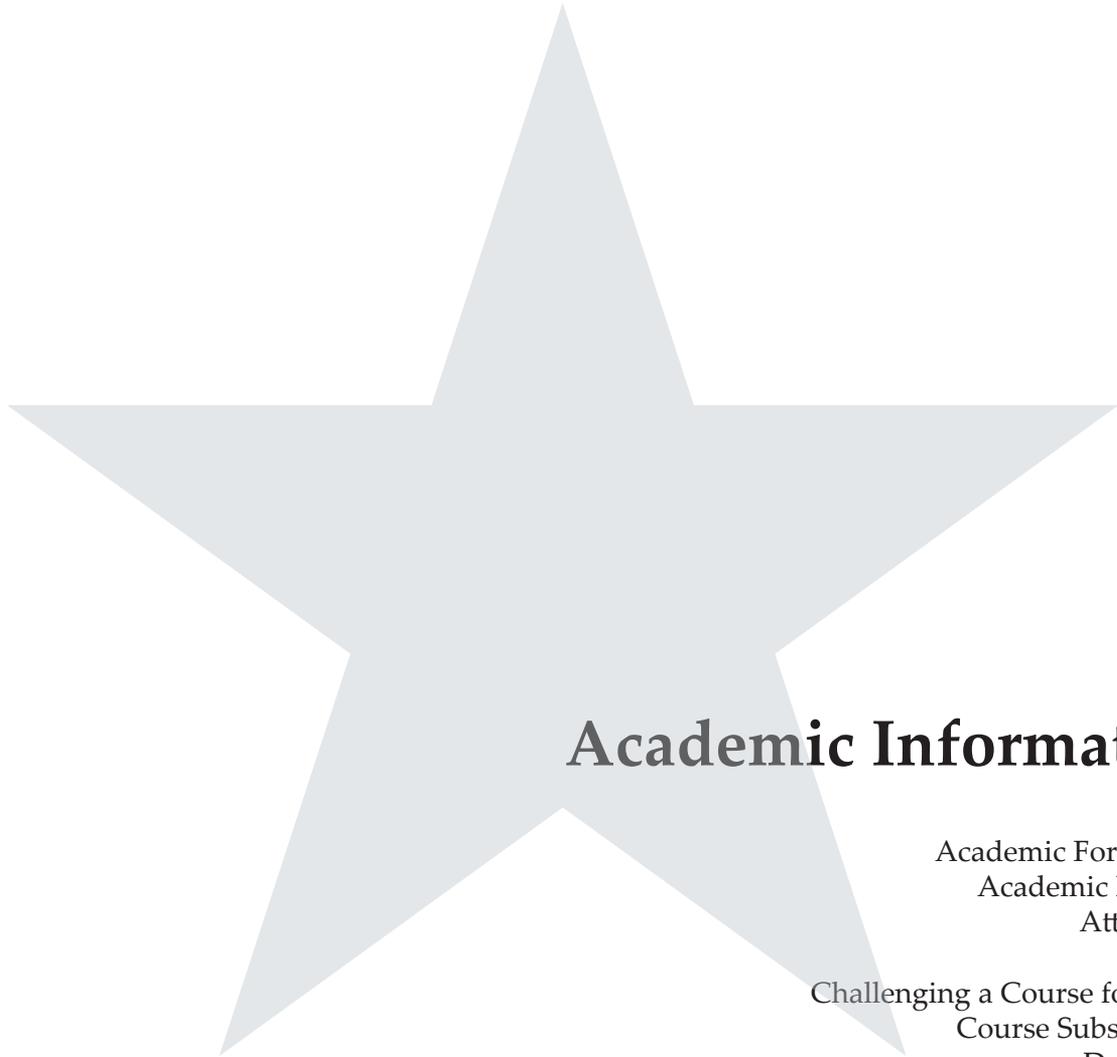
# Academic Information

## Academic Forgiveness

- A Helena College student, seeking his or her first undergraduate degree, and who returns to the College after a minimum absence of three years, and has not attended any other college or university is eligible for Academic Forgiveness.
- Academic Forgiveness allows a student who has met the requirements in statement #1 to return to Helena College and continue the pursuit of a degree or certificate without penalty from previous academic attempts.
- Receiving Academic Forgiveness for previous semesters results in all credits and grades for up to two semester be excluded from the student's GPA calculation; semesters do not need to be consecutive  A student will not be allowed to select specific grades and credits to be retained while excluding others earned.  The excluded courses and grades will remain on the student's official College transcript; however, they may not be used to fulfill any university requirements.
- Only Helena College University of Montana grades and credits will be excluded; any transfer courses previously applied to the student's transcript will remain.
- A student will be granted Academic Forgiveness only one time during his or her academic career with Helena College University of Montana.
- Any student who receives Academic Forgiveness will be bound by the College Catalog in effect at the time of the return to Helena College or any subsequent catalog in accordance with College policy.
- A student wishing to apply for Academic Forgiveness will contact the Registrar's Office for the appropriate form. The Registrar's Office will be responsible for verifying eligibility and notifying the student of approval.

## Academic Integrity

Helena College expects its students to adhere to a high standard of academic integrity. It is a violation of academic integrity to present the ideas, designs, or works of another person as one's own efforts or to permit another person to do so. The following guidelines are intended to clarify these issues for students, faculty, and administration.

The College will regard the following acts as violations of academic integrity constituting academic dishonesty:

**Plagiarism** - A student will be considered in violation of academic integrity if he or she submits an assignment, whether written, oral, graphic, or computer-generated, which consists wholly or partially of the words, work, or ideas of another individual without giving the original author proper credit.

**Copying** - A student will be considered in violation of academic integrity if he or she uses crib notes, cheat sheets, books, or any other material or electronic device as aids in an examination or any other graded exercise, unless the instructor of the class has given permission to use such materials**.** Collaboration with another student on an examination or other graded exercise, unless the instructor has given permission, also constitutes copying.

**Contributing to Academic Dishonesty** - A student will be considered in violation of academic integrity if he or she willfully assists another student in an act of academic dishonesty.

Academic dishonesty will not be tolerated.  Academic sanctions for a first violation are at the discretion of the instructor and range from a failing grade for the particular instance to a failing grade in the course in which academic dishonesty occurs. When a faculty member assigns a failing course grade on the basis of academic dishonesty, he or she shall assign a grade of "FX."  The student may petition the Registrar's Office by letter to remove only the "X" portion of the grade after successfully completing an Ethics course with a grade of "B" or better from any accredited college within three academic years of the original failure. Retaking the failed course does not remove the "F" or "FX" designation from the transcript.  A student may not represent the College in any official manner nor hold a student government office with an "FX" grade.

Faculty must report all violations of academic integrity to the student involved, the appropriate Department Chair(s), and to the Associate Dean/Academic Affairs; in cases of repeated offenses, the Associate Dean/Academic Affairs will recommend disciplinary sanctions that may result in expulsion from the College.  Students retain their right to due process and may refer to the Student Handbook or the Assistant Dean of Student Services regarding any academic or disciplinary sanctions.

# Academic Information

## Class Attendance/Absence

If a student who knows s/he will be absent during the first week of class does not contact the instructor in advance, s/he may be subject to being dropped for non-attendance.

Students are expected to attend all class meetings and complete all assignments for courses in which they are enrolled. Instructors may excuse brief and occasional absences for reasons of illness, injury, family emergency, religious observance or participation in a College sponsored activity. (College sponsored activities may include required course field trips, SGA service, or other institutionally supported service.)

Instructors must excuse absences for the following reasons: military service, mandatory public service (court appearance, jury duty), emergency medical attention of self or immediate family member and/or death of immediate family member. To petition for an excused absence, the student must provide the necessary documents no later than 5 days following the absence to the Assistant Dean of Student Services for review. If the absence is found excusable, the faculty will permit the student to submit any missed work in a reasonable and agreed upon time frame and without penalty.

Instructors may establish absence policies to conform to the educational goals and requirements of their courses. Such policies will be set out in the course syllabus. Customarily the course syllabi will describe the procedures for giving timely notice of absences, explain how work missed because of an excused absence may be made up, and stipulate any penalty to be assessed for absences.

Helena College encourages the faculty to accommodate students incurring an excused absence by allowing them to make up missed work when this can be done in a manner consistent with the educational goals of their courses. Students expecting to incur excused absences should consult with their instructors early in the term to be sure that they understand the absence policies for each of their courses.

## Students Called to or Volunteered For Active Duty

Service members called to or volunteering for active duty missions will be granted the following:
1. If the student meets ¾ of the term, they will receive their grade as it stands at the ¾ mark.
2. If the student does not reach the ¾ point of the term, they will be backdated out of the tem and all Tuition Assistance paid will be reimbursed to the entity that paid it.
3. Upon return from active duty, the student will be able to continue with their degree pursuit as if they had never left the institution.

## Audit

With the consent of the instructor, a student may enroll in a course for no credit (audit). Auditing students pay the same fee as students enrolled for credit. Auditors are not expected to complete course work as students who are enrolled for credit, nor will they take tests. Audit enrollments will not count toward financial aid or degree completion requirements. Students must inform the Registrar's Office within the first 15 instructional days of the course.

## Challenging a Course for Credit

A student who has completed course work through prior learning or non-accredited learning experiences has the option of earning college credit by challenging designated courses. The challenge must be completed within the first 10 instructional days if the course can be challenged. It is important to note that not all courses can be challenged. The instructor will determine if the student's previous course work and/or experience supports the challenge request. The request must be approved by the Department Chair or a full-time faculty member and then validated through the Registrar's Office. The exam must be completed with a grade of "B" or better in order to receive credits for the course. A grade of "CH" will be placed on the student's transcripts with successful completion of the examination. The grade received for the challenge does not affect the student's GPA. A student receiving a grade of "F," "NP," or "W" in a class at the College may not subsequently challenge the course. A $25 per credit fee will be charged for the challenge exam. Challenged credits will not count towards financial aid. A student can not challenge more than 25% of the credits required for his or her degree.

## Course Substitutions

Students are required to complete all program courses in order to be awarded their degree or certificate. Helena College does allow course substitutions when there is a compelling reason to do so. A course substitution must uphold the integrity of the degree. For more information on the procedure for substituting a course, students should see the Registrar's Office or their faculty advisor.

## Dean's List

To qualify for the Dean's List, the student must earn a semester GPA of 3.5 or higher while earning 12 or more semester credits. (P/NP and developmental class credits are not included as earned credits for purposes of determining Dean's List standing.) Grades of "D," "F," or "NP" are not allowed. The student and his or her hometown newspaper will receive written notification of the award, and it will appear on his or her transcript for that term.

# Academic Information

## Drop/Add Classes

Students registered for fall or spring semesters and attending classes may drop or add classes during the first 15 instructional days of the semester. The student must initiate the drop/add process which can be done online for the first five days for adding classes and for the first 15 days for dropping classes. After the online drop/add window has passed, a drop/add form must be completed and returned to the cashier along with a $10 processing fee. If a student drops a class AFTER the first 15 days and prior to three weeks before the end of the course, a "W" (withdraw) will be given. Students cannot drop a class during the last three weeks of the semester and will receive a letter grade from the instructor based on coursework completed. Drop/adds are not used to withdraw completely from the College. Drop/adds for summer semester courses are computed on the same ratio stated above for hours attended to total course hours; the registration guide outlines summer deadlines.

## Evening/Saturday Classes

A variety of late afternoon and evening classes are offered based upon the needs of the community and Helena College students. These classes are available after 5 p.m., Monday through Thursday, and 9 a.m. to 4 p.m. on Saturdays. Applicants interested in classes may contact the Helena College Welcome Center.

## Grades and Grade Point Averages (GPA)

Student evaluation is reported at the end of each semester. Students may access their final grades online through "MyHC." A student's level of academic performance is determined through the calculation of a grade point average (GPA). The grade-point average is determined by dividing total grade points earned by the number of credits carried. Students may access their grades and GPA through "MyHC" on the Helena College website. The meaning of each grade and its value in grade points is as follows:

| Grade | Quality of Work | Grade Points |
|---|---|---|
| A | Excellent | 4.00 |
| A- | | 3.67 |
| B+ | | 3.33 |
| B | Above Average | 3.00 |
| B- | | 2.67 |
| C+ | | 2.33 |
| C | Average | 2.00* |
| C- | | 1.67* |
| D+ | | 1.33 |
| D | Passing | 1.00 |
| D- | | 0.67 |
| F | Failing | 0 |
| NF | Never Attended | 0 |
| FX | Failing (Academic Dishonesty) | 0 |
| AUD | Audit | N/A |
| EC | Credit by Exam (AP/CLEP) | N/A |
| I | Incomplete | N/A |
| MG | Missing Grade | N/A |
| NP | No Pass | N/A |
| CH | Challenge/Pass | N/A |
| P | Pass | N/A |
| R | Following a Traditional Grade | N/A* |
| TP | Tech Prep | N/A |
| TR | Transfer Course | N/A |
| R | Retake | N/A |
| SL | Service Learning | N/A |
| W | Withdraw | N/A |

*A "R" following a traditional grade is used for courses numbered below 100 level. These courses are not counted in the GPA.**

**In order to graduate, students must:**

1. Earn a minimum grade of "C-" in each class used to meet the prerequisites or program requirements *and*
2. Maintain either:
   a) a minimum 2.00 cumulative GPA
      (for students seeking Associate of Applied Science Degrees) *or*
   b) a minimum 2.25 GPA
      (for students seeking Associates of Arts or Associate of Science Degrees) *or*
   c) a minimum 2.5 GPA
      (for students seeking an Associate of Applied Science or an Associate of Science in Nursing)

## FINAL GRADE APPEAL

Every student has the right to appeal the final grade in a course, in accordance with the stipulations outlined below. Such an appeal must be initiated by the student no later than fifteen (15) working days after grade is posted.

### SECTION A

Preliminary Procedure:
Student initiated INFORMAL Process

1. Discuss the matter with his/her instructor. Clerical errors are usually handled in this manner, with the instructor signing the correction of official records. If the student believes the problem is not resolved, the student shall then;
2. Visit with the appropriate instructional supervisor to discuss the issue. If the concern still remains unresolved, the student may;
3. Elect to file a formal written Grade Appeal with the Associate Dean of Academics for referral to the Peer Review Committee. A formal Grade Appeal may not be filed until steps 1 and 2 above have been completed. It is recommended that students present documentation that may shed light on the appeal.

**SECTION B**
Grade Appeal Stipulations:
FORMAL PROCESS

A formal Grade Appeal may be filed if:
1. There is a dispute over the numerical calculation of the grade OR
2. The grade assigned appears arbitrary and not indicative of the student's performance.

Faculty Peer Review Committee
Upon receipt of a student's written Grade Appeal, the Associate Dean of Academics shall then convene a hearing of the Peer Review Committee.

The Assistant Dean of Student Services will serve as Chairperson and is a non-voting member.

1. The Peer Review Committee shall consist of one administrator and four faculty members as follows:
    a. Four faculty members shall be selected by the Associate Dean of Academics, two from the Airport Campus and two from the Donaldson Campus.
2. The student who has filed the appeal must be in attendance.
3. The involved faculty member may attend or send written comments at her/his discretion.
4. The institutional Registrar may be invited to the hearing as a non-voting resource.

The purpose of the Peer Review Committee is to determine if a mistake has been made, and if so correct the error. However, if the Peer Review Committee finds the faculty member has acted arbitrarily, the Committee shall then make a recommendation to the Associate Dean of Academics who will have final decision authority.

**IN-PROGRESS GRADE APPEAL**
Every student has the right to appeal a grade while the course is in progress, in accordance with the stipulations outlined below. Such an appeal must be initiated by the student no later than TEN working days after graded work is delivered or post. It is important to note there is NO FORMAL PROCESS for appealing a grade while the course is in progress.

SECTION A
Preliminary Procedure
Student initiated – INFORMAL Process

1. Discuss the matter with his/her instructor. Clerical errors are usually handled in this manner, with the instructor signing the correction of official records. If the student believes the problem is not resolved, the student shall then;
2. Visit with the appropriate instructional supervisor to discuss the issue. If the concern still remains unresolved, the student must wait to;

3. File a formal written Grade Appeal with the Associate Dean of Academics for referral to the Peer Review Committee AFTER the final grade for the course has been posted. A formal Grade Appeal may not be filed until steps 1 and 2 above have been completed. It is recommended that students present documentation that may shed light on the appeal.

**Graduation**
In accordance with Montana Board of Regents Policy 301.5.3, students must earn a "C-" or higher in all classes that are used to satisfy the prerequisites or requirements for a major, minor, option, or certificate. Although credit is earned for a "D" grade, that course will not count towards graduation.

In the semester before a student plans to graduate, a student must meet with his or her advisor and submit an Application for Certificate or Degree to the Registrar's Office. The Registrar has final authority on the approval of graduation applications.

Students neglecting to submit an Application for Certificate or Degree will not be awarded a certificate or degree. Any student applying for a certificate or degree must pay a $25 fee. If applying for more than one certificate or degree, a fee is required for each application. Certificates and diplomas will be withheld if a student owes a debt to the College.

Students will be awarded a certificate or degree upon satisfactory completion of the program requirements. Half of the coursework required for the degree must be completed at Helena College University of Montana.

A graduation ceremony is held every May. Fall and spring graduates of the corresponding year are invited to attend the ceremony. Summer graduates may attend the corresponding spring graduation. Caps, gowns, and announcements are available through the Bookstore.

**Catalog Governing Graduation**
A student's governing catalog is the Helena College catalog in effect at the time of initial enrollment as a degree-seeking student as long as the student has been continually enrolled. A student may also elect to graduate from any subsequent catalog. If a student is absent for one or more semesters, the catalog in effect at the time of readmission governs the student's graduation requirements. Students must complete all program requirements within six years of enrolling. Students who have not completed requirements in six years will be advised into the catalog in use at the time of graduation.

In case of changes in the student's program, Helena College reserves the right to determine appropriate substitutions. If a program is eliminated, Helena College will determine an appropriate phase-out process for current students.

# Academic Information

## Graduation Honors

Academic honors awards are acknowledged for A.A., A.S., and A.A.S. degrees at spring graduation. Calculation for these honors is the cumulative GPA at the end of the semester prior to graduation. Students with a cumulative GPA of 3.5 - 3.99 at the end of the semester prior to graduation receive the Honors Academic Award. Students with a cumulative GPA of 4.0 at the end of the semester prior to graduation receive the Highest Honors Academic Award.

## Incomplete

An incomplete ("I") grade may be given with the approval of the Registrar's Office when, in the opinion of the instructor, there is a reasonable probability that students can complete the course without retaking it and without instructor participation. The incomplete grade is not an option to be exercised at the discretion of the student and is given only in cases of extreme personal hardship or unusual academic situations.

Eligibility for an incomplete is determined within the following guidelines:
1. An incomplete may be assigned to a student when he or she has been in attendance and doing passing work up to three weeks before the end of the course, and for reasons beyond his or her control, he or she has been unable to complete the requirements on time. Negligence, indifference, or excessive absences are not acceptable reasons.
2. The instructor will set the conditions for completion of the coursework. When these conditions have been met, the instructor will assign a grade based upon an evaluation of the total work done by the student in the course.
3. An incomplete ("I") which is not made up during the next regularly scheduled semester will automatically convert to a grade of "F."

## Outdated Coursework

In accordance with Board of Regents Policy 301.5.2, Helena College uses the following guidelines for evaluating previous coursework taken at Helena College:
- Courses specific to a program of study are guaranteed for evaluation within five years.
- Courses used for general education requirements are guaranteed for evaluation within 15 years.
- Courses used for elective credits are guaranteed for evaluation within 15 years.

Coursework that falls outside of the stated periods is not guaranteed for evaluation/graduation. It is the discretion of the individual program to review coursework older than the above guidelines. Students who have outdated coursework are encouraged to speak with their faculty advisor.

## Pass/No Pass

**Student Option**: Students who might venture into courses where they may otherwise hesitate because of uncertainty regarding their aptitude or preparation may enroll in certain courses on a pass/no pass basis. An instructor may indicate that a particular course is not available under the pass/no pass option.

No more than six pass/no pass credits may be counted toward program completion. The pass/no pass option does not extend to courses required by the student's program or program option, except at the discretion of the departments concerned. Courses numbered below 100 are not calculated in the pass/no pass limit or toward program completion.

The grades of pass/no pass are not formally defined in terms of their relationship to the traditional grades of A, B, C, D, F; a "P" is given for work considered to be passing and therefore deserving credit, and an "NP" for work not passed. "P" and "NP" grades do not affect grade point average.

Election of the pass/no pass option must be indicated at registration time on the registration form. After registration, but prior to the end of the 15th day of instruction, a student may change the grading option from pass/no pass to traditional (A - F) grading, or vice versa, by submitting a drop/add form.

The College cautions students that many schools and some employers do not recognize non-traditional grades (i.e., those other than A, B, C, D, F) or may discriminate against students who use the pass/no pass option.

**Faculty Option**: A department may elect to offer an entire class on a pass/no pass basis. This method of grading is used in courses where more precise grading is inappropriate.

## Repeating a Course

Students may retake a course to improve their grade by registering and paying tuition and fees for the course. They must submit a Request to Change Grade for Repeated Courses to the Registrar's Office upon completion of the course. The letter grade for the repeated course will be posted to the student's transcript and the previous grade will be replaced with an "R" to indicate that the course was retaken. A grade of "R" is not calculated into GPA.

A student's academic standing (Dean's list, probation, suspension, etc.) cannot be retroactively changed by retaking classes.

# Academic Information

## Scholastic Requirements

**Academic Probation**: Students will be placed on academic probation, or continued probation, at the end of any term (including Summer Session) if their cumulative GPA drops below or remains below 2.00.

Students on academic/continued probation should contact their advisor, Advising, Learning, and Career Center (ALCC) personnel, and/or a faculty member who might provide guidance, advice, or academic assistance. The Student Handbook contains a list of services available to enrolled students at Helena College.

An "Academic Probation" notation will be posted to a student's permanent Helena College academic record.

Students placed on academic probation must show satisfactory academic progress - i.e. earn a 2.00 term GPA - during their next term of enrollment (including Summer) or face academic suspension. Students who raise their cumulative GPA to the minimum 2.00 will be removed from "probationary status" and in most cases enrollment restrictions will be lifted.

Students placed on academic probation will be notified of their status in writing within a reasonable time following the end of the term. Notification will explain enrollment limitations and conditions and warn students of consequences if they fail to improve their scholastic performance during future terms of enrollment.

**Academic Suspension**: Students will be academically suspended at the end of any semester if they were placed on academic probation in their last semester of attendance and they failed to earn a term GPA of 2.00.

Students placed on academic suspension status may not enroll at Helena College during the next semester (fall or spring, whichever applies) nor Summer Session if a student is suspended at the end of Spring Semester. That is, a student who has been academically suspended from Helena College for the first time must "sit out" one regular semester, plus Summer Session, if a student is suspended at the end of Spring Semester.

An "Academic Suspension" notation is posted to a student's permanent Helena College academic record.

Students who are suspended for academic reasons will be informed of their status in writing as soon as possible following the end of the term. Any/all future enrollments (future class schedules that exist in Helena College's computer system through pre-registration prior to the end of the term in question) of academically suspended students will be canceled. Written notification of academic suspension will explain options available to the suspended student.

**Readmission Following Suspension**: Students who are suspended for academic reasons must apply for readmission to Helena College.

Students who seek readmission after "sitting out" the required suspension period must submit:
1. A properly completed Application form;
2. A letter that acknowledges the reasons the student did poorly and steps taken to improve the student's ability to perform; and
3. An Application for Reinstatement After Academic Suspension form.

The application and letter will be reviewed by a committee. Students reinstated after suspension will be assigned an advisor and follow a strict academic plan.

## Withdrawal

Withdrawal from the College is the student's responsibility. In order to withdraw from all classes, a student must meet with a representative of the Advising, Learning, and Career Center (ALCC) and complete the withdrawal form. The form must be completed, signed by the student, and collected by the ALCC. If a student withdraws from the College after the first 15 instructional days and prior to three weeks before the end of the course, a "W" (withdraw) will be assigned. During the last three weeks of the semester, a student may not officially withdraw and will receive a letter grade from the instructor based on an evaluation of the total work done by the student in the course. Withdrawal from a course in which the student has received an "FX" for academic dishonesty is not permitted. *It is important to note that a complete withdrawal cannot be done online.*

## Retroactive Withdrawal

After a term has ended, a student who left the College for extenuating circumstances without an official withdrawal during the term of departure may apply for a Retroactive Withdrawal. The student must present supporting documentation that demonstrates serious and compelling reasons justifying the withdrawal and extenuating circumstances justifying its retroactive nature; poor academic performance attributed to extenuating circumstances shall constitute consideration for retroactive withdrawal. A student may appeal for a retroactive withdrawal within one calendar year following the end of the term for which withdrawal is requested. A student need not be enrolled at Helena College at the time the application for retroactive withdrawal is submitted.

### PROCEDURE:
1. Provide a written statement that outlines the nature of your request for a Retroactive Withdrawal and the reasons you believe your appeal merits approval.
2. Submit a letter(s) of support from an academic administrator, faculty member, advisor or other College professional who is familiar with your situation. If the extenuating circumstance involves medical reasons, it is not necessary for the letter(s) of support to contain details of the medical condition.
3. Submit the completed form and required documentation to Office of the Registrar, DON 101.

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# Financial Aid

# Financial Aid

Financial aid administered by the Financial Aid Office at Helena College is based on an evaluation of academic accomplishments, financial need, and availability of resources. Students may qualify for Helena College scholarships, awards, and grants or federally sponsored grants, work, and loans. Information about eligibility, applying for and accepting aid, and types of aid are outlined in this section. Some general points:

Scholarships are awarded for each academic year.
- Awards are usually made in the spring for the following academic year.
- Helena College does not discriminate on the basis of race, sex, color, creed, or national or ethnic origin in the administration of its scholarship program.
- All scholarships administered by the College are divided evenly between fall and spring semesters.
- Scholarships are not awarded during the summer session.
- Recipients of selected awards must inform the donor and/or Financial Aid Office of their acceptance.

*The following is an example of how financial aid is determined.*

The cost of attendance is determined by the College in February of each year for the following academic year. The cost of attendance for a full-time student includes the following factors: (The dollar amounts are for this example only.)

| | |
|---|---|
| Tuition and Fixed Fees | $ 3,000 |
| Room and Board Allowance | $ 7,000 |
| Personal Expense*Allowance | $ 3,000 |
| Total Cost of Attendance | $15,000 |

*The estimate includes allowances for books, supplies, transportation, and personal expenses.

If the student has applied for federal aid, Helena College accesses the estimated family contribution (EFC) information electronically from the federal processor. If Helena College is not indicated on the FAFSA as a school that should receive the Student Aid Report (SAR), the student must submit a copy of the SAR to the Financial Aid Office or correct their FAFSA by adding the code for Helena College. The College's code is 007570.

Helena College subtracts the EFC amount from the cost of attendance. The resulting amount is financial need as per federal eligibility guidelines.

The calculation is as follows:

| | |
|---|---|
| Financial Aid Cost of Attendance | $15,000 |
| Less: Calculated EFC (assume $2,000) | $ 2,000 |
| Calculated Financial Need | $13,000 |

Financial aid packages are developed using information available at the time of packaging and may be revised if enrollment status and/or financial status change.

## Eligibility Requirements for Federal Aid
- Accepted to Helena College as a degree seeking student.
- Priority is given to students with FAFSA results submitted to Helena College by March 1st.
- Possess either a high school diploma or GED.
- Completed the Free Application for Federal Student Aid (FAFSA) and submitted as soon as possible after the first business day in January. The information should be sent to Helena College, Title IV Code 007570. A FAFSA must be completed each year the student applies for financial aid.
  *Note: Submitting a FAFSA ensures that a student will be considered for all financial assistance from Helena College University of Montana and the federal government.*
- The student should review the Student Aid Report (SAR) sent by the processing center and submit necessary corrections to the Financial Aid Office.

## Financial Aid Notification
Students who have been accepted for admission for whom the College has received results of the FAFSA on or before March 1st will receive need-based financial aid packages on or about April 1st. The packages will contain all financial aid awards offered by and through Helena College with directions as to how to accept and receive the awards. After April 1st, students will receive financial aid packages as they are admitted to the College and the results of the FAFSA become available.

Approximately 30% of all FAFSA applicants are selected for a process called verification by the Department of Education. In this process, Helena College will be comparing information from the FAFSA with IRS Federal tax transcripts (and/or parent's/spouse's), W-2 forms, or other financial documents. The law requires the college verify this information before awarding federal financial aid. If there are differences between the FAFSA information and supplied financial documents, Helena College will make corrections electronically and notify the student in writing.

Verification must be completed no later than 14 days prior to the end of the first semester of enrollment. A student's failure to complete verification will result in the cancellation of all federal and institutional need-based aid. In addition:
- No financial aid will be released until verification is completed.
- Students employed under the federal or state work-study programs cannot work more than 14 consecutive days from the beginning of the semester without completing verification.

*(Helena College must review the requested informtion, under the financial aid program rules (34CFR, Part 668).*

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In some cases, the Financial Aid Office will re-evaluate financial aid awards based on special circumstances. If a student or student's family have special needs or have recently experienced unusual financial circumstances, they should contact the Financial Aid Office. A Special Circumstance/Professional Judgment form is available on the financial aid forms bank on the Helena College website.

Financial aid is not available for audited or challenged courses.

A student may not receive financial aid to repeat a course more than 1 time for courses previously passed. According to Federal Regulations for financial aid purposes, a grade of "D" is considered passing.

## Accepting Financial Aid
- A postcard notification stating financial aid is ready to be accepted will be mailed to accepted students beginning April 1 or after Helena College receives FAFSA information.
- The student should acknowledge acceptance of the financial aid by accepting submitting award preference on their MyHC account online at www.umhelena.edu; as well as, return all other required paperwork.
- Financial aid, except for work awards and book vouchers, will be credited directly to the student's account at the beginning of each semester.

## Student Responsibilities
Upon acceptance and receipt of financial assistance of any kind, it becomes the student's responsibility to notify the Financial Aid Office in writing of changes in financial and/or enrollment status. A change in enrollment and/or financial status may result in revision of financial aid awards. Changes include:
- Change in the number of enrolled credits;
- Change in name, address, or telephone number;
- Change in financial status, including any additional scholarships, grants, or other benefits received; and
- Withdrawal from the college. Students who withdraw from Helena College during a semester may be responsible for repayment of all or a portion of any financial aid received for the semester. Return of federal fund procedures is federally regulated. Students should contact the Financial Aid Office for additional information.

## Helena College Scholarships and Awards
Below is a partial list of scholarships provided for Helena College students. A complete and up-to-date list can be found on the Helena College website. Some scholarships are offered by the College and others are offered by community organizations, business firms, endowment funds, etc. For more information, students should contact the Financial Aid Office.
- American Business Women's Scholarship
- Campus Compact
- Everett D Potter Scholarship
- Harold Hamm Award
- Home Builder's Association
- Last Chance Kiwanis Scholarship

- Lula Mae Clay Nursing Scholarship
- Montana Broadcaster's Scholarship
- Montana Food Distributors Association and Coors Inc.
- Morrison Aviation Scholarship
- Perry Mathews Scholarships
- Peter Nelson Scholarships
- Seigal Service Scholarship
- Soroptomist Training Awards Program
- Soroptomist Vocational Technical Scholarships
- Student Senate Scholarships

## Private Scholarships
Many private organizations provide financial assistance to Helena College students. Scholarship information may be obtained by contacting civic, professional, religious, or other community organizations in addition to high school guidance offices and the internet. Listing of web resources is available on the financial aid page online at www.umhelena.edu. One such website is www.smartaboutcollege.org. Private scholarships are generally applied one-half to each successive semester after the funds are received.

## Tuition Waivers
The Montana Board of Regents has authorized the waiver of either full or partial tuition for certain categories of students. These categories include:
- Native American
- Montana Veterans
- War Orphans
- Dependents of Prisoners of War
- Senior Citizens
- Surviving Dependents of Montana Firefighters or Peace Officers
- Faculty and Staff
- MUS Employee Dependent
- MUS High School Honors

Applications for tuition waivers are made prior to and must be completed within 14 days of the start of the semester in which the student expects the waiver. More information and applications are available on the financial aid page at www.umhelena.edu.

## Vocational Rehabilitation
Certain persons with an employment disability may qualify for education assistance through the Rehabilitative/Visual Services Division, Montana Department of Social and Rehabilitation Services. Students should contact that office at 406-447-6952 for more information.

Note: This information must be included on the Financial Aid Award and will be included in a student's eligibility for Title IV aid.

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## Federal Financial Aid

Students should complete the FAFSA after January 1 and request that the Student Aid Report be sent to Helena College University of Montana, Title IV Code 007570. It takes approximately 4 to 6 weeks for a paper FAFSA application to be processed. Applications submitted via the internet take considerably less time (www.fafsa.gov). Students (and parents, if applicable) must have a Personal Identification Number (PIN) to sign the FAFSA electronically (www.pin.ed.gov). Students must re-apply for federal aid each year. Delays in receiving financial aid are often the result of late or incomplete submission of the FAFSA.

Eligibility for the following indicated federal financial aid resources depends on submission of the FAFSA. The Student Aid Report (SAR), resulting from the FAFSA, provides an expected family contribution (EFC), which is used to determine eligibility for federal need-based financial aid.

1. Federal Pell Grants are awarded to students with exceptional financial need.
   a. Note: Pell grants are available to all students who are eligible; however, the following grants are awarded on a priority base only.
2. Federal Supplemental Education Opportunity Grant (FSEOG) funds are limited and are available to students with exceptional financial need who have received a Federal Pell Grant.
3. Montana Higher Education Grant (MHEG) funds are limited and are a state-sponsored grant available to Montana residents enrolled at least half-time and who have exceptional financial need.
4. Baker Grant funds are limited and are a state-sponsored grant available to Montana residents enrolled full-time who have a minimum of $3,625 in earned income, and have an EFC between 501 and 8,050.
5. Work-study employment opportunities are available through the need-based Federal Work Study (FWS) as well as the need-based and non-need based State Work Study (SWS) programs. Limited funds are awarded on a first-come, first-served basis, in accordance with College policy. Awards are usually between 10 and 15 hours per week.
6. Loan monies at federally regulated interest rates are available to students and their parents. Federal loans are awarded on a need and non-need basis as documented through the FAFSA.
   a. Federal Stafford Loan – available to students on either a need (subsidized) or non-need (unsubsidized) basis. Subsidized loans do not require payment of interest by the student so long as the student is attending college at least half-time. The federal government subsidizes the interest burden. Unsubsidized loans require payment or capitalization of interest upon disbursement. Interest rates are set annually in accordance with federal regulations.
   b. Federal PLUS (Parent) Loan – for parents of dependent students who want to borrow to help pay for their student's education. Interest rates are set annually in accordance with federal regulations.

## College-Related Federal Tax Provisions

Helena College students and families may be eligible for selected education-related tax provisions of the Federal Taxpayer Relief Act of 1997, including:

1. Hope Scholarship Tax Credit provides a maximum $1,500 per year tax credit (non-refundable) for each eligible taxpayer for the first two years of college.
2. Lifetime Learning Tax Credit provides a maximum $2,000 per year tax credit (non-refundable) per family for years of eligible undergraduate or graduate/professional study after the first two years of college.
3. Student Loan Interest Deduction provides a non- refundable deduction (not credit) of interest on qualified education loans used to finance qualified education expenses. The maximum deduction each taxpayer is permitted to take is $2,500.
4. IRA withdrawals eliminate the 10% penalty for early withdrawal of tax-deductible amounts placed in Individual Retirement Accounts (IRA) used to pay qualified educational expenses.
5. IRA contributions provide a new education IRA for tax years beginning after December 31, 1997.

Note: Students are advised that there are numerous eligibility requirements and other specifics contained in the tax provisions and should contact their tax advisor before making decisions.

## Financial Aid Satisfactory Academic Progress Policy

### Requirements and Purpose

Federal regulations require that students make satisfactory progress toward attainment of a degree, diploma, or certificate objective in order to participate in federal student assistance programs. Helena College University of Montana interprets federal intent of the satisfactory progress regulations as a means to prevent abuse of federal student assistance programs as opposed to placing limitations on students.

Helena College's financial aid satisfactory academic progress policy is provided to ensure compliance with federal regulations and to prevent abuse of federal student assistance programs while supporting students' efforts to attain educational objectives. These standards represent minimum performance requirements based on federal statute and regulation and do not necessarily coincide with academic program requirements. In addition to meeting these standards, a student must fulfill all other requirements to receive financial aid.

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## Indicators of Progress

Financial aid satisfactory academic progress (SAP) is measured 'qualitatively' and 'quantitatively'.

Quality of work is measured by cumulative grade point average (GPA) resulting from work done at Helena College.

Quantity of work is measured against a maximum time frame in which the student must complete the educational objective. The quantitative measurement requires designation of a minimum amount of work a student must successfully complete (credit hours earned) by the end of designated periods of enrollment (full-time equivalent semesters). The quantitative measure is cumulative for all periods of enrollment and for all schools attended, including periods of enrollment in which students did not receive federal student financial assistance.

## Enrollment Status

Student status is based on the following:
- Full time (FT) - Attempting 12 or more credits
- Three-quarter time (QT) – Attempting 9-11 credits
- Half-Time (HT) – Attempting 6-8 credits
- Less-than-half-time (LTHT) – Attempting 5 or fewer credits

For financial aid awarding and satisfactory academic progress purposes, enrollment status is based on credit hours for which the student is enrolled as of the published date considered to the end of the add/drop period of the term for the majority of students. Financial aid will be adjusted to reflect less-than-full-time status if the student is not registered for at least 12 credit hours on that date. Financial aid will not be adjusted to reflect credit hours added after that date. Students who are registered for a class on the first day of the term but never began attendance in that class cannot include that class in determining enrollment status for financial aid purposes. Financial aid will be adjusted if students are reported as never having started attendance in one or more of their classes. All summer sessions jointly are considered one term.

## Students Subject to SAP Measurement

Students currently enrolled and re-admits are subject to SAP measurement. In most instances, a financial aid package will be provided before grades are posted. If SAP standards have not been met, the financial aid package is voided, pending appeal.

New students, including transfer students, while subject to SAP, are not measured for satisfactory progress until grades have been posted for the first semester of attendance at Helena College.

## SAP Measurement Date

SAP measurement is made after completion of each semester.

## Measurement Standards of SAP

*Qualitative Measurement*

A student must possess a cumulative GPA of 2.0 or higher. A student must meet the above qualitative standard in addition to the quantitative standards.

*Quantitative Measurement*

Students must pass 70% of the cumulative credits attempted at Helena College in their degree/certificate program. Attempted credits will be based on a student's credit load at the end of the add/drop period for each term. Audit and non-credit remedial work are not considered in the measurement of SAP. Remedial and repeated course work for which a student received credit multiple times is treated as any other course work. Incompletes are considered as credits attempted when considering maximum time frames. Transfer credits are also considered when determining maximum time frames. If a student withdrew from a class or classes after the add/drop period, the student is considered to have attempted those classes, even though the student did not receive any earned credits from registering for the classes. Withdrawal from classes has a negative impact on SAP measurement.

## Duration of Eligibility

Students are expected to complete their program of study within a reasonable time period. A student's maximum time frame is based on total credit hours attempted at Helena College plus any transfer credits accepted towards their program of study. These limits apply regardless of whether or not the student has received financial assistance. Students are eligible to receive aid for up to 150% of the published number of credit hours for a program of study (see program descriptions in the College catalog).

Example: If a program of study requires 60 credit hours to graduate, the maximum credit limit a student could take and receive financial aid would be 90 (60 X 150 percent). All credit hours attempted are counted.

At the end of each semester, the total number of attempted credit hours will be counted to see if the student has reached the maximum number of credit hours for their program. All credit hours are counted which includes:
- Credit hours attempted in semesters student did not receive financial aid.
- Credit hours attempted prior to a change in your program of study if those hours are applicable to student's new degree/certificate. A student will be allowed to change their program of study three times prior to receiving a degree/certificate and must inform the Financial Aid Office of the change.
- Credit hours transferred from another institution into student's program of study at Helena College.

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## Consequences

### Financial Aid Warning

A student will be placed on financial aid warning if he/she:

- Fails to maintain a cumulative GPA of at least 2.0 or
- Fails to complete 70% of cumulative attempted credit hours.

Helena College determines the student should be able to make satisfactory academic progress during the subsequent payment period and meet the College's satisfactory academic progress standards at the end of the payment period.

During a warning semester, the student may still receive financial aid. The student's future financial aid eligibility is dependent upon how well the student does during the warning semester. If the student completes the required number of credit hours to reach the 70% cumulative pace measure and has a cumulative GPA of 2.0 or higher, the student will be removed from financial aid warning status and restored to good standing. If, however, the student again fails to meet one or both of those requirements, the student will have their financial aid terminate.

### Financial Aid Termination

A student will have their financial aid terminate if he/she:

- Fails to meet both qualitative and quantitative SAP requirements.
- Fails to meet the academic progress requirements at the end of a warning semester.
- Has been determined to have exceeded the maximum time frame OR has been determined unable to mathematically finish their program in the maximum time frame.

## Student Notification of SAP Decisions

The Financial Aid Office will, in most instances, measure SAP after developing a financial aid package for a student. In this case, the student will be notified in writing if he or she has not met SAP standards and that the financial aid package is cancelled. At the same time, the student will be notified of the appeal process (described below).

## Exceptions/Appeals

A student who is notified of failure to meet SAP standards may appeal the conclusion reached by the Financial Aid Office and/or request that he/she be granted an exception to the policy. The Registrar's Office must grant academic reinstatement to students on academic suspension before the Office of Financial Aid will consider an appeal for financial aid eligibility reinstatement.

## Appeal Requirements

The student must respond in writing to the notification of failure to meet SAP standards. The response must be directed to the Financial Aid Appeals Committee at Helena College. The response must describe in specific terms why Helena College should grant an exception to its established SAP policy.

At a minimum, the response must include the following:

1. A personal statement, plus supporting documentation, as appropriate, explaining the circumstances that have led to failure to meet established SAP standards.
2. The nature and timing of the circumstances (e.g., injury or illness, death of a loved one). A student with a maximum credit hour violation must address the circumstances that prevented their graduation within the applicable credit limit.
3. How the circumstances affected the student's ability to meet the standards. If more than one enrollment period was affected, each enrollment period and the relevant circumstances must be specifically addressed.
4. How the circumstances have been resolved or managed to permit the student to meet the standards.
5. The statement should also include an academic plan outlining how the student expects to meet the SAP standards, as well as the time frame in which the student expects to be back in compliance with such standards.

## Appeal Deadlines and Processing

Appeals for financial aid eligibility reinstatement must be received in the Financial Aid Office no later than two weeks prior to the start of the term for which the student desires aid. Appeals will be reviewed by the Financial Aid Appeals Committee on a case-by-case basis as soon as possible and may take two weeks or more for an answer depending on the appeal volume at the time submitted. There will be no appeals accepted for entrance into the Summer term.

The Financial Aid Director and Satisfactory Progress Appeals Committee will review the student's response and will make a decision on the appeal. Two actions may result on the appeal:

1. The Financial Aid Appeals Committee may deny the appeal. The Financial Aid Director is the final authority regarding SAP decisions. The student will be notified, in writing, of action on the appeal in a timely manner.
2. The Financial Aid Appeals Committee may approve the appeal. If such is the case, the student will receive written notice of the approval along with conditions to be met in the future, if appropriate. A student may be approved in one of two statuses:
   a. Probation: Helena College determines that the student should be able to make satisfactory academic progress during the subsequent payment period and meet the college's satisfactory academic progress standards at the end of the payment period.
   b. Academic Plan: The Financial Aid Appeals Committee develops an academic plan for the student that, if followed, will ensure that the student is able to meet the institution's satisfactory academic progress standards by a specific point in time.

Students approved on an Academic Plan will complete and sign the plan with an Academic Advisor. The plan will be recorded in the Financial Aid Office and will be monitored by the Financial Aid Appeals Committee every term. If a student is not academically progressing as planned, financial aid will be terminated.

## Requalification for Federal Student Financial Assistance After Failing to Meet SAP Standards

A student who is disqualified from participation in college need-based, merit and other institutional scholarships, and federal student financial assistance programs may regain eligibility by satisfying the established SAP standards. This can be done by attending college without financial assistance offered by the applicable financial aid. If a student is deemed not to be making satisfactory progress, but later meets the standards, his or her eligibility for aid is reinstated. OR a student can also pay for and pass at least 6 credits on their own and then re-submit a Financial Aid Reinstatement Appeal. This, however, is not a guarantee of financial aid reinstatement. A student may be paid for the payment period in which he/she regains satisfactory progress, but may not be paid for any payment periods in which the student did not meet the standards.

## Additional Information

- **Additional Degree**: Students who have obtained an Associate degree and wish to return to Helena College for a subsequent degree may not be eligible for Financial Aid. Changes from AAS to AS or AA degrees will receive consideration as they are separate and distinct degree programs. The request for a subsequent degree must be submitted to the Director of Financial Aid with a degree audit from the Registrar. If approved for a new degree or certificate, the student will be required to only take courses that relate to the new degree or certificate. It is the student's responsibility to not take courses that do not fit the program; doing so may result in financial aid termination. There is a maximum of three degree changes in order to receive financial aid. If a student changes his or her major more than three times, he or she will need to appeal for aid to the Director of Financial Aid.
- **Challenge Courses**: Students will not be funded.
- **Changed and Late Grades**: The student must notify the Financial Aid Office of grade changes, including updates for incomplete or missing grades. Grades must be officially changed in the Registrar's Office before financial aid will be reviewed.
- **Evaluation Time Frame**: Helena College will evaluate a student's satisfactory academic progress at the end of each payment period: fall, spring, and summer. A student placed on financial aid warning or termination will be notified via US mail to the current mailing or permanent address on record. It is the responsibility of the student to keep their address updated.
- **Incomplete**: An incomplete course is one for which no term credits were earned. It is construed as an "F" until a positive letter grade is recorded by the Registrar. A student who is placed on warning or termination because of incomplete credits may request that the Financial Aid Office review his/her status once the course has been completed.
- **Remedial Courses**: Certain sub-100 remedial courses, which do not apply toward graduation requirements, may be included as part of their credit load for determining enrollment status each term. These courses can total no more than half their credit load per term and cannot exceed 30 credits.
- **Return of Title IV Funds**: Federal regulations require colleges to recalculate a student's financial aid for those who officially or unofficially withdraw from classes prior to completing 60% of a semester, to determine the amount of aid that was earned and unearned with the unearned portion having to be returned.

## Return of Federal Title IV Funds Policy
### Purpose
The purposes and intent of this policy are to provide guidance as to how Helena College will calculate the amount of Federal Title IV funds to be returned for a student who has withdrawn from all classes, inform interested parties of the methods and procedures used to calculate the amount, provide a fair and equitable policy, and provide a policy that conforms to federal regulations and the intent of those regulations.

This policy governs the return of Federal Title IV funds disbursed for a student who completely withdraws from a term, payment period, or period of enrollment. It does not apply to a student who has dropped some classes but remains enrolled in other classes at or through Helena College. The general assumption is that a student earns aid based on the period of time he or she remained enrolled.

### The Process – General
1. The student meets with an advisor in the Advising, Learning, Career, and Counseling Center to discuss withdrawal and to fill out a withdrawal form. The ALCC Center gives the withdrawal form to the Financial Aid Office.
2. The Financial Aid Office calculates the amount of funds to be returned.
3. The Financial Aid Office notifies the student and the Business Office of funds that Helena College University of Montana must return and the amount the student must return.
4. The Financial Aid Office returns its share of unearned Federal Title IV funds within 30 days after it determines that the student withdrawal process is complete. The student must repay his/her share either by (1) paying loans in accordance with the terms and conditions of the promissory note or (2) repaying grants directly or under a payment arrangement through the College.
5. The Financial Aid Office gives a copy of the completed withdrawal form to the Office of the Registrar.

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Note: in addition to calculating a return of Federal Title IV funds for students who notify Helena College of withdrawal, the College must also make the calculation for students who do not "officially" withdraw. The Financial Aid Office reviews final semester grades to determine students with all "F" grades followed by attempts to determine if the student withdrew from all classes. If so, the last date of attendance is obtained. To facilitate the process, the Registrar has requested faculty to indicate last date of attendance for all students awarded an "F" grade.

## The Details

**Earned aid**: During the first 60% of the period, a student "earns" Federal Title IV funds in direct proportion to the length of time he or she remains enrolled. That is, the percentage of time during the period that the student remained enrolled is the percentage of dispersible aid for that period that the student earned. A student who remains enrolled beyond the 60% point earns all aid for the period.

Note that institutional costs play no role in determining the amount of Federal Title IV funds to be retained or returned. Also, aid is "dispersible" if the student could have received it at the point of withdrawal.

**Unearned aid**: The amount of disbursed Title IV aid that exceeds the amount of Title IV aid earned under the required formula. Unearned Federal Title IV funds, other than Federal Work Study, must be returned.

**Percentage of period enrolled**: The number of days the student remained enrolled divided by the number of days in the period. Calendar days are used, but breaks of at least five days are excluded from both the numerator and denominator. The number of days used to determine the enrolled percentage normally includes weekends; however, scheduled breaks are measured from the first day of the break to the next day that classes are held.

**Repayment of unearned aid**: The responsibility to repay unearned aid is shared by the institution and the student in proportion to the aid each is assumed to possess.

## The institution's share is the lesser of:
- The total amount of unearned aid; or
- Institutional charges multiplied by the percentage of aid that was unearned.

The formula assumes that Federal Title IV funds are directly disbursed to a student only after all institutional charges have been covered, and that Title IV funds are the first resource applied to institutional charges. Institutional charges comprise the amounts that had been assessed prior to the student's withdrawal, not a reduced amount that might result from an institution's refund policy.

The institution's share is allocated among Title IV programs, in an order specified by statute, before the student's share.

After the student's share is fully allocated among the Title IV programs, any amount owed to a grant program is reduced by half. Students return their share of unearned aid attributable to a loan under the terms and conditions of the promissory note.

## Time Frame for Returning Funds

The institution must return its share of unearned Federal Title IV funds no later than 30 days after it determines that the student withdrew.

The student must repay his or her share either by (1) paying loans in accordance with the terms and conditions of the promissory notes or (2) repaying grants directly or under a payment arrangement through the College or the Department of Education.

## Late Disbursements

A student who earned more aid than was disbursed prior to withdrawal is owed a late disbursement. Only the difference between earned aid and aid already disbursed may be late disbursed. Thus, conditions under which unearned aid must be returned and conditions under which a late disbursement is required are mutually exclusive.

The institution may credit late disbursements towards unpaid institutional charges. Authorizations for current year charges remain valid for late disbursements; authorizations for prior year charges become invalid.

Any portion of a late disbursement not credited to the student's account must be offered as a cash disbursement to the student (or parent in the case of a Federal PLUS Loan).

## Withdrawal Date (Unofficial Withdrawal)

For students who withdraw without notifying the institution, the institution must determine the student's withdrawal date within 30 days after the expiration of the earlier date of the:
- Payment period or period of enrollment;
- Academic year in which the student withdrew; or
- Educational program from which the student withdrew.

The withdrawal date for unofficial withdrawals is the student's last date of attendance at a documented "academically-related activity" in lieu of any other withdrawal date. "Academically-related activities" include activities confirmed by an employee of the institution, to include exams, tutorials, academic advisement, turning in a class assignment, and attending a study group assigned by the institution. Eating at institution-provided food services and participating in off-campus study groups not assigned by the institution are not "academically-related activities".

The only exception would be If the student left without notification because of circumstances beyond his/her control, the institution may determine a withdrawal date related to the circumstances. The Director of Financial Aid is responsible for making this determination along with the Registrar and the Academic Dean, and Assistant Dean of Student Services.

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## Withdrawal Date (Official Withdrawal)

The withdrawal date for official withdrawals (student notified the institution that he or she was withdrawing) is the date the student began the institution's withdrawal process or officially notified the institution of intent to withdraw, except the institution may, at its option, use the student's last date of attendance at a documented "academically-related activity" in lieu of any other withdrawal date. "Academically-related activities" include activities confirmed by an employee of the institution, to include exams, tutorials, academic advisement, turning in a class assignment, and attending a study group assigned by the institution. Eating at institution-provided food services and participating in off-campus study groups not assigned by the institution are not "academically-related activities."

The withdrawal date for a student who officially withdrew is the later of:
* The withdrawal; or
* The date of the student's notification to the institution.

For a student who unofficially withdrew (withdrew without notifying the institution), this date is the date that the institution becomes aware that the student ceased attendance. The "date of institution's determination that a student withdrew" is used for the following purposes:
* It provides the dividing date between disbursed aid and late disbursements; and
* It starts the clock for the period of time within which the institution must return federal funds.

## Suspension/Withdrawal

If a student is withdrawn based on a school initiated suspension during a period of enrollment, the date used for the withdrawal date is as follows:
* If the student is given the option to appeal the suspension and does not appeal within the time frame allowed, then the date of the initial suspension letter is used in the calculation.
* If the student does not appeal and can attend classes during the appeal process (regardless of whether they attend or not) then the official date on the appeal denial letter from the college will be used for the calculations rather than the initial suspension letter date

## Drug Related Convictions

A federal or state drug conviction can disqualify a student for federal student aid. Convictions only count if they were for an offense that occurred during a period of enrollment for which the student was receiving financial aid. A conviction that was reversed, set aside, or removed from the student's record does not count, nor does one received when the student was a juvenile, unless he or she was tried as an adult.

The information below illustrates the period of ineligibility for financial aid on whether the conviction was for sale or possession and whether the student had previous offenses. (A conviction for sale of drugs includes convictions for conspiring to sell drugs.)

For a drug possession conviction, eligibility is suspended:
* One year from date of conviction for 1st offense
* Two years from date of conviction for 2nd offense
* Indefinite period for 3+ offenses

For a drug sale conviction, eligibility is suspended:
* Two years from date of conviction for 1st offense
* Indefinite period for 2nd offense

If the student was convicted of both possessing and selling illegal drugs, and the periods of ineligibility are different, the student will be ineligible for the longer period.

## Regaining Eligibility After a Drug Conviction

A student regains eligibility the day after the period of ineligibility ends or when he or she successfully completes a qualified drug rehabilitation program. Further drug convictions will make him or her ineligible again.

Students denied eligibility for an indefinite period can regain it only after successfully completing a rehabilitation program as described below.

## Standards for a Qualified Drug Rehabilitation Program

A qualified drug rehabilitation program must include at least two unannounced drug tests and must satisfy at least one of the following requirements:
* Be qualified to receive funds directly or indirectly from a federal, state, or local government program.
* Be qualified to receive payment directly or indirectly from a federally or state-licensed insurance company.
* Be administered or recognized by a federal, state, or local government agency or court.
* Be administered or recognized by a federally or state-licensed hospital, health clinic, or medical doctor.

## Incarcerated Students

A student is considered to be incarcerated if he or she is serving a criminal sentence in a federal, state, or local penitentiary, prison, jail, reformatory, work farm, or similar correctional institution. A student is not considered to be incarcerated if he or she is in a half-way house or home detention or is sentenced to serve only weekends.

Incarcerated students are not eligible to receive federal student loans but are eligible for federal work study and federal supplemental educational opportunity grants (FSEOG). They are also eligible for Pell grants if not incarcerated in a federal or state penal institution.

Circumstances beyond his/her control, the institution may determine a withdrawal date related to the circumstances. The Director of Financial Aid is responsible for making this determination along with the Registrar and the Academic Dean. The institution may, at its option, use the student's last date of attendance at a documented "academically-related activity" in lieu of any other withdrawal date. "Academically-related activities" include activities confirmed by an employee of the institution, to include exams, tutorials, academic advisement, turning in a class assignment, and attending a study group assigned by the institution. Eating at institution-provided food services, and participating in off-campus study groups not assigned by the institution are not "academically-related activities."

# Program Offerings

Associate of Arts Degree
Associate of Science Degrees
Associate of Applied Science Degrees
Certificates of Applied Science Degrees
Professional Certificates
Focus of Study Options

# Program Offerings

## ASSOCIATE OF ARTS DEGREE
### 4 Semesters, General Transfer Degree
Program of study option in Accounting Technology, Business Technology, Humanities and Fine Arts, Interior Space Planning and Design, Mathematics (may be declared as part of a program of study), Mental Health Direct Care, Natural Science, Social and Psychological Sciences

## ASSOCIATE OF SCIENCE DEGREE
### 4 Semesters, General Transfer Degree
Accounting Technology, Business Administration, Business Technology, Computer Technology, Environmental Science, General Science, Natural Science

## ASSOCIATE OF SCIENCE DEGREE - REGISTERED NURSING
### 2 Semesters, Leading to Registered Nursing
Completion Program for Students completing Practical Nursing Program and Licensed Practical Nursing Program

## ASSOCIATE OF APPLIED SCIENCE DEGREE
### 4 Semesters

Accounting and Business Technology
  *Accounting Technology*
  *Small Business Management Technology*
Automotive Technology
Aviation Maintenance Technology
Computer Aided Manufacturing
Computer Technology
  *Network Administration*
  *Programming*
  *Webmaster*
Construction Technology

Diesel Technology
Fire and Rescue
Machine Tool Technology
Metals Technology
Nursing Programs
  *Licensed Practical Nursing (LPN)*
Office Technology
  *Administrative Office Management*
  *Medical Administrative Specialist*
Water Resouces
Welding Technology

## CERTIFICATES OF APPLIED SCIENCE DEGREE
### 2 Semester

Bookkeeping
Carpentry
Computer Assistant
Computer Skills Specialist
Geoscience Technology
Interior Space Planning and Design

Legal Support Specialist
Machine Tool Technology
Medical Assisting
Small Business Entrepreneurship
Welding Technology

## PROFESSIONAL CERTIFICATES
E-Learning Certificate Level 1, E-Learning Certificate Level 2, Environmental Design Studies, Advanced Certificate

## FOCUS OF STUDY OPTIONS
### (Credits will vary and may require an earned degree in an approved related discipline)
Bookkeeping Specialist - Human Resource Specialist

# Associate of Arts - General Transfer

## ASSOCIATE OF ARTS

The Associate of Arts (A.A.) degree is a general transfer degree. Completion of this program indicates the student has completed a course of study equivalent to the first two years of a bachelor's degree. The Associate of Arts degree does not officially include a major or minor course of study; nevertheless, students do complete a 22 credit program of study option for an A.A. degree.

Students may also accumulate credits to transfer to another college or university. Completion of the Helena College general education core requirements (31+ credits) satisfies the general core requirements of the Montana University System. All Montana University System institutions will accept the Helena College general education core to satisfy their lower division general education requirements.

Length of Program:      4 Semesters
Type of Program:       Associate of Arts
Semester of Entry:      Fall, Spring, and Summer

Minimum Requirements for A.A. and A.S.
- Completion of 60 semester credit hours, 15 credits of which are at the 200 level.
- Completion of 31 Core Course Credits, 4 Degree Specific, 22 - 24 Program of Study, 2/3 credits in a Capstone Project where indicated and 1 – 3 open electives.
- An overall GPA of 2.25 and/or upon completion of the degree.
- A grade of "C-" or higher in each course in the program of study.

"D" Indicates the course meets the core diversity requirement (see requirement "F" below).

## I. GENERAL EDUCATION CORE (31+ CREDITS)

The General Education Core of the Helena College University of Montana provides students with the broad foundation of knowledge essential for success at the associate and baccalaureate levels.

All students are prepared for independent, abstract, and critical thinking; responding creatively to problems; applying quantitative and mathematical knowledge; finding information; and communicating both orally and in written forms. This is done to engender life-long learning skills, a foundation of knowledge in a variety of disciplines, and a broadened perspective on our interdependent, changing global community.

### A. *Natural Science/Mathematics (10+ credits)*
Math and Natural Science Outcomes
- Understand and demonstrate methods used to gather, test, and interpret scientific data

- Understand basic principles that explain the natural world
- Solve quantitative problems and interpret solutions
- Use inductive and deductive scientific reasoning to solve novel problems

To complete the science/math requirement, students must include one natural science with lab and one of these math courses: M115, M121, M145, M151, M171, M172, or STAT216.

| Course Number | Course Title | Credits |
|---|---|---|
| ASTR110 | Introduction to Astronomy | 4 |
| BIOB101 | Discover Biology | 3 |
| BIOB102 | Discover Biology Lab | 1 |
| BIOB160 | Principles of Living Systems w/Lab | 4 |
| BIOB170 | Principles of Biological Diversity w/Lab | 4 |
| BIOB260 | Cellular and Molecular Biology w/Lab | 4 |
| BIOH104 | Basic Human Biology | 4 |
| BIOH201 | Human Anatomy & Physiology I w/Lab | 4 |
| BIOH211 | Human Anatomy &Physiology II w/Lab | 4* |
| BIOM250 | Microbiology for Health Sciences | 3 |
| BIOM251 | Microbiology for Health Sciences Lab | 1 |
| CHMY121 | Introduction to General Chemistry | 3 |
| CHMY122 | Introduction to General Chemistry Lab | 1 |
| CHMY123 | Intro to Organic & Biochemistry | 3 |
| CHMY124 | Intro to Organic & Biochemistry Lab | 1 |
| CHMY141 | College Chemistry I | 3 |
| CHMY142 | College Chemistry I Lab | 1 |
| CHMY143 | College Chemistry II | 3* |
| CHMY144 | College Chemistry II Lab | 1 |
| CHMY221 | Organic Chemistry I | 3 |
| CHMY222 | Organic Chemistry I Lab | 1 |
| CHMY223 | Organic Chemistry II | 3* |
| CHMY224 | Organic Chemistry II Lab | 1 |
| ENSC105 | Environmental Science | 4 |
| ENSC242 | Environmental Sampling I | 3 |
| ENSC245 | Soils | 3 |
| ENSC270 | Water Quality | 3 |
| ENSC272 | Water Resources | 3 |
| ENST230 | Nature and Society | 3 |
| EVSC140 | Intro to Geographic Info Systems (GIS) | 3 |
| EVSC211 | Environmental Policy and Laws | 3 |
| EVSC220 | Surface Water Hydrology | 3 |
| EVSC233 | Environment and the Economy | 3 |
| GEO101 | Introduction to Physical Geology | 3 |
| GEO102 | Introduction to Physical Geology Lab | 1 |
| GEO211 | Earth History and Evolution | 2 |
| GPHY111 | Physical Geography with Lab | 4 |
| GPHY262 | Spacial Sciences Tech and Applications | 3 |
| M115 | Probability and Linear Mathematics | 3 |
| M121 | College Algebra | 3 |
| M145 | Mathematics for the Liberal Arts | 3 |
| M151 | Pre-Calculus | 4 |
| M171 | Calculus I | 4 |
| M172 | Calculus II | 4 |
| NUTR221 | Basic Human Nutrition | 3 |
| PHSX205 | College Physics I | 3 |

| | | |
|---|---|---|
| PHSX206 | College Physics I Lab | 1 |
| PHSX207 | College Physics II | 3* |
| PHSX208 | College Physics II Lab | 1 |
| STAT216 | Introduction to Statistics | 3 |

**B:** _Written Communication (6 credits)_
Written/Oral Communications Outcomes
- Demonstrate mastery of engaging, clear, and coherent structures for presenting ideas in a variety of expository and argumentative models
- Develop ideas logically, clearly, convincingly, and ethically
- Control the effect of voice in achieving specific communication purposes with specific audiences.
- Control the conventions of language
- Understand and apply research skills necessary for academic study
- Employ analysis, synthesis, and evaluation in both writing and reading
- Exercise proficiency, confidence, and self-reliance in the application of academic activities

**Course**

| Number | Course Title | Credits |
|---|---|---|
| WRIT101 | College Writing I | 3 |
| WRIT201 | College Writing II | 3 |

**C:** _Oral Communication (3 credits)_

**Course**

| Number | Course Title | Credits |
|---|---|---|
| COMX111 | Introduction to Public Speaking | 3 |

**D:** _Social and Psychological Sciences (6+ credits)_
Social and Psychological Science Outcomes
- Have an awareness of major perspectives in social and individual behavior
- Be able to apply social science theories to multicultural perspectives
- Understand how historical experiences influence current theories
- Be able to apply critical thinking skills
- Be able to recognize and practice ethical research techniques

**Course**

| Number | Course Title | Credits |
|---|---|---|
| ANTY101 | Anthropology & the Human Experience | 3(D) |
| ANTY103 | Introduction to Latin American Studies | 3 |
| ANTY250 | Introduction to Archaeology | 3 |
| ECNS201 | Principles of Microeconomics | 3 |
| ECNS202 | Principles of Macroeconomics | 3 |
| ECNS203 | Principles of Micro and Macro Economics | 3 |
| NASX105 | Introduction to Native American Studies | 3(D) |
| PSYX100 | Introduction to Psychology | 3 |
| PSYX120 | Research Methods I | 3 |
| PSYX161 | Fund of Organizational Psychology | 3 |
| PSYX182 | Stress Management | 3 |

| | | |
|---|---|---|
| PSYX230 | Developmental Psychology | 3 |
| PSYX240 | Fundamentals of Abnormal Psychology | 3 |
| PSYX250 | Fundamentals of Biological Psychology | 3 |
| PSYX260 | Fundamentals of Social Psychology | 3 |
| PSYX270 | Fundamentals of Learning | 3 |
| SOCI101 | Introduction to Sociology | 3 |
| SOCI201 | Social Problems | 3 |
| SOCI215 | Introduction to Sociology of the Family | 3 |
| SOCI235 | Aging and Society | 3 |

**E:** _Humanities/Fine Arts (6+ credits)_
Humanities and Fine Arts Outcomes
- Identify a variety of artistic styles, movements, schools of thought/expression, and cultures
- Analyze, interpret, and evaluate a range of human expressions and values using critical strategies
- Engage in imaginative expression
- Appreciate a diversity of world-views or perspectives

**Course**

| Number | Course Title | Credits |
|---|---|---|
| ARTH160 | Global Visual Culture | 3 |
| ARTZ105 | Visual Language - Drawing | 3 |
| ARTZ106 | Visual Language - 2-D Foundations | 3 |
| ARTZ221 | Painting I | 3 |
| COMM132 | Interpersonal Communication | 1 |
| COMM133 | Small Group Communication | 1 |
| COMX250 | Introduction to Public Relations | 3 |
| CRWR212 | Introduction to Nonfiction Workshop | 3 |
| CRWR240 | Introduction to Creative Writing Workshop | 3 |
| FRCH101 | Elementary French I | 4(D) |
| FRCH102 | Elementary French II | 4 |
| HSTA101 | American History I | 3 |
| HSTA102 | American History II | 3 |
| HSTA160 | Introduction to the American West | 3 |
| HSTA215 | Post-WW II America | 3 |
| HSTA255 | Montana History | 3 |
| IDSN101 | Introduction to Interior Design | 3 |
| LIT110 | Introduction to Literature | 3 |
| LIT212 | American Literature Survey | 3 |
| LIT213 | Montana Literature | 3 |
| LIT223 | British Literature I | 3 |
| LIT224 | British Literature II | 3 |
| LIT227 | Introduction to Shakespeare | 3 |
| LIT228 | Introduction to Irish Literature | 3(D) |
| LIT230 | World Literature Survey | 3(D) |
| LIT250 | The Novel | 3 |
| LIT291 | Special Topics Variable | 3 |
| PHL110 | Problems of Good and Evil | 3 |
| PHL215 | Introduction to Consciousness Studies | 3 |
| SPNS101 | Elementary Spanish I | 4 |
| SPNS102 | Elementary Spanish II | 4 |
| THTR101 | Introduction to Theater | 3 |
| THTR120 | Introduction to Acting I | 3 |
| WRIT121T | Introduction to Technical Writing | 3 |

F. *Diversity Requirement*

Diversity Component Outcomes
- Students will appreciate diversity across cultures and be able to reflect upon their own cultural values and systems.
- Students will understand and be able to analyze the complex political, social, and economic relationships within and among cultures.
- Students will appreciate the creative works, values, and ways of life and/or history of a cultural group outside of their own culture.

Within their core of 31+ credits, students must take at least three credits in courses that explore cultural diversity. Such courses are marked "D." Courses labeled "D" can be counted twice, once for diversity AND once for the core requirement or program of study.

## II. ADDITIONAL GENERAL EDUCATION REQUIREMENTS FOR DEGREE-SEEKING STUDENTS (4+ CREDITS)

Students seeking an A.A. degree must complete an additional 4+ credits in a foreign language course.

## III. PROGRAM OF STUDY OPTIONS (22+ CREDITS)

*A: Associate of Arts -- Transfer*

Students have the following options for completing the 22-24 credits required for the program of study.

**Option 1:**
- Complete 24 credits in one of the following areas:
- Humanities and Fine Arts, Natural Science, Social and Psychological Science
- A program of study may be supplemented with Math courses by declaring math as part of the program of study.

**Option 2:**
- Complete a planned course of study and a capstone in the following areas:
  - Accounting Technology, Business Technology, Mental Health Direct Care, Interior Design and Space Planning
  - Students Planning to transfer are advised to work closely with the receiving four-year institution to ensure applicability of Helena College courses to their intended program of study.

**Mental Health Direct Care**

| | | |
|---|---|---|
| BIOH104 | Basic Human Biology | 4 |
| CAPP131 | Basic MS Office | 3 |
| PSYX100 | Introduction to Psychology | 3 |
| PSYX120 | Research Methods I or | |
| | PSYX260 Fund of Social Psychology | 3 |
| PSYX230 | Developmental Psychology | 3 |
| PSYX240 | Fund of Abnormal Psychology | 3 |
| PSYX250 | Fund of Biological Psychology | 3 |
| PSYX298 | Mental Health Direct Care Internship | 3 |

**Interior Space Planning and Design**

Required Core (see pages 49-50 for additional core courses):

| | | |
|---|---|---|
| ANTY101 | Anthropology & the Human Experience | 3 |
| ARTZ105 | Visual Language - Drawing | 3 |
| ENST230 | Nature and Society | 3 |
| IDSN101 | Introduction to Interior Design | 3 |

**Program of Study (22 credits)**

| | | |
|---|---|---|
| IDSN120 | Materials and the Environment | 3 |
| IDSN125 | Lighting the Environment | 3 |
| IDSN135 | Fundamentals of Space Planning | 3 |
| DFT150 | CAD 2D | 3 |
| IDSN230 | Interior Architectural Drawing | 3 |
| IDSN240 | Studio I - Residential | 3 |
| IDSN250 | Studio II - Commercial | 4 |

Optional advanced certificate available for Environmental Design Studies. See Interior Design Planning and Design for more information.

*Associate of Arts 4-year degree in Business available at Helena College through partnership with Montana Tech (beginning on page 113).*

**Accounting Technology - REQUIRED**

| | | |
|---|---|---|
| ACTG101 | Accounting Procedures I | 3 |
| ACTG102 | Accounting Procedures II | 3 |
| ACTG201 | Principles of Financial Accounting | 3 |
| ACTG202 | Principles of Managerial Accounting | 3 |
| BGEN105 | Introduction to Business | 3 |

Choose TWO of the following courses:

| | | |
|---|---|---|
| ACTG180 | Payroll Accounting | 3 |
| ACTG205 | Computerized Accounting | 3 |
| ACTG211 | Income Tax Fundamentals | 3 |
| ACTG215 | Foundations of Governmental and Not for Profit Accounting | 3 |

**Business Technology – REQUIRED**

| | | |
|---|---|---|
| ACTG101 | Accounting Procedures I | 3 |
| ACTG201 | Principles of Financial Accounting | 3 |
| ACTG202 | Principles of Managerial Accounting | 3 |
| BGEN105 | Introduction to Business | 3 |
| BMKT225 | Marketing | 3 |
| BMGT235 | Management | 3 |

Choose ONE of the following courses:

| | | |
|---|---|---|
| BMGT210 | Small Business Entrepreneurship | 3 |
| BGEN201 | Foundations of Business Ethics | 3 |
| PSCI240 | Introduction to Public Administration | 3 |
| BGEN235 | Business Law I | 3 |
| BGEN236 | Business Law II | 3 |
| BMGT215 | Human Resource Management | 3 |
| BMGT263 | Legal Issues in Human Resources | 3 |
| BFIN265 | Introduction to Business Finance | 3 |

## IV. CAPSTONE (2/3 CREDITS)

Students must officially declare a Program of Study before enrolling in any capstone, and the course must qualify within that Program of Study. Students undertake capstone projects during their sophomore year and are encouraged to do so during their final semester when appropriate. In the case of a dual Program of Study, students should take a capstone from the predominant program.

| | | |
|---|---|---|
| ACTG299 | Capstone: Accounting | 3 |
| BGEN299 | Capstone: Business | 3 |
| PSYX298 | Mental Health Direct Care Internship | 2 |

## V. OPEN ELECTIVE
## (MAXIMUM OF 3 CREDITS)

Students have the opportunity for exploration by taking one MUS college level course (100 level).

# Associate of Science - General Transfer

**ASSOCIATE OF SCIENCE**

The Associate of Science (A.S.) degree is a general transfer degree. Completion of this program indicates the student has completed a course of study equivalent to the first two years of a bachelor's degree. The Associate of Science degree does not officially include a major or minor course of study; nevertheless, students do complete a 22 credit program of study option for an A.S. degree. (For specific information on the Associate of Science degree in nursing, please see the Nursing Programs pages.)

Students may also accumulate credits to transfer to another college or university. Completion of the Helena College general education core requirements (31+ credits) satisfies the general core requirements of the Montana University System. All Montana University System institutions will accept the Helena College general education core to satisfy their lower division general education requirements.

Length of Program:     4 Semesters
Type of Program:       Associate of Science
Semester of Entry:     Fall, Spring, and Summer

Minimum Requirements for A.A. and A.S.
- Completion of 60 semester credit hours, 15 credits of which are at the 200 level.
- Completion of 31 Core Course Credits, 4 Degree Specific, 22 Program of Study, 2/3 credits in a Capstone Project where indicated and 1 – 3 open electives.
- An overall GPA of 2.25 and/or upon completion of the degree.
- A grade of "C-" or higher in each course in the program of study.

NOTES:
\* Indicates second half of science sequence required for A.S. degree (see below under "Additional General Education Requirements for Degree-Seeking Students").
"D" Indicates the course meets the core diversity requirement (see requirement "F" below).

## I. GENERAL EDUCATION CORE (31+ CREDITS)

The General Education Core of the Helena College University of Montana provides students with the broad foundation of knowledge essential for success at the associate and baccalaureate levels.

All students are prepared for independent, abstract, and crtical thinking; responding creatively to problems; applying quantitative and mathematical knowledge; finding inforation; and communicating both orally and in written forms. This is done to engender life-long learning skills, a foundation of knowledge in a variety of disciplines, and a broadened perspective on our interdependent, changing global community.

A.  *Natural Science/Mathematics (10+ credits)*
    Math and Natural Science Outcomes
    - Understand and demonstrate methods used to gather, test, and interpret scientific data
    - Understand basic principles that explain the natural world
    - Solve quantitative problems and interpret solutions
    - Use inductive and deductive scientific reasoning to solve novel problems

To complete the science/math requirement, students must include one natural science with lab and one of these math courses: M115, M121, M145, M151, M171, M172, or STAT216.

| Course Number | Course Title | Credits |
|---|---|---|
| ASTR110 | Introduction to Astronomy | 4 |
| BIOB101 | Discover Biology | 3 |
| BIOB102 | Discover Biology Lab | 1 |
| BIOB160 | Principles of Living Systems w/Lab | 4 |
| BIOB170 | Principles of Biological Diversity w/Lab | 4 |
| BIOB260 | Cellular and Molecular Biology w/Lab | 4 |
| BIOH104 | Basic Human Biology | 4 |
| BIOH201 | Human Anatomy & Physiology I w/Lab | 4 |
| BIOH211 | Human Anatomy &Physiology II w/Lab | 4* |
| BIOM250 | Microbiology for Health Sciences | 3 |
| BIOM251 | Microbiology for Health Sciences Lab | 1 |
| CHMY121 | Introduction to General Chemistry | 3 |
| CHMY122 | Introduction to General Chemistry Lab | 1 |
| CHMY123 | Intro to Organic & Biochemistry | 3 |
| CHMY124 | Intro to Organic & Biochemistry Lab | 1 |
| CHMY141 | College Chemistry I | 3 |
| CHMY142 | College Chemistry I Lab | 1 |
| CHMY143 | College Chemistry II | 3* |
| CHMY144 | College Chemistry II Lab | 1 |
| CHMY221 | Organic Chemistry I | 3 |
| CHMY222 | Organic Chemistry I Lab | 1 |
| CHMY223 | Organic Chemistry II | 3* |
| CHMY224 | Organic Chemistry II Lab | 1 |
| ENSC105 | Environmental Science | 4 |
| ENSC242 | Environmental Sampling I | 3 |
| ENSC245 | Soils | 3 |
| ENSC270 | Water Quality | 3 |
| ENSC272 | Water Resources | 3 |
| ENST230 | Nature and Society | 3 |
| EVSC140 | Intro to Geographic Info Systems (GIS) | 3 |
| EVSC211 | Environmental Policy and Laws | 3 |
| EVSC220 | Surface Water Hydrology | 3 |
| EVSC233 | Environment and the Economy | 3 |
| GEO101 | Introduction to Physical Geology | 3 |
| GEO102 | Introduction to Physical Geology Lab | 1 |
| GEO211 | Earth History and Evolution | 2 |
| GPHY111 | Physical Geography with Lab | 4 |
| GPHY262 | Spacial Sciences Tech and Applications | 3 |
| M115 | Probability and Linear Mathematics | 3 |
| M121 | College Algebra | 3 |
| M145 | Mathematics for the Liberal Arts | 3 |

# Associate of Science - General Transfer

| | | |
|---|---|---|
| M151 | Pre-Calculus | 4 |
| M171 | Calculus I | 4 |
| M172 | Calculus II | 4 |
| NUTR221 | Basic Human Nutrition | 3 |
| PHSX205 | College Physics I | 3 |
| PHSX206 | College Physics I Lab | 1 |
| PHSX207 | College Physics II | 3* |
| PHSX208 | College Physics II Lab | 1 |
| STAT216 | Introduction to Statistics | 3 |

**B:** *Written Communication (6 credits)*
Written/Oral Communications Outcomes
- Demonstrate mastery of engaging, clear, and coherent structures for presenting ideas in a variety of expository and argumentative models
- Develop ideas logically, clearly, convincingly, and ethically
- Control the effect of voice in achieving specific communication purposes with specific audiences.
- Control the conventions of language
- Understand and apply research skills necessary for academic study
- Employ analysis, synthesis, and evaluation in both writing and reading
- Exercise proficiency, confidence, and self-reliance in the application of academic activities

**Course**
| Number | Course Title | Credits |
|---|---|---|
| WRIT101 | College Writing I | 3 |
| WRIT201 | College Writing II | 3 |

**C:** *Oral Communication (3 credits)*

**Course**
| Number | Course Title | Credits |
|---|---|---|
| COMX111 | Introduction to Public Speaking | 3 |

**D:** *Social and Psychological Sciences (6+ credits)*
Social and Psychological Science Outcomes
- Have an awareness of major perspectives in social and individual behavior
- Be able to apply social science theories to multicultural perspectives
- Understand how historical experiences influence current theories
- Be able to apply critical thinking skills
- Be able to recognize and practice ethical research techniques

**Course**
| Number | Course Title | Credits |
|---|---|---|
| ANTY101 | Anthropology & the Human Experience | 3(D) |
| ANTY103 | Introduction to Latin American Studies | 3 |
| ANTY250 | Introduction to Archaeology | 3 |
| ECNS201 | Principles of Microeconomics | 3 |
| ECNS202 | Principles of Macroeconomics | 3 |
| ECNS203 | Principles of Micro and Macro Economics | 3 |

| | | |
|---|---|---|
| NASX105 | Introduction to Native American Studies | 3(D) |
| PSYX100 | Introduction to Psychology | 3 |
| PSYX120 | Research Methods I | 3 |
| PSYX161 | Fund of Organizational Psychology | 3 |
| PSYX182 | Stress Management | 3 |
| PSYX230 | Developmental Psychology | 3 |
| PSYX240 | Fundamentals of Abnormal Psychology | 3 |
| PSYX250 | Fundamentals of Biological Psychology | 3 |
| PSYX260 | Fundamentals of Social Psychology | 3 |
| PSYX270 | Fundamentals of Learning | 3 |
| SOCI101 | Introduction to Sociology | 3 |
| SOCI201 | Social Problems | 3 |
| SOCI215 | Introduction to Sociology of the Family | 3 |
| SOCI235 | Aging and Society | 3 |

**E:** *Humanities/Fine Arts (6+ credits)*
Humanities and Fine Arts Outcomes
- Identify a variety of artistic styles, movements, schools of thought/expression, and cultures
- Analyze, interpret, and evaluate a range of human expressions and values using critical strategies
- Engage in imaginative expression
- Appreciate a diversity of world-views or perspectives

**Course**
| Number | Course Title | Credits |
|---|---|---|
| ARTH160 | Global Visual Culture | 3 |
| ARTZ105 | Visual Language - Drawing | 3 |
| ARTZ106 | Visual Language - 2-D Foundations | 3 |
| ARTZ221 | Painting I | 3 |
| COMM132 | Interpersonal Communication | 1 |
| COMM133 | Small Group Communication | 1 |
| COMX250 | Introduction to Public Relations | 3 |
| CRWR212 | Introduction to Nonfiction Workshop | 3 |
| CRWR240 | Introduction to Creative Writing Workshop | 3 |
| FRCH101 | Elementary French I | 4(D) |
| FRCH102 | Elementary French II | 4 |
| HSTA101 | American History I | 3 |
| HSTA102 | American History II | 3 |
| HSTA160 | Introduction to the American West | 3 |
| HSTA215 | Post-WW II America | 3 |
| HSTA255 | Montana History | 3 |
| IDSN101 | Introduction to Interior Design | 3 |
| LIT110 | Introduction to Literature | 3 |
| LIT212 | American Literature Survey | 3 |
| LIT213 | Montana Literature | 3 |
| LIT223 | British Literature I | 3 |
| LIT224 | British Literature II | 3 |
| LIT227 | Introduction to Shakespeare | 3 |
| LIT228 | Introduction to Irish Literature | 3(D) |
| LIT230 | World Literature Survey | 3(D) |
| LIT250 | The Novel | 3 |
| LIT291 | Special Topics Variable | 3 |
| PHL110 | Problems of Good and Evil | 3 |
| PHL215 | Introduction to Consciousness Studies | 3 |
| SPNS101 | Elementary Spanish I | 4 |

| SPNS102 | Elementary Spanish II | 4 |
| THTR101 | Introduction to Theater | 3 |
| THTR120 | Introduction to Acting I | 3 |
| WRIT121T | Introduction to Technical Writing | 3 |

**F.** *Diversity Requirement*
Diversity Component Outcomes
- Students will appreciate diversity across cultures and be able to reflect upon their own cultural values and systems.
- Students will understand and be able to analyze the complex political, social, and economic relationships within and among cultures.
- Students will appreciate the creative works, values, and ways of life and/or history of a cultural group outside of their own culture.

Within their core of 31+ credits, students must take at least three credits in courses that explore cultural diversity. Such courses are marked "D." Courses labeled "D" can be counted twice, once for diversity AND once for the core requirement or program of study.

## II. ADDITIONAL GENERAL EDUCATION REQUIREMENTS FOR DEGREE-SEEKING STUDENTS (4+ CREDITS)

Students seeking an A.S. degree must complete an additional 4+ credits the natural science area.

Students have the following options for completing the 22-24 credits required for the program of study.

**Option 1:**
- Complete 24 credits in one of the following areas:
- Natural Science (Math may be combined)

**Option 2:**
Complete a planned course of study and a capstone in the following areas:
- Accounting Technology, Business Technology, Business Administration, Computer Technology, Environmental Science
- Students Planning to transfer are advised to work closely with the receiving four-year institution to ensure applicability of Helena College courses to their intended program of study.

## III. PROGRAM OF STUDY OPTIONS (22+ CREDITS)

*Computer Technology ~ Students may pursue a Bachelors of Science in Computer Science at Carroll College (beginning on page 113).*

**Programming Option - REQUIRED**

| CSCI100 | Introduction to Programming | 3 |
| CSCI110 | Programming with Java I | 4 |
| CSCI111 | Programming with Java II | 4 |
| CSCI240 | Databases and SQL | 4 |

Choose THREE of the following courses:

| CSCI206 | .NET Applications | 3 |
| CSCI221 | Systems Analysis and Design | 3 |
| CSCI242 | Enterprise Applications | 4 |
| CT253 | Developing Web Applications | 3 |
| CT262 | Web Databases | 4 |

**Webmaster Option - REQUIRED**

| CSCI100 | Introduction to Programming | 3 |
| CSCI111 | Programming with Java I | 4 |
| CSCI240 | Databases and SQL | 4 |
| MART145 | Web Design | 3 |

Choose THREE of the following courses:

| CSCI121 | Programming with Java II | 4 |
| CSCI210 | Web Programming | 3 |
| CT253 | Developing Web Applications | 3 |
| CT262 | Web Databases | 4 |

**Network Administration Option - REQUIRED**

| CSCI100 | Introduction to Programming | 3 |
| ITS212 | Network Operating System-Server Admin | 4 |
| ITS150 | CCNA 1: Exploration | 4 |
| ITS224 | Introduction to Linux | 3 |
| ITS280 | Computer Repair and Maintenance | 4 |

Choose TWO of the following courses:

| CSCI240 | Databases with SQL | 4 |
| ITS152 | CCNA 2: Exploration | 3 |
| ITS250 | CCNA 3: Exploration | 3 |

**Environmental Science**

| ENSC105 | Environmental Science | 3 |
| ENSC272 | Water Resources | 3 |
| ENST230 | Nature and Society | 3 |
| EVSC140 | Introto Geographic Information Systems (GIS) | 3 |
| EVSC240 | Geographic Information Systems (GIS) | 3 |
| GEO101 | Introduction to Physical Geology | 3 |
| GEO102 | Introduction to Physical Geology Lab | 1 |

Choose ONE of the following courses:
Math - Trigonometry, Statistics, or Linear Math    3

C.  Associate of Science 4-year degree in Business available at Helena College through partnership with Montana Tech (beginning on page 113).

**Accounting Technology - REQUIRED**

| | | |
|---|---|---|
| ACTG101 | Accounting Procedures I | 3 |
| ACTG102 | Accounting Procedures II | 3 |
| ACTG201 | Principles of Financial Accounting | 3 |
| ACTG202 | Principles of Managerial Accounting | 3 |
| BGEN105 | Introduction to Business | 3 |

Choose TWO of the following courses:

| | | |
|---|---|---|
| ACTG180 | Payroll Accounting | 3 |
| ACTG205 | Computerized Accounting | 3 |
| ACTG211 | Income Tax Fundamentals | 3 |
| ACTG215 | Foundations of Governmental and Not for Profit Accounting | 3 |

**Business Technology – REQUIRED**

| | | |
|---|---|---|
| ACTG101 | Accounting Procedures I | 3 |
| ACTG201 | Principles of Financial Accounting | 3 |
| ACTG202 | Principles of Managerial Accounting | 3 |
| BGEN105 | Introduction to Business | 3 |
| BMKT225 | Marketing | 3 |
| BMGT235 | Management | 3 |

Choose ONE of the following courses:

| | | |
|---|---|---|
| BMGT210 | Small Business Entrepreneurship | 3 |
| BGEN201 | Foundations of Business Ethics | 3 |
| PSCI240 | Introduction to Public Administration | 3 |
| BGEN235 | Business Law I | 3 |
| BGEN236 | Business Law II | 3 |
| BMGT215 | Human Resource Management | 3 |
| BMGT263 | Legal Issues in Human Resources | 3 |
| BFIN265 | Introduction to Business Finance | 3 |

D.  Associate of Science 4-year degree in Business Administration available at Helena College through partnership with UM - Missoula)

**Business Administration (UM Transfer Initiative)**
Required Core (see page 115 for additional core courses):

**Program of Study (24 credits)**

| | | |
|---|---|---|
| ACTG201 | Principles of Financial Accounting | 3 |
| ACTG202 | Principles of Managerial Accounting | 3 |
| BGEN235 | Business Law | 3 |
| BMIS270 | Management Information Systems Foundations for Business | 3 |
| CSCI 172 | Introduction to Computer Modeling | 3 |
| ECNS 201 | Principles of Microeconomics | 3 |
| ECNS202 | Principles of Macroeconomics | 3 |
| M115 | Probability & Linear Mathematics | 3 |

## IV. CAPSTONE (2/3 CREDITS)

Capstones for Programs of Study in Accounting Technology, Business Technology, Computer Technology, and Mental Health Direct Care have specific capstone courses: ACTG299, BGEN299, CSCI299, and PSYX298.

Students must officially declare a Program of Study before enrolling in any capstone, and the course must qualify within that Program of Study. Students undertake capstone projects during their sophomore year and are encouraged to do so during their final semester when appropriate. In the case of a dual Program of Study, students should take a capstone from the predominant program.

| | | |
|---|---|---|
| ACTG299 | Capstone: Accounting | 3 |
| BGEN299 | Capstone: Business | 3 |
| CSCI299 | Thesis/Capstone | 2 |
| PSYX298 | Mental Health Direct Care Internship | 2 |

## V. OPEN ELECTIVE (MAXIMUM OF 3 CREDITS)

Students have the opportunity for exploration by taking one MUS college level course (100 level).

## Accounting and Business Technology

The Accounting and Business Technology program area prepares students to enter the business world – as bookkeepers, as accountants, or as entrepreneurs. Graduates of the Accounting track learn skills readying them to be accounting technicians with private, government, or not for profit agencies. Graduates of the Business track gain knowledge as associates in business or entrepreneurs of their own ventures. Students choosing either option may transfer their A.A.S. degree toward earning a Bachelor of Applied Science in business through other Montana higher education institutions.

The Accounting track emphasizes accounting procedures with other business, communication, and computer courses to complement the needs of today's employers. Students successfully completing the Associate of Applied Science in the Accounting Technology program will have a general knowledge of financial statement presentation, non-profit accounting, managerial accounting, payroll procedures, and income tax preparation. The Associate of Applied Science – Accounting Technology further emphasizes critical thinking, problem-solving, and communication skills for students with instruction in business law, economics, ethics, finance, and a capstone experience.

**Requirements for all Accounting and Business certificates and degrees:** Students must fulfill their math requirements in at least M108T Business Math or M121 College Algebra and their English requirements in at least WRIT121T Introduction to Technical Writing or WRIT101 College Writing I. Students who do not place into these classes will be required to take additional English and mathematics courses at the beginning of their program.

**Computer Competence:** Students must have a computer competency equal to CAPP131 (basic Windows, Internet, Word and Excel) to be determined through placement testing at enrollment. Students who do not meet these requirements will be required to take CAPP131 at the beginning of their program, and the credits may be used to meet the elective requirements in later semesters.

## Gainful Employment

Accounting and Business Technology
Certificate of Applied Science

Career Outlook: According to The Bureau of Labor Statistics employment of accountants and auditors is expected to grow 16 percent from 2010 to 2020, about as fast as the average for all occupations. There has been an increased focus on accounting in response to corporate scandals and recent financial crises. Stricter laws and regulations, particularly in the financial sector, will likely increase the demand for accounting services as organizations seek to comply with new standards. Additionally, tighter lending standards are expected to increase the importance of audits, as this is a key way for organizations to demonstrate their creditworthiness.

The continued globalization of business should lead to more demand for accounting expertise and services related to international trade and international mergers and acquisitions.

Employment Opportunities with SOC Code:

| | |
|---|---|
| Accountant and Auditors | 13-2011.00 |
| Tax Examiner/Revenue Agents | 13-2081.00 |
| Bill and Account Collectors | 43-3011.00 |
| Bookkeeping, Auditing Clerks | 43-3031.00 |
| Office Clerks, General | 43-9061.00 |

| Salary Forecast: | | MT | CO |
|---|---|---|---|
| Accountant/Auditors | 13-2011.00 | 57,830 | 72,300 |
| Tax Examiner/Revenue Agents | 13-2081.00 | 53,510 | 47,130 |
| Bill/Account Collectors | 43-3011.00 | 32,500 | 35,470 |
| Bookkeeping, Auditing Clerks | 43-3031.00 | 31,690 | 35,770 |
| Office Clerks, General | 43-9061.00 | 26,020 | 31,390 |

For the most current salary information please refer to the Bureau of Labor Statistics "Occupational Outlook Handbook found at www.bls.gov/ooh/.

Program Cost:
Approximately $9,400

# Accounting and Business Technology

## Accounting Technology

**Length of Program:** 4 Semesters
**Type of Program:** Associate of Applied Science
**Semester of Entry:** Fall and Spring.
*The suggested sequence in this catalog is for students entering in the fall semester. Please see your advisor for a suggested spring entry sequence.*

### FIRST YEAR

#### Fall Semester

| | | |
|---|---|---|
| ACTG101 | Accounting Procedures I | 3 |
| BGEN105 | Introduction to Business | 3 |
| *Choose one of the following:* | | 3 |
| M108T | Business Math | |
| M121 | College Algebra | |
| *Choose one of the following:* | | 3 |
| WRIT101 | College Writing | |
| WRIT121T | Introduction to Technical Writing | |
| *Choose one of the following:* | | 3 |
| TASK113 | Keyboarding and Document Processing | |
| CAPP154 | MS Word | |
| **Total Semester Credits** | | **15** |

#### Spring Semester

| | | |
|---|---|---|
| ACTG102 | Accounting Procedures II | 3 |
| ACTG205 | Computerized Accounting | 3 |
| BGEN201 | Foundations of Business Ethics | 3 |
| CAPP156 | MS Excel | 3 |
| *Choose one of the following:* | | 3 |
| HR110T | Career Development and Human Relations | |
| PSYX100 | Introduction to Psychology | |
| SOCI101 | Introduction to Sociology | |
| *Electives Credits* | | 3 |
| **Total Semester Credits** | | **18** |

### SECOND YEAR

#### Fall Semester

| | | |
|---|---|---|
| ACTG180 | Payroll Accounting | 3 |
| ACTG201 | Principles of Financial Accounting | 3 |
| ACTG211 | Income Tax Fundamentals | 3 |
| *Choose one of the following:* | | 3 |
| ECNS201 | Microeconomics | |
| ECNS202 | Macroeconomics | |
| ECNS203 | Principles of Micro and Macro Economics | |
| *Choose one of the following:* | | 3 |
| COMX111 | Introduction to Public Speaking | |
| COMX250 | Introduction to Public Relations | |
| CAPP266 | Advanced MS Excel | 3 |
| **Total Semester Credits** | | **18** |

#### Spring Semester

| | | |
|---|---|---|
| ACTG202 | Principles of Managerial Accounting | 3 |
| ACTG215 | Foundations of Governmental and Not for Profit Accounting | 3 |
| *Choose one of the following:* | | 3 |
| ACTG230 | Intro to Statewide Accounting, Budgeting, and Human Resource System (SABHRS) | |
| ACTG292 | Independent Study | |
| ACTG298 | Internship | |
| ACTG299 | Capstone: Accounting | 3 |
| *Choose one of the following:* | | 3 |
| BGEN235 | Business Law I | |
| BGEN236 | Business Law II | |
| **Total Semester Credits** | | **15** |
| | | |
| *TOTAL CREDITS* | | *66* |

**A 4-year degree in Business is available at Helena College through partnership with Montana Tech. Please see additional academic opportunities beginning on page 113.**

## Small Business Management Technology

The Business track emphasizes general business courses to provide students with a broad background for the business environment. The Associate of Applied Science – Small Business Management Technology degree offers management, marketing, ethics, and finance courses. The two options will provide educational opportunities for students to develop the necessary skills to manage their own businesses.

## Gainful Employment

Small Business Management
Associate of Applied Science

Career Outlook: According to The Bureau of Labor Statistics employment of top executives is expected to grow 5 percent from 2010 to 2020, slower than the average for all occupations. Employment growth will vary widely by industry and is largely dependent on the rate of industry growth.

Top executives are essential for running companies and organizations. Their work—formulating strategies and policies—is central to the success of a company. However, as a business grows, the number of top executives does not grow as quickly as the number of employees. Therefore, top executives are not expected to experience as much employment growth as the employees they oversee.

Employment growth will be driven by the formation of new organizations and expansion of existing ones, which will require more managers and executives. However, employment will be negatively affected by mergers. When companies consolidate, management jobs often are lost.

Top executives should face very strong competition for jobs. High pay and the prestige associated with the positions attract a substantial number of qualified applicants. For chief executives, those with an advanced degree and extensive managerial experience will have the best job prospects. For general and operations managers, educational requirements vary by industry, but candidates who can demonstrate strong leadership abilities and experience getting positive results will have better job opportunities.

Employment Opportunities with SOC Code:
General & Operations Manager     11.1021.00
Managers, All Other                      11-9199.00

| Salary Forecast | | MT | CO |
|---|---|---|---|
| General & Operations Manager | 11.1021.00 | 87,230 | 118,570 |
| Managers, All Other | 11.9199.00 | 72,300 | 103,870 |

For the most current salary information please refer to the Bureau of Labor Statistics "Occupational Outlook Handbook"

Program Cost:
Approximately $9,100

# Accounting and Business Technology

## Small Business Management Technology

**Length of Program:** 4 Semesters
**Type of Program:** Associate of Applied Science
**Semester of Entry:** Fall and Spring.
*The suggested sequence in this catalog is for students entering in the fall semester. Please see your advisor for a suggested spring entry sequence.*

### FIRST YEAR

#### Fall Semester

| | | |
|---|---|---|
| ACTG101 | Accounting Procedures I | 3 |
| BGEN105 | Introduction to Business | 3 |
| *Choose one of the following:* | | 3 |
| M108T | Business Math | |
| M121 | College Algebra | |
| *Choose one of the following:* | | 3 |
| WRIT101 | College Writing | |
| WRIT121T | Introduction to Technical Writing | |
| *Choose one of the following:* | | 3 |
| TASK113 | Keyboarding and Document Processing | |
| CAPP154 | MS Word | |
| **Total Semester Credits** | | **15** |

#### Spring Semester

| | | |
|---|---|---|
| ACTG205 | Computerized Accounting | 3 |
| BMGT210 | Small Business Entrepreneurship | 3 |
| BGEN201 | Foundation of Business Ethics | 3 |
| *Choose one of the following:* | | 3 |
| CAPP156 | MS Excel | |
| CSCI172 | Introduction to Computer Modeling | |
| *Choose one of the following:* | | 3 |
| HR110T | Career Development and Human Relations | |
| SOCI101 | Introduction to Sociology | |
| PSYX100 | Introduction to Psychology | |
| *Elective Credits* | | 3 |
| **Total Semester Credits** | | **18** |

### SECOND YEAR

#### Fall Semester

| | | |
|---|---|---|
| ACTG180 | Payroll Accounting | 3 |
| BFIN265 | Introduction to Business Finance | 3 |
| BMKT225 | Marketing | 3 |
| *Choose one of the following:* | | 3 |
| ECNS203 | Principles of Micro and Macro Economics | |
| ECNS201 | Microeconomics | |
| ECNS202 | Macroeconomics | |
| *Choose one of the following:* | | 3 |
| BMGT215 | Human Resource Management | |
| BMGT263 | Legal Issues in Human Resources | |
| BGEN292 | Independent Study | |
| BGEN298 | Internship | |
| *Choose one of the following:* | | 3 |
| COMX111 | Introduction to Public Speaking | |
| COMX250 | Introduction to Public Relations | |
| **Total Semester Credits** | | **18** |

#### Spring Semester

| | | |
|---|---|---|
| BMGT235 | Management | 3 |
| PSCI240 | Introduction to Public Administration | 3 |
| BGEN299 | Capstone: Business | 3 |
| CAPP153 | MS PowerPoint | 3 |
| *Choose one of the following:* | | 3 |
| BGEN235 | Business Law I | |
| BGEN236 | Business Law II | |
| **Total Semester Credits** | | **15** |
| ***TOTAL CREDITS*** | | ***66*** |

**A 4-year degree in Business available at Helena College through partnership with Montana Tech. Please see additional academic opportunities beginning on page 113.**

# Accounting and Business Technology

## Small Business Management Technology / Evening After Hours

**Length of Program:**   4 Semesters
**Type of Program:**   Associate of Applied Science
**Semester of Entry:**   Fall and Spring.
*The suggested sequence in this catalog is for students entering in the fall semester. Please see your advisor for a suggested spring entry sequence.*

The Evening – After Hours Degree Program Small Business Management Technology option emphasizes general business courses to provide students with a broad background for the business environment while completing courses at the student's own pace. The Associate of Applied Science – Small Business Management Technology degree further offers management, marketing, ethics, and finance courses. The option will provide educational opportunities for students to develop the necessary skills to manage their own businesses. Evening - After Hours Degree program courses are offered beginning at 4:00 p.m., weekends beginning at 9:00 a.m. or online. Students build their futures at Helena College through individualized instruction developing practical problem-solving skills, strengthening their positions in the job market and for educational advancement toward earning a bachelor degree.

### FIRST YEAR

#### Fall Semester

| | | Offered |
|---|---|---|
| ACTG101 | Accounting Procedures I | 3 (FS) |
| BGEN105 | Introduction to Business | 3 (A) |
| *Choose one math:* | | 3 (FO) |
| M108T | Business Math | |
| M121 | College Algebra | |
| *Choose one writing:* | | 3 (A) |
| WRIT101 | College Writing | |
| WRIT121T | Introduction to Technical Writing | |
| *Choose one of the following:* | | 3 (A) |
| TASK113 | Keyboarding and Document Processing | |
| CAPP154 | MS Word | |
| **Total Semester Credits** | | **15** |

#### Spring Semester

| | | |
|---|---|---|
| ACTG205 | Computerized Accounting | 3 (eF) |
| BMGT210 | Small Business Entrepreneurship | 3 (HOS) |
| BGEN201 | Foundations of Business Ethics | 3 (FSH) |
| *Choose one of the following:* | | 3 (FSH) |
| CAPP156 | MS Excel | |
| CSCI172 | Introduction to Computer Modeling | |
| *Choose one of the following:* | | 3 (OS) |
| HR110T | Career Development and Human Relations | |
| SOCI101 | Introduction to Sociology | |
| PSYX100 | Introduction to Psychology | |
| *Elective Credits* | | 3 (A) |
| **Total Semester Credits** | | **18** |

### SECOND YEAR

#### Fall Semester

| | | Offered |
|---|---|---|
| ACTG180 | Payroll Accounting | 3 (S) |
| BFIN265 | Introduction to Business Finance | 3 (eS) |
| BMKT225 | Marketing | 3 (eS) |
| *Choose one of the following:* | | 3 (FS) |
| ECNS203 | Principles of Micro and Macro Economics | |
| ECNS201 | Microeconomics | |
| ECNS202 | Macroeconomics | |
| *Choose one of the following:* | | 3 (FSH) |
| BMGT215 | Human Resource Management | |
| BMGT263 | Legal Issues in Human Resources | |
| BGEN292 | Independent Study | |
| BGEN298 | Internship | |
| *Choose one of the following:* | | 3 (FS) |
| COMX111 | Introduction to Public Speaking | |
| COMX250 | Introduction to Public Relations | |
| **Total Semester Credits** | | **18** |

#### Spring Semester

| | | |
|---|---|---|
| BMGT235 | Management | 3 (oF) |
| PSCI240 | Intro to Public Administration | 3 (eF) |
| BGEN299 | Capstone: Business | 3 (eF) |
| CAPP153 | MS PowerPoint | 3 (FSO) |
| *Choose one of the following:* | | 3 (FS) |
| BGEN235 | Business Law I | |
| BGEN236 | Business Law II | |
| **Total Semester Credits** | | **15** |

*TOTAL CREDITS*   *66*

**Course Offerings:**
A = All Semesters
F = Fall Semester
S = Spring Semester
O = Online
H = Hybrid
e / o = Offered even/odd semesters

---

# Accounting and Business Technology

## Gainful Employment

Certificate Name: Bookkeeping
Job Title & Subsequent Codes:      43-3051
Payroll and Timekeeping Clerks

PROGRAM COSTS:
Tuition & Fees:    $3091.00
Room & Board: $5,574.00
Books & Supplies: $1,200.00

PROGRAM STATISTICS
- Number of students completing this certificate
- program in most recent fiscal year: <10
- Number completed within normal time: N/A
- On-time completion rate:        N/A
- Job Placement Rate:    N/A
- Median loan debt for program completers: N/A

## Bookkeeping

**Length of Option:**      2 Semesters
**Type of Program:**      Certificate of Applied Science
**Semester of Entry:**      Fall and Spring
*The suggested sequence in this catalog is for students entering in the fall semester. Please see your advisor for a suggested spring entry sequence.*

### Fall Semester

| | | |
|---|---|---|
| ACTG101 | Accounting Procedures I | 3 |
| BGEN105 | Introduction to Business | 3 |
| *Choose one of the following:* | | 3 |
| M108T | Business Math | |
| | M121 College Algebra | |
| *Choose one of the following:* | | 3 |
| TASK113 | Keyboarding & Document Processing | |
| CAPP154 | MS Word | |
| *Choose one of the following:* | | 3 |
| WRIT121T | Introduction to Technical Writing | |
| WRIT101 | College Writing | |
| **Total Semester Credits** | | **15** |

### Spring Semester

| | | |
|---|---|---|
| ACTG102 | Accounting Procedures II | 3 |
| ACTG205 | Computerized Accounting | 3 |
| BGEN201 | Foundation of Business Ethics | 3 |
| CAPP156 | MS Excel | 3 |
| *Choose one of the following:* | | 3 |
| HR110T | Career Development & Human Relations | |
| SOCI101 | Introduction to Sociology | |
| PSYX100 | Introduction to Psychology | |
| *Elective Credits* | | 3 |
| **Total Semester Credits** | | **18** |

*TOTAL CREDITS*                                    *33*

## Gainful Employment

Certificate Name: Small Business Entrepreneurship
Job Title & Subsequent Codes:      11-1021
General and Operations Managers

PROGRAM COSTS:
Tuition & Fees:    $3091.00
Room & Board: $5,574.00
Books & Supplies: $1,200.00

PROGRAM STATISTICS
- Number of students completing this certificate
- program in most recent fiscal year: <10
- Number completed within normal time:N/A
- On-time completion rate:  N/A
- Job Placement Rate: N/A
- Median loan debt for program completers: N/A

## Small Business Entrepreneurship

**Length of Option:**      2 Semesters
**Type of Program:**      Certificate of Applied Science
**Semester of Entry:**      Fall and Spring
*The suggested sequence in this catalog is for students entering in the fall semester. Please see your advisor for a suggested spring entry sequence.*

### Fall Semester

| | | |
|---|---|---|
| ACTG101 | Accounting Procedures I | 3 |
| BGEN105 | Introduction to Business | 3 |
| *Choose one of the following:* | | 3 |
| M108T | Business Math | |
| | M121 College Algebra | |
| *Choose one of the following:* | | 3 |
| TASK113 | Keyboarding & Document Processing | |
| CAPP154 | MS Word | |
| *Choose one of the following:* | | 3 |
| WRIT121T | Introduction to Technical Writing | |
| WRIT101 | College Writing | |
| **Total Semester Credits** | | **15** |

### Spring Semester

| | | |
|---|---|---|
| ACTG205 | Computerized Accounting | 3 |
| BGEN201 | Foundations of Business Ethics | 3 |
| BMGT210 | Small Business Entrepreneurship | 3 |
| *Choose one of the following:* | | 3 |
| CAPP156 | MS Excel | |
| CAPP171 | Introduction to Computer Modeling | |
| *Choose one of the following:* | | 3 |
| HR110T | Career Development and Human Relations | |
| SOCI101 | Introduction to Sociology | |
| PSYX100 | Introduction to Psychology | |
| *Elective Credits* | | 3 |
| **Total Semester Credits** | | **18** |

*TOTAL CREDITS*                                    *33*

# Automotive Technology

## Automotive Technology

The Automotive Technology curriculum consists of eight areas of study as defined by the National Institute for Automotive Service Excellence (ASE) and is certified by the National Automotive Technicians Education Foundation (NATEF). This non-profit corporation is dedicated to improving the quality of automotive service and repair as well as assisting in training and program development throughout the nation. The eight content areas of study, along with the College's general education requirements, are structured into four groups with all eight areas of study being offered during a two-year period. Successful completion of this program will enable students to enter the automotive job market.

Upon admission to the Automotive Program, students are **required** to purchase a tool set as outlined in the tool section of this catalog. Students are also required to purchase school-approved coveralls and red rags for use in the shops and are responsible for a cleaning fee each semester.

## Gainful Employment

Automotive Technology
Associate of Applied Science

Career Outlook:  According to The Bureau of Labor Statistics employment of automotive service technicians and mechanics is expected to grow 17 percent from 2010 to 2020, about as fast as the average for all occupations.

As the number of vehicles in use continues to grow, more entry-level service technicians will be needed to do basic maintenance and repair, such as brake pad replacements and oil changes. The increasing lifespan of late-model cars and light trucks will further increase demand for qualified workers. However, continuing consolidation in the automotive industry may lessen the need for new mechanics.

Employment Opportunities with SOC Code:

| | |
|---|---|
| Automotive Service Technician | 49-3023.00 |
| Automotive Specialty Technician | 49-3023.02 |
| Automotive Master Mechanics | 49-3023.01 |
| Career/ Technical Education Teachers | 25-2032.00 |

| Salary Forecast: | | MT | CO |
|---|---|---|---|
| Automotive Service Tech | 49-3023.00 | 35,520 | 41,360 |
| Automotive Specialty Tech | 49-3023.02 | 35,520 | 41,360 |
| Automotive Master Mech | 49-3023.01 | 35,520 | 41,360 |
| Career/ Technical Education Teachers | 25-2032.00 | 42,350 | 52,660 |

For the most current salary information please refer to the Bureau of Labor Statistics "Occupational Outlook Handbook found at www.bls.gov/ooh/.

Program Cost:
Approximately $10, 800

# Automotive Technology

**Length of Program:** 4 Semesters
**Type of Program:** Associate of Applied Science
**Semester of Entry:** Fall and Spring.
*The suggested sequence in this catalog is for students entering in the fall semester. Please see your advisor for a suggested spring entry sequence.*

## *Prequisite courses may apply to this program.*

### FIRST YEAR

#### Fall Semester

| | | |
|---|---|---|
| AUTO104 | Automotive Mechanics | 2 |
| AST108 | Automotive Manual Drive Trains | 6 |
| AST130 | Introduction to Automotive Electronics | 7 |
| M111T | Technical Mathematics | 3 |
| **Total Semester Credits** | | **18** |

#### Spring Semester

| | | |
|---|---|---|
| AST160 | Automotive Engine Repair | 6 |
| AST172 | Automotive Heating/ Air Conditioning | 5 |
| AST230 | Electric/Electronics Systems ll | 4 |
| CAPP131 | Basic MS Office | 3 |
| **Total Semester Credits** | | **18** |

### SECOND YEAR

#### Fall Semester

| | | |
|---|---|---|
| AST118 | Brakes Chassis | 6 |
| AST262 | Engine Performance l | 8 |
| WRIT121T | Introduction to Technical Writing | 3 |
| **Total Semester Credits** | | **17** |

#### Spring Semester

| | | |
|---|---|---|
| AST264 | Engine Performance ll | 5 |
| AST270 | Automotive Transmissions/ Transaxles | 7 |
| AST280 | Applied Laboratory Experience/ Light Repair | 4 |
| HR110T | Career Development and Human Relations | 3 |
| **Total Semester Credits** | | **19** |
| *TOTAL CREDITS* | | **72** |

Upon their successful graduation in the Automotive Technology Program at Helena College, a 4-year B.S. degree in Automotive Technology is available through a partnership at Montana State University-Northern.

*Tool lists can be found on pages 167-170.*

## Aviation Maintenance Technology

The Aviation Maintenance Technology program provides students with the basic skills common to all mechanics as well as the specialized requirements unique to aircraft maintenance. A partial listing of the special skills a student will learn can be found in the course curriculum printed below.

Satisfactory completion of the program prepares and qualifies students for the Federal Aviation Administration's tests to obtain an Airframe and Powerplant Mechanic Certificate. Completion of the program will also give the student the necessary job skills to gain employment in the aircraft maintenance industry. The Aviation Maintenance Technology program is approved and certified by the FAA and requires four semesters of study to complete the course.

Students will need professional tools to gain employment upon graduation; therefore, they are required to purchase a tool set as outlined in the tool section. Students are required to purchase school-approved coveralls and red rags for use in the shops and are responsible for a cleaning fee each semester.

## Gainful Employment

Aviation Maintenance Technology
Associate of Applied Science

Career Outlook: According to the Bureau of Labor Statistics employment of aircraft mechanics and avionics technicians is projected to grow 6 percent from 2010 to 2020, slower than the average for all occupations.

Modest employment growth is expected as air travel gradually increases over the coming decade. However, as airlines increasingly outsource maintenance work to other countries, employment growth is expected to be limited.

Job prospects should be best for mechanics and technicians who hold an Airframe and Powerplant (A&P) certificate and a bachelor's degree in aircraft maintenance. Job prospects also will be better for those who keep up with technical advances in aircraft electronics and composite materials.

Job opportunities may arise from the need to replace mechanics who leave the workforce. Over the next decade, many aircraft mechanics are expected to retire. As older mechanics retire and younger mechanics advance, entry-level positions may open up.

However, if airlines continue to send maintenance work to other countries, competition for new jobs will remain strong.

Employment Opportunities with SOC Code:
| | |
|---|---|
| Aircraft Mechanics and Service Technicians | 49-3011.00 |
| Avionics Technicians | 49-2091.00 |
| Aviation Inspectors | 53-6051.01 |

| Salary Forecast: | | MT | CO |
|---|---|---|---|
| Aircraft Mechanics & Service | | | |
| Technicians | 49-3011.00 | 46,630 | 57,250 |
| Avionics Technicians | 49-2091.00 | 33,110 | 46,260 |
| Aviation Inspectors | 53-6051.01 | 52,300 | 68,510 |

For the most current salary information please refer to the Bureau of Labor Statistics "Occupational Outlook Handbook found at www.bls.gov/ooh/.

Program Cost:
Approximately $7,300

# Aviation Maintenance Technology

## Aviation Maintenance Technology

**Length of Program:** 4 Semesters
**Type of Program:** Associate of Applied Science
**Semester of Entry:** Fall and Spring
*The suggested sequence in this catalog is for students entering in the fall semester. Please see your advisor for a suggested spring entry sequence.*

### *Prequisite courses may apply to this program.*

### FIRST YEAR

#### Fall Semester

| | | |
|---|---|---|
| AVMT100 | Intro to Aviation Maintenance/Mathematics and Basic Physics | 2 |
| AVMT105 | Basic Electricity | 2 |
| AVMT110 | Aircraft Drawings/Weight and Balance | 2 |
| AVMT115 | Materials and Processes/Fluid Lines and Fittings/Cleaning and Corrosion Control | 3 |
| AVMT120 | Ground Operation and Servicing | 2 |
| AVMT125 | Maintenance Publications/Forms & Records/Mechanic Privileges & Limitations | 2 |
| AVMT130 | Basic Aerodynamics | 2 |
| AVMT135 | Assembly & Rigging/Airframe Inspection | 3 |
| M111T | Technical Mathematics | 3 |
| **Total Semester Credits** | | **21** |

#### Spring Semester

| | | |
|---|---|---|
| AVMT140 | Sheet Metal | 3 |
| AVMT145 | Composites and Plastics | 3 |
| AVMT150 | Wood Structures | 2 |
| AVMT155 | Aircraft Covering/Aircraft Finishes | 2 |
| AVMT160 | Aircraft Welding | 3 |
| AVMT165 | Hydraulic and Pneumatic Power Systems | 3 |
| AVMT170 | Aircraft Landing Gear Systems/Position and Warning Systems | 2 |
| CAPP131 | Basic MS Office | 3 |
| **Total Semester Credits** | | **21** |

### SECOND YEAR

#### Fall Semester

| | | |
|---|---|---|
| AVMT205 | Aircraft Electrical Systems | 2 |
| AVMT210 | Aircraft Fuel Systems/Fire Protection Systems/Ice and Rain Control Systems | 3 |
| AVMT215 | Cabin Atmosphere Control Systems | 2 |
| AVMT220 | Aircraft Instrument Systems/ Communication and Navigation Systems | 3 |
| AVMT225 | Development of Aircraft Powerplants | 2 |
| AVMT230 | Reciprocating Engines and Systems | 6 |
| WRIT121T | Introduction to Technical Writing | 3 |
| **Total Semester Credits** | | **21** |

#### Spring Semester

| | | |
|---|---|---|
| AVMT235 | Turbine Engines and Systems | 6 |
| AVMT240 | Engine Instrument Systems | 2 |
| AVMT245 | Engine Electrical Systems/Auxiliary Power Unit | 2 |
| AVMT250 | Engine Fire Protection Systems | 2 |
| AVMT255 | Propellers and Unducted Fans | 6 |
| HR110T | Career and Human Development | 3 |
| **Total Semester Credits** | | **21** |

| | | |
|---|---|---|
| *TOTAL CREDITS* | | *84* |

*Tool lists can be found on pages 167-170.*

# Computer Aided Manufacturing

## Computer Aided Manufacturing

Computer Aided Manufacturing is designed to prepare students as entry-level machinists in many areas, including aerospace, computer industries, job shop, gun smithing, tool and die making, Computer Numerical Control (CNC) operator, and CNC programmer. Students will study machining processes and procedures using lathes, mills, drill presses, cylindrical grinders, and surface grinders.

The first year students will use a variety of manual machines, including engine lathes, horizontal and vertical mills, cylindrical grinders, surface grinders, drill presses, and radial arm drill. Students will work from blueprints and follow exact specifications and apply practical shop math to accomplish the required tasks. Much of the lab time will be used for shop and project work.

The second-year CNC portion of machine shop is devoted to the programming and operation of the CNC machine. Students will be prepared to enter the work force as entry level programmers and CAD/CAM technicians. Students will program and operate machining centers and turning centers in the lab. Students will learn the Mastercam programming system, which allows students to design parts on the computer and then manufacture them in the lab. Students will work from blueprints and exact specifications that are used in industry. Lab work will include manual and CNC machine use. These machines will be used for manufacturing fixtures, project work, and production projects.

## Gainful Employment

Computer Aided Manufacturing
Associate of Applied Science

Career Outlook:  According to the Bureau of Labor Statistics employment of metal and plastic machine workers is projected to grow 6 percent from 2010 to 2020, slower than the average for all occupations. Employment will be affected by advances in technology, changing demand for the goods these workers produce, foreign competition, and the reorganization of production processes.

One of the most important factors influencing employment growth in these occupations is the use of labor-saving machinery. Many firms are adopting new technologies, such as computer-controlled machine tools and robots, to improve quality, lower production costs, and remain competitive. The switch to computer-controlled machinery requires computer programmers instead of machine setters, operators, and tenders. The lower-skilled manual machine tool operator and tender jobs are more likely to be eliminated by these new technologies because the computer-controlled machinery does the work more effectively.

The demand for metal and plastic machine workers also is affected by the demand for the parts they produce. Both the plastic and metal manufacturing industries face stiff foreign competition that is limiting the orders for parts produced in this country. Some U.S. manufacturers have recently sent their production to foreign countries, limiting jobs for machine setters and operators.

Despite slower than average employment growth, a number of these jobs are expected to become available for highly skilled workers because of an expected increase in retirements, primarily of baby boomers, in the coming years.

In addition, workers who have a thorough background in machine operations, certifications from industry associations, and a good working knowledge of the properties of metals and plastics should have the best job opportunities.

Employment Opportunities with SOC Code:

| | |
|---|---|
| CNC Machine Tool Operator | 51-4012.00 |
| CCM Tool Operators | 51-4011.00 |
| First-Line Production Supervisor | 51-1011.00 |
| Prepress Technicians and Workers | 51-5111.00 |

| Salary Forecast: | | MT | CO |
|---|---|---|---|
| CNC Mach Tool Operator | 51-4012.00 | 39,400 | 37,590 |
| CCM Tool Operators | 51-4011.00 | 28,080 | 37,900 |
| First-Line Prod Spv | 51-1011.00 | 52,530 | 61,610 |
| Prepress Techs & Workers | 51-5111.00 | 28,400 | 36,910 |

For the most current salary information please refer to the Bureau of Labor Statistics "Occupational Outlook Handbook found at www.bls.gov/ooh/.

Program Cost:
Approximately $9,200

## Computer Aided Manufacturing

**Length of Program:** 4 Semesters
**Type of Program:** Associate of Applied Science
**Semester of Entry:** Fall

### FIRST YEAR

#### Fall Semester

| | | |
|---|---|---|
| MCH120 | Blueprint Reading and Interpretation for Machining | 2 |
| MCH130 | Machine Shop | 3 |
| MCH132 | Introduction to Engine Lathes | 5 |
| MCH134 | Introduction to Mills | 5 |
| M111T | Technical Mathematics | 3 |
| **Total Semester Credits** | | **18** |

#### Spring Semester

| | | |
|---|---|---|
| MCH136 | Advanced Lathes | 5 |
| MCH137 | Advanced Mills | 5 |
| MCH139 | Grinding Applications | 2 |
| MCH240 | Metallurgy | 1 |
| MCH245 | Shop Practices | 2 |
| CAPP131 | Basic MS Office | 3 |
| **Total Semester Credits** | | **18** |

### SECOND YEAR

#### Fall Semester

| | | |
|---|---|---|
| MCH230 | Tooling and Fixtures in CNC | 2 |
| MCH231 | CNC Turning Operations Level 1 | 3 |
| MCH232 | CNC Turning Programming Operations 2 | 3 |
| MCH234 | Milling Operations Level 1 | 3 |
| MCH235 | CNC Millings Programming Operations 2 | 3 |
| WRIT121T | Introduction to Technical Writing | 3 |
| **Total Semester Credits** | | **17** |

#### Spring Semester

| | | |
|---|---|---|
| MCH233 | CNC Turning Programming Operations 2 | 3 |
| MCH236 | CNC Milling Programming Operations 3 | 3 |
| MCH237 | CAD/CAM CNC turning Center | 5 |
| MCH238 | CAD/CAM CNC Machining Center | 5 |
| HR110T | Career Development and Human Relations | 3 |
| **Total Semester Credits** | | **19** |
| *TOTAL CREDITS* | | **72** |

*Tool lists can be found on pages 167-170.*

# Computer Aided Manufacturing

## Gainful Employment

Certificate Name: Machine Tool Technology

Job Title & Subsequent Codes:         51-4041
Machinists, 51-4034  Lathe and Turning Machine Setters,
Operators and Tenders

### PROGRAM COSTS:
Tuition & Fees:    $3091.00
Room & Board: $5,574.00
Books & Supplies: $2,400.00

### PROGRAM STATISTICS
- Number of students completing this certificate
- program in most recent fiscal year <10
- Number of certificates completed within normal time: N/A
- On-time completion rate: N/A
- Job Placement Rate: N/A
- Median loan debt for most recent program completers: N/A

## Machine Tool Technology

Machine Tool Technology is designed to prepare students as entry-level machinists in many areas, including aerospace, computer industries, job shop, gun smithing, tool and die making, Computer Numerical Control (CNC) operator, and CNC programmer. Students will study machining processes and procedures using lathes, mills, drill presses, cylindrical grinders, and surface grinders.

The first year students will use a variety of manual machines, including engine lathes, horizontal and vertical mills, cylindrical grinders, surface grinders, drill presses, and radial arm drill. Students will work from blueprints and follow exact specifications and apply practical shop math to accomplish the required tasks. Much of the lab time will used for shop and project work.

**Length of Program:**   2 Semesters
**Type of Program:**   Certificate of Applied Science
**Semester of Entry:**   Fall

### Fall Semester

| | | |
|---|---|---|
| MCH120 | Blueprint Reading and Interpretation for Machining | 2 |
| MCH130 | Machine Shop | 3 |
| MCH132 | Introduction to Engine Lathes | 5 |
| MCH134 | Introduction to Mills | 5 |
| HR100T | Human Relations | 2 |
| M100T | Introduction to Technical Mathematics | 1 |
| **Total Semester Credits** | | **18** |

### Spring Semester

| | | |
|---|---|---|
| MACH132 | Advanced Lathes | 5 |
| MCH137 | Advanced Mills | 5 |
| MCH139 | Grinding Applications | 2 |
| MCH240 | Metallurgy | 1 |
| MCH245 | Shop Practices | 2 |
| CAPP106 | Short Courses: Computer Applications | 1 |
| WRIT121T | Introduction to Technical Writing | 3 |
| **Total Semester Credits** | | **19** |

*TOTAL CREDITS*          *37*

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## Computer Technology Option: Network Administration

Students are required to take the classes and credits shown from a selected option: Network Administration, Programming, or Webmaster. Elective credits are entirely up to the student and may be any 100 level or higher course as shown in the course schedule. Common choices include other computer classes, electronics classes, Microsoft Office classes, or business and accounting classes.

**Requirements for all programs:** Students must fulfill their math requirements in at least M115 Probability and Linear Math or higher and their English requirements in at least WRIT121T Introduction to Technical Writing. *Students must have a computer competency equal to CAPP100 Short Courses: Computer Literacy. The placement is determined through placement testing at enrollment (or previous accredited classes).* Students who do not place into the class will be required to take it at the beginning of their program, although the credits may be used to meet the elective requirements in the first semester.

As a graduation requirement students in the Helena College Computer Technology A.A.S. program must demonstrate proficiency in the program core and their chosen option area: Networking, Programming, or Webmaster. All Computer Technology A.A.S. students must pass a proficiency test based upon core course objectives, option area course objectives within the students' option of choice, program objectives, and corresponding nationally recognized competencies and standards. Self-paced study guides and focused study sessions are available to supplement developing skills and conceptual knowledge necessary to pass the test.

## Gainful Employment

Network Administrator

Career Outlook: According to The Bureau of Labor Statistics employment of network and computer systems administrators is expected to grow 28 percent from 2010 to 2020, faster than the average for all occupations. Demand for these workers is high and should continue to grow as firms invest in newer, faster technology and mobile networks. In addition, information security concerns are increasing for many businesses as managers realize that their current security measures are not enough to combat growing threats. More administrators with proper training will be needed to reinforce network and system security.

Growth is expected in healthcare industries as their use of information technology increases. More administrators will be required to manage the growing systems and networks found at hospitals and other healthcare institutions. Job opportunities should be favorable for this occupation. Prospects should be best for applicants who have a bachelor's degree in computer science and who are up to date on the latest technology.

Employment Opportunities with SOC Code:
| Network and Computer Systems | |
|---|---|
| Administrators | 15-1142.00 |
| Database Administrators | 15-1141.00 |

| Salary Forecast: | | **MT** | **CO** |
|---|---|---|---|
| Network & Computer Systems | | | |
| Administrators | 15-1142.00 | 55,930 | 78,490 |
| Database Administrators | 15-1141.00 | 55,940 | 79,750 |

For the most current salary information please refer to the Bureau of Labor Statistics "Occupational Outlook Handbook found at www.bls.gov/ooh/.

Program Cost:
Approximately $8,300

*Students may pursue a Bachelor of Science in Computer Science at Carroll College.*

# Computer Technology

## Network Administration

**Length of Programs:** 4 Semesters
**Type of Program:** Associate of Applied Science
**Semester of Entry:** Fall and Spring.
*The suggested sequence in this catalog is for students entering in the fall semester. Please see your advisor for a suggested spring entry sequence.*

### FIRST YEAR

*Fall Semester requires successful Basic MS Office placement.*

#### Fall Semester

| | | |
|---|---|---|
| BMIS270 | MIS Foundations for Business | 3 |
| CAPP100 | Short Courses: Computer Literacy | 2 |
| CSCI100 | Introduction to Programming | 3 |
| ITS150 | CCNA 1: Exploration | 4 |
| *Choose one of the following:* | | 3 |
| M115 | Probability and Linear Mathematics | |
| M121 | College Algebra | |
| *Choose one of the following:* | | 3 |
| WRIT101 | College Writing I | |
| WRIT121T | Introduction to Technical Writing | |
| **Total Semester Credits** | | **18** |

#### Spring Semester

| | | |
|---|---|---|
| CSCI240 | Databases and SQL | 4 |
| MART145 | Web Design | 3 |
| ITS152 | CCNA 2: Exploration | 3 |
| ITS280 | Computer Repair and Maintenance | 4 |
| *Choose one of the following Electives:* | | 3 |
| *English or Communication:* | | |
| COMX111 | Introduction to Public Speaking | |
| WRIT101 | College Writing or higher | |
| **Total Semester Credits** | | **17** |

### SECOND YEAR

#### Fall Semester

| | | |
|---|---|---|
| CSCI221 | Systems Analysis and Design | 4 |
| CSCI298 | Internship (arrange) *or* CSCI299 Thesis/Capstone (prior approval is required) | 2 |
| ITS224 | Introduction to Linux | 3 |
| ITS250 | CCNA 3: Exploration | 3 |
| ITS255 | IP Telephony | 3 |
| *Choose one of the following:* | | 3 |
| SOCI101 | Introduction to Sociology | |
| PSYX100 | Introduction to Psychology | |
| HR110T | Career Development and Human Relations | |
| **Total Semester Credits** | | **18** |

#### Spring Semester

| | | |
|---|---|---|
| CSCI115 | Programming with Perl | 3 |
| CSCI212 | Web Server Administration | 3 |
| ITS212 | Network Operating System - Server Admin | 4 |
| ITS218 | Network Security | 3 |
| ITS252 | CCNA 4: Exploration | 3 |
| **Total Semester Credits** | | **16** |

| | |
|---|---|
| *TOTAL CREDITS* | *69* |

## Computer Technology Option: Programming

**Requirements for all programs:** Students must fulfill their math requirements in at least M115 Probability and Linear Math or higher and their English requirements in at least WRIT121T Introduction to Technical Writing. *Students must have a computer competency equal to CAPP100 Short Courses: Computer Literacy. The placement is determined through placement testing at enrollment (or previous accredited classes).* Students who do not place into the class will be required to take it at the beginning of their program, although the credits may be used to meet the elective requirements in the first semester.

## Gainful Employment

Computer Programmer:

Career Outlook: According to the Bureau of Labor Statistics employment of computer programmers is expected to increase by 12 percent from 2010 to 2020, about as fast as the average for all occupations. Since computer programming can be done from anywhere in the world, companies often hire programmers in countries where wages are lower. This ongoing trend will limit growth for computer programmers in the United States. However, companies may continue to hire computer programmers in low cost areas within the United States.

Most computer programmers work in computer system design and related services, an industry which is expected to grow as a result of an increasing demand for new computer software. This includes software offered over the Internet, which should lower costs for firms and allow for more customization for users. In addition, new applications will have to be developed for mobile technology and the healthcare industry. An increase in computer systems that are built into electronics and into other non-computer products should result in some job growth for computer programmers and software developers.

Job prospects will be best for programmers who have a bachelor's degree or higher and knowledge of a variety of programming languages. Keeping up to date with the newest programming tools will also improve prospects.

As employers increasingly contract with outside firms to do programming jobs, more opportunities are expected to arise for experienced programmers who have expertise in a specific area to work as consultants.

Employment Opportunities with SOC Code:

| | |
|---|---|
| Computer Programmers | 15-1131.00 |
| Computer Systems Analysts | 15-1121.00 |

| Salary Forecast: | | MT | CO |
|---|---|---|---|
| Computer Programmers | 15-1131.00 | 63,250 | 82,500 |
| Computer Systems Analysts | 15-1121.00 | 63,470 | 86,500 |

For the most current salary information please refer to the Bureau of Labor Statistics "Occupational Outlook Handbook found at www.bls.gov/ooh/.

Program Cost:
Approximately $8, 500

# Computer Technology

## Programming

**Length of Programs:** 4 Semesters
**Type of Program:** Associate of Applied Science
**Semester of Entry:** Fall and Spring.
*The suggested sequence in this catalog is for students entering in the fall semester. Please see your advisor for a suggested spring entry sequence.*

### FIRST YEAR

#### Fall Semester

| | | |
|---|---|---|
| BMIS270 | MIS Foundations for Business | 3 |
| CAPP100 | Short Courses: Computer Literacy | 2 |
| CSCI100 | Introduction to Programming | 3 |
| *Choose one of the following:* | | 3/4 |
| ITS164 | Networking Fundamentals | |
| ITS150 | CCNA 1: Exploration | |
| *Choose one of the following:* | | 3 |
| M121 | College Algebra | |
| M115 | Probability and Linear Mathematics | |
| *Choose one of the following:* | | 3 |
| WRIT101 | College Writing I | |
| WRIT121T | Introduction to Technical Writing | |
| **Total Semester Credits** | | **17/18** |

#### Spring Semester

| | | |
|---|---|---|
| CSCI111 | Programming with Java I | 4 |
| CSCI240 | Databases and SQL | 4 |
| ITS280 | Computer Repair and Maintenance | 4 |
| MART145 | Web Design | 3 |
| *Choose one of the following Electives:* | | 3 |
| *English or Communication:* | | |
| COMX111 | Introduction to Public Speaking or | |
| WRIT101 | College Writing or higher | |
| **Total Semester Credits** | | **18** |

### SECOND YEAR

#### Fall Semester

| | | |
|---|---|---|
| CSCI221 | Systems Analysis and Design | 4 |
| CSCI236 | XML Data Processing | 2 |
| CSCI238 | Standard Based Mobile Applications | 3 |
| CSCI276 | Application Security | 2 |
| *Choose one of the following:* | | 2 |
| CSCI298 | Internship (arrange) | |
| CSCI299 | Thesis/Capstone (prior approval required) | |
| CT253 | Developing Web Applications | 3 |
| **Total Semester Credits** | | **16** |

#### Spring Semester

| | | |
|---|---|---|
| CSCI121 | Programming with Java II | 4 |
| CSCI206 | .NET Applications | 3 |
| CSCI242 | Enterprise Applications | 4 |
| CT262 | Web Databases | 4 |
| *Choose one of the following:* | | 3 |
| SOCI101 | Introduction to Sociology | |
| PSYX100 | Introduction to Psychology | |
| HR110T | Career Development and Human Relations | |
| **Total Semester Credits** | | **18** |

*TOTAL CREDITS*     *69/70*

# Computer Technology

## Computer Technology Option: Webmaster

**Requirements for all programs:** Students must fulfill their math requirements in at least M115 Probability and Linear Math or higher and their English requirements in at least WRIT121T Introduction to Technical Writing. *Students must have a computer competency equal to CAPP100 Short Courses: Computer Literacy. The placement is determined through placement testing at enrollment (or previous accredited classes).* Students who do not place into the class will be required to take it at the beginning of their program, although the credits may be used to meet the elective requirements in the first semester.

## Gainful Employment

Webmaster

Career Outlook:  According to the Bureau of Labor Statistics employment of information security analysts, web developers, and computer network architects is projected to grow 22 percent from 2010 to 2020, faster than the average for all occupations.

Demand for information security analysts is expected to be very high. Cyberattacks have grown in frequency and sophistication over the last few years, and many organizations are behind in their ability to detect these attacks. Analysts will be needed to come up with innovative ways to prevent hackers from stealing critical information or creating havoc on computer networks.

The federal government is expected to greatly increase its hiring of information security analysts to protect the nation's critical information technology (IT) systems. In addition, as the healthcare industry expands its use of electronic medical records, ensuring patients' privacy and protecting personal data are becoming more important. More information security analysts are likely to be needed to create the safeguards that will satisfy patients' concerns.

Demand for computer network architects will increase as firms continue to expand their use of wireless and mobile networks. This occupation will be needed to design and build these new networks, as well as upgrade existing ones. In addition, the expansion of healthcare information technology will cause an increase in the use of networking technology in that industry, and more computer network architects will be employed there.

Adoption of cloud computing, which allows users to access storage, software, and other computer services over the Internet, is likely to cause a decrease in the demand for computer network architects. Organizations will no longer have to design and build networks in-house; instead, this will be done by firms that provide cloud services. However, because architects at cloud providers can work on more than one organization's network, these providers will not have to employ as many architects as individual organizations to do the same amount of work, thereby reducing the overall need for network architects.

Employment of web developers is expected to grow as ecommerce continues to grow. Online purchasing is expected to continue to grow faster than the overall retail industry. As retail firms expand their online offerings, demand for web developers will increase.

Because websites can be built from anywhere in the world, some web developer jobs may be moved to countries with lower wages, lessening U.S. job growth. However, this practice may decline because of a growing trend of firms hiring workers in low-cost areas of the U.S. instead of in foreign countries.

Prospects for information security analysts should be good. Information security analysts with related work experience will have the best opportunities. For example, an applicant with experience as a database administrator would have better prospects in database security than someone without that experience.

Prospects for computer network architects should be favorable, as many companies report difficulty finding network architects due to the considerable amount of education and work experience required for these highly skilled positions.

Web developers' job prospects should also be favorable. Those with knowledge of multiple programming languages and digital multimedia tools, such as Flash and Photoshop, will have the best opportunities.

Employment Opportunities with SOC Code:
Web Developer               15-1179.00

| Salary Forecast: | | **MT** | **CO** |
| --- | --- | --- | --- |
| Web Developer | 15-1179.00 | 58,970 | 82,530 |

For the most current salary information please refer to the Bureau of Labor Statistics "Occupational Outlook Handbook found at www.bls.gov/ooh/.

Program Cost:
Approximately $8,600

# Computer Technology

## Webmaster

**Length of Programs:** 4 Semesters
**Type of Program:** Associate of Applied Science
**Semester of Entry:** Fall and Spring.
*The suggested sequence in this catalog is for students entering in the fall semester. Please see your advisor for a suggested spring entry sequence.*

### FIRST YEAR

#### Fall Semester

| | | |
|---|---|---|
| BMIS270 | MIS Foundations for Business | 3 |
| CAPP100 | Short Courses: Computer Literacy | 2 |
| CSCI100 | Introduction to Programming | 3 |
| *Choose one of the following:* | | 3/4 |
| ITS164 | Networking Fundamentals | |
| ITS150 | CCNA 1: Exploration | |
| *Choose one of the following:* | | 3 |
| M121 | College Algebra | |
| M115 | Probability and Linear Mathematics | |
| *Choose one of the following:* | | 3 |
| WRIT101 | College Writing I | |
| WRIT121T | Introduction to Technical Writing | |
| **Total Semester Credits** | | **17/18** |

#### Spring Semester

| | | |
|---|---|---|
| CSCI111 | Programming with Java I | 4 |
| CSCI240 | Databases and SQL | 4 |
| ITS244 | Introduction to Linux | 3 |
| ITS280 | Computer Repair and Maintenance | 4 |
| MART145 | Web Design | 3 |
| **Total Semester Credits** | | **18** |

### SECOND YEAR

#### Fall Semester

| | | |
|---|---|---|
| CSCI210 | Web Programming | 3 |
| CSCI211 | Client Side Web Development | 3 |
| CSCI238 | Standard Based Mobile Applications | 3 |
| *Choose one of the following:* | | 2 |
| CSCI298 | Internship (arrange) | |
| CSCI299 | Thesis/Capstone (prior approval required) | |
| CT253 | Developing Web Applications | 3 |
| *Choose one of the following Electives:* | | 3 |
| *English or Communication:* | | |
| COMX111 | Introduction to Public Speaking | |
| WRIT101 | College Writing or higher | |
| **Total Semester Credits** | | **17** |

#### Spring Semester

| | | |
|---|---|---|
| CSCI206 | .NET Applications | 3 |
| CSCI212 | Web Server Administration | 3 |
| CT161 | Web Page Graphic Design | 4 |
| CT262 | Web Databases | 4 |
| *Choose one of the following:* | | 3 |
| SOCI101 | Introduction to Sociology | |
| PSYX100 | Introduction to Psychology | |
| HR110T | Career Development and Human Relations | |
| **Total Semester Credits** | | **17** |

*TOTAL CREDITS*     *69/70*

## Computer Technology

Computer Technology is designed to teach students the basic knowledge and skills necessary to solve technical and business oriented problems using computer development tools and to build and maintain computer systems and networks. Students will experience a variety of course work using Web development, workstation, and server-based computer systems. Courses are organized to provide a mix of lecture and hands-on experiences. Typical classes cover personal computer applications and languages including Oracle, Visual Basic.NET, Java, SQL, PL/SQL, C#, ASP.NET, JSP, PHP, Perl, XML, and Java Script. Operating systems used are Windows 7, Windows 2008 Server, Cisco IOS, and Linux.

Completion of the first year's curriculum in Network Administration, Programming, or Webmaster leads to a certificate in Computer Assistant. The two-year curriculum leads to an Associate of Applied Science degree with options in Network Administration, Programming, or Webmaster. Graduates in Network Administration have worked toward Cisco's CCNA and Microsoft's MSCE certification and are marketable as network managers. Graduates in Programming are employable in large organizations, typically with Oracle, Java, or Microsoft-based systems and have worked toward several Oracle and Microsoft certifications. Graduates with the Webmaster option are marketable as webmasters and web developers and have worked toward Java and Microsoft certification. Note also that there are options in the A.A. and A.S. degrees that emphasize transfer to 4-year program

## Gainful Employment

Computer Technology
Associate of Applied Science

Career Outlook:  According to The Bureau of Labor Statistics employment of computer support specialists is expected to grow 18 percent from 2010 to 2020, about as fast as the average for all occupations. More support services will be needed as organizations upgrade their computer equipment and software. Computer support staff will be needed to respond to the installation and repair requirements of increasingly complex computer equipment and software.

Employment growth should also be strong in healthcare industries. This field is expected to greatly increase its use of information technology (IT), and support services will be crucial to keep everything running properly.

Some lower level tech support jobs, commonly found in call centers, may be sent to countries that have lower wage rates. However, a recent trend to move jobs to lower cost regions of the United States may offset some loss of jobs to other countries.

Employment Opportunities with SOC Code:
Computer Support Specialists        15.1150.00

| Salary Forecast: | | MT | CO |
|---|---|---|---|
| Computer Support Specialists | 15.1150.00 | 40,190 | 57,140 |

For the most current salary information please refer to the Bureau of Labor Statistics "Occupational Outlook Handbook found at www.bls.gov/ooh/.

## Computer Assistant

A one year certificate is earned by completing the courses shown for the first year in any of the following options to total 34 or 35 credits.

- Computer Networking
- Computer Programming
- Computer Webmaster

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# Construction Technology

## Construction Technology

Construction Technology prepares students with the knowledge and experience in the different components and phases of construction. This program covers entry level skills for the construction industry. Two different degrees are offered in the program: A Certificate of Applied Science (a one-year program which includes the framing of floors, walls, truss systems roofing as well as interior and exterior finishing), and a two-year Associate of Applied Science program (to included site preparation, construction management, construction estimating, advanced building techniques, light equipment and rigging, practicum in construction, and metal stud welding). These classes are taught using a combination of classroom work and hands-on applications. Students will need professional tools to gain employment upon graduation; therefore, they are required to purchase a toolset as outlined in the tool section.

## Gainful Employment

Program Name: Construction Technology
Associate of Applied Science

Career Outlook: According to the Bureau of Labor Statistics employment of construction laborers is expected to grow 21 percent from 2010 to 2020, faster than the average for all occupations. Laborers work in all fields of construction, and demand for laborers will mirror the level of overall construction activity. Repairing and replacing the nation's infrastructure, such as roads, bridges, and water lines, should result in steady demand for laborers.

Although employment growth of specific types of helpers is expected to vary (see table below), demand for helpers will be driven by the construction of schools, office buildings, factories, and powerplants. Population growth also is expected to result in new-home construction, which will stimulate the need for many additional helpers. Remodeling needs will also result in some new jobs.

However, demand for helpers is also affected by economic downturns. In the slowdown in construction since the 2007-09 recession, the number of jobs for helpers decreased faster than jobs for the workers they help. Contractors kept their more experienced workers and had them do tasks that helpers would normally do. As construction returns to normal levels, helpers will be needed to do their standard tasks again.

Construction laborers with the most skills should have the best job opportunities. Opportunities also will vary by occupation; for example, carpenters' helpers should have the best job prospects, while painters', paperhangers', plasterers', and stucco masons' helpers will likely find fewer job openings.

Prospective employees with military service often have better opportunities when applying for a job.

Employment of construction laborers and helpers is especially sensitive to the fluctuations of the economy. On the one hand, workers in these trades may experience periods of unemployment when the overall level of construction falls. On the other hand, shortages of these workers may occur in some areas during peak periods of building activity.

Employment Opportunities with SOC Code:

| | |
|---|---|
| Construction Managers | 11-9021.00 |
| First –Line Construction Supervisor | 47-1011.00 |
| Construction Laborers | 47-2061.00 |
| Construction and Building Inspectors | 47-4011.00 |
| Cost Estimators | 13-1051.00 |
| Career Technical Educator,Secondary | 25-2032.00 |

| Salary Forecast: | | MT | CO |
|---|---|---|---|
| Construction Managers | 11-9021.00 | 71,460 | 93,090 |
| First –Line Construction Supervisor | 47-1011.00 | 56,500 | 66,400 |
| Construction Laborers | 47-2061.00 | 35,230 | 30,950 |
| Construction and Building Inspectors | 47-4011.00 | 44,170 | 60,360 |
| Cost Estimators | 13-1051.00 | 54,200 | 62,020 |
| Career Technical Educator (Secondary) | 25-2032.00 | 43,160 | 52,660 |

For the most current salary information please refer to the Bureau of Labor Statistics "Occupational Outlook Handbook found at www.bls.gov/ooh/.

Program Cost:
Approximately $7,900

# Construction Technology

## Construction Technology

**Length of Program:** 4 Semesters
**Type of Program:** Associate of Applied Science
**Prerequisites:** *Enrollment in the second year is dependent on successful completion of the first year or prior faculty approval.*

### FIRST YEAR

#### Fall Semester

| | | |
|---|---|---|
| CSTN100 | Fundamentals of Construction Technology | 3 |
| CSTN120 | Carpentry Basics and Rough-In Framing | 5 |
| CSTN148 | Blueprint Reading, Codes and Estimating | 3 |
| CSTN160 | Construction Concepts and Building Lab | 3 |
| M111T | Technical Mathematics | 3 |
| **Total Semester Credits** | | **17** |

#### Spring Semester

| | | |
|---|---|---|
| CSTN124 | Cabinet Installation, Interior/ Finish/Paint | 2 |
| CSTN137 | Insulation and Energy Building Practices | 2 |
| CSTN145 | Ext. Finish, Stairs, and Metal SF | 3 |
| CSTN150 | Drywall Application and Finishing | 3 |
| CSTN161 | Construction Concepts and Building Lab II | 3 |
| CSTN175 | Roofing Applications | 3 |
| CAPP131 | Basic MS Office | 3 |
| **Total Semester Credits** | | **19** |
| *TOTAL CREDITS* | | *36* |

### SECOND YEAR

#### Fall Semester

| | | |
|---|---|---|
| CSTN200 | Light Equipment and Rigging | 3 |
| CSTN211 | Advanced Framing Systems | 3 |
| CSTN230 | Advanced Roof, Floor, Wall, and Stair Systems | 4 |
| CSTN235 | Stationary Machines and Joinery | 2 |
| CSTN295 | Practicum: Construction | 2 |
| HR110T | Career Development and Human Relations | 3 |
| **Total Semester Credits** | | **17** |

#### Spring Semester

| | | |
|---|---|---|
| CSTN171 | Site Prep, Foundations, and Concrete Installation | 3 |
| CSTN225 | Decks and Patios | 2 |
| CSTN236 | Advanced Stationary Machines and Joinery | 2 |
| CSTN250 | Construction Estimating | 3 |
| CSTN260 | Construction Concepts and Building Lab III | 3 |
| CSTN270 | Foundations of Construction Project Management | 2 |
| WLDG103 | Welding Fundamentals for Construction Trades | 1 |
| WRIT121T | Introduction to Technical Writing | 3 |
| **Total Semester Credits** | | **19** |
| *TOTAL CREDITS* | | *72* |

*Tool lists can be found on pages 167-170.*

# Construction Technology

## Gainful Employment

Certificate Name: Carpentry

Job Title & Subsequent Codes:     47-2031
Carpenters

PROGRAM COSTS:
Tuition & Fees:    $3091.00
Room & Board: $5,574.00
Books & Supplies: $1,200.00

PROGRAM STATISTICS
- Number of students completing this certificate
- program in most recent fiscal year: <10
- Number of certificates completed within normal time: N/A
- On-time completion rate: N/A
- Job Placement Rate: N/A
- Median loan debt for most recent program completers: N/A

## Carpentry

| | | |
|---|---|---|
| **Length of Programs:** | 2 Semesters | |
| **Type of Program:** | Certificate of Applied Science | |
| Semester of Entry: | Fall | |

### Fall Semester

| | | |
|---|---|---|
| CSTN100 | Fundamentals of Construction Technology | 3 |
| CSTN120 | Carpentry Basics and Rough-In Framing | 5 |
| CSTN148 | Blueprint Reading, Codes and Estimating | 3 |
| CSTN160 | Construction Concepts and Building Lab | 3 |
| HR100T | Human Relations | 2 |
| M100T | Introduction to Technical Mathematics | 1 |
| **Total Semester Credits** | | **17** |

### Spring Semester

| | | |
|---|---|---|
| CAPP106 | Short Courses: Computer Applications | 1 |
| CSTN124 | Cabinet Installation, Interior/ Finish/Paint | 2 |
| CSTN137 | Insulation and Energy Building Practices | 2 |
| CSTN145 | Ext. Finish, Stair, and Metal SF | 3 |
| CSTN150 | Drywall Application and Finishing | 3 |
| CSTN161 | Construction Concepts and Building Lab II | 3 |
| CSTN175 | Roofing Applications | 3 |
| WRIT121T | Introduction to Technical Writing | 3 |
| **Total Semester Credits** | | **20** |

| | | |
|---|---|---|
| *TOTAL CREDITS* | | *37* |

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# Diesel Technology

## Diesel Technology

Diesel Technology prepares the student to enter various segments of the diesel repair industry as an entry-level technician. This includes, but is not limited to, the agricultural, the industrial equipment, and the heavy-duty diesel truck repair industry. This program provides comprehensive training in maintenance, diagnosis, and repair of related electrical/electronic systems, mobile hydraulic systems, manual and hydraulic drive trains, brakes, air systems, diesel engines, general maintenance, alignment and undercarriages, HVAC, and transport refrigeration systems as used in equipment common to the diesel repair industry. Major placement areas for the Diesel Technology graduate are agriculture and truck dealerships, truck fleets, construction, mining, oil exploration companies, farms and ranches, and independent truck repair shops.

Students will need professional tools to gain employment upon graduation; therefore, they are required to purchase a tool set as outlined in the tool section. Students are required to purchase school-approved coveralls and red rags for use in the shops and are responsible for a cleaning fee each semester.

## Gainful Employment

Diesel Technology
Associate of Applied Science

Career Outlook: According to the Bureau of Labor Statistics employment of diesel mechanics is expected to grow 15 percent from 2010 to 2020, about as fast as the average for all occupations.

As more freight is shipped across the country, additional diesel-powered trucks will be needed. As a result, diesel mechanics will be needed to maintain and repair the nation's truck fleet. Demand for new workers in the freight trucking and automotive repair and maintenance industries is expected to drive overall diesel mechanic job growth.

Some older vehicles will need to be retrofitted and modernized to comply with environmental regulations, creating additional jobs for diesel mechanics.

Overall employment growth, however, may be dampened due to increasing durability of new truck and bus diesel engines. Continuing advances in repair technology, including computerized diagnostic equipment, also will result in fewer mechanics doing the same amount of work, further reducing demand for mechanics.

Job opportunities should be good for those who have completed formal postsecondary education and have strong technical skills, as employers sometimes report difficulty finding qualified workers.

Workers without formal training often require more supervision and on-the-job instruction than others—an expensive and time-consuming process for employers. Because of this, untrained candidates will face strong competition for jobs.

Employment Opportunities with SOC Code:

| | |
|---|---|
| Bus and Truck Mechanics | 49-3031.00 |
| Mobile Heavy Equipment Mechanics | 49-3042.00 |
| Farm Equipment Service Technicians | 49-3041.00 |
| Motorboat Mechanics | 49-3051.00 |
| Transportation Equipment Inspectors | 53-6051.07 |

| Salary Forecast: | | MT | CO |
|---|---|---|---|
| Bus and Truck Mech | 49-3031.00 | 38,680 | 45,680 |
| Mobile Heavy Equip Mech | 49-3042.00 | 45,540 | 48,810 |
| Farm Equip Service Tech | 49-3041.00 | 34,380 | 40,740 |
| Motorboat Mechanics | 49-3051.00 | 33,540 | 33,750 |
| Transportation Equip Inspectors | 53-6051.07 | 52,300 | 68,510 |

For the most current salary information please refer to the Bureau of Labor Statistics "Occupational Outlook Handbook found at www.bls.gov/ooh/.

Program Cost:
Approximately $11,300

# Diesel Technology

**Length of Program:** 4 Semesters
**Type of Programs:** Associate of Applied Science
**Semester of Entry:** Fall and Spring.
*The suggested sequence in this catalog is for students entering in the fall semester.*

## FIRST YEAR

### Fall Semester

| | | |
|---|---|---|
| DST110 | Diesel Electrical and Electronics l | 3 |
| DST111 | Diesel Electrical and Electronics ll | 2 |
| DST142 | Hydraulics | 7 |
| M111T | Technical Mathematics | 3 |
| WRIT121T | Introduction to Technical Writing | 3 |
| **Total Semester Credits** | | **18** |

### Spring Semester

| | | |
|---|---|---|
| DST145 | Diesel Engine Repair | 6 |
| DST240 | HD Manual Drive Trains | 6 |
| DST245 | HD Hydraulic Drive Trains | 4 |
| CAPP131 | Basic MS Office | 3 |
| **Total Semester Credits** | | **19** |

## SECOND YEAR

### Fall Semester

| | | |
|---|---|---|
| DST200 | Diesel Engine Performance | 7 |
| DST210 | Diesel Maintenance Practices | 3 |
| DST255 | HD Brakes and Undercarriage | 7 |
| **Total Semester Credits** | | **17** |

### Spring Semester

| | | |
|---|---|---|
| DST130 | Heating and Air Conditioning | 7 |
| DST265 | Applied Lab Experience | 8 |
| HR110T | Career Development and Human Relations | 3 |
| **Total Semester Credits** | | **18** |
| *TOTAL CREDITS* | | **72** |

*Tool lists can be found on pages 167-170.*

# Fire and Rescue

## Fire and Rescue

Students in this program will graduate with an Associate of Applied Science Degree in Fire and Rescue. The program will provide applied entry-level career training for fire fighters and will enhance on-going training for current protective services professionals in Montana and the western states.

Students taking computers, math, writing, and career development on the UM-Missoula College of Technology campus will take the equivalent courses of CAPP120 Introduction to Computers (2 credits); PSYX161 Fundamentals of Organizational Psychology (3 credits) *or* PSYX100 Introduction to Psychology (3 credits); WRIT121 Introduction to Technical Writing (3 credits); and M111T Technical Mathematics (3 credits).

Fire and Rescue courses concentrate on training in fire behavior, extinguishing agents, apparatus, tactics, rescue, and safety. Students will experience live fire situations in training mock-ups and will be able to enter careers in community-based fire departments, industrial fire brigades, airport fire brigades, and wildland fire agencies.

Students are required to pass a physical exam performed by the student's physician (the physical form is available through Admissions and Records) and the physical agility test. Students must successfully complete the following physical agility test, within a one and one-half hours' time frame, before being allowed to register for Fire and Rescue classes. The required physical agility test will be offered at fall orientation programs. Fire and Rescue applicants will be notified of specific testing and orientation dates.

### The physical agility test includes:
- One-mile-run under 10 minutes
- Fifty sit-ups under two minutes
- Twenty-five push-ups under two minutes
- Lift and drag a 175-pound mannequin 50 feet
- Climb a 24-foot ladder

*These meet minimum standards as set forth under the guidelines of the National Fire Protection Association Standards 1500, 1582, and 1901.*

### Additional Costs:
- Student Uniform - Approximately $300
- Personal Protective Equipment - Approximately $250
- Turnout Rental - $210 per academic year; includes bunker pants, coat, and helmet
- Criminal Background Check - Approximately $50

### Requirements for ECP130 Emergency Medical Technician:
- Students are required to have a blood pressure cuff and stethoscope.
- Students are required to have the Hepatitis B vaccine and current (within six months) test for tuberculosis.

## Gainful Employment

Fire and Rescue
Associate of Applied Technology

Career Outlook: According to the Bureau of Labor Statistics employment of firefighters is expected to grow 9 percent, slower than the average for all occupations.

Continued population growth will increase the number of emergency calls requiring firefighter responses. The majority of situations that firefighters respond to are medical—rather than fire—emergencies, and the aging of the population will lead to an increased demand for emergency responders.

In addition, jobs will be created as volunteer firefighters are converted to paid positions in areas where population growth creates the need for a full-time workforce. An increase in urban populations, where full-time firefighters are more common, also is expected to increase the demand for firefighters. Prospective firefighters will face tough competition for positions. Many people are attracted to the job's challenge, opportunity for public service, relatively low formal educational requirements, and pensions that are usually guaranteed after 25 years of service. As a result, a department often receives hundreds or thousands of applicants for a single position. Physically-fit applicants with high test scores, some post-secondary firefighter education, and paramedic training have the best prospects.

Employment Opportunities with SOC Code:

| | |
|---|---|
| Firefighter | 33-2011.00 |
| Municipal Firefighter | 33.2011.01 |
| Forest Firefighter | 33.2011.02 |
| Emergency Medical Technician | 29-2041.00 |
| Fire Inspector | 33.2021.01 |
| Fire Investigator | 33.2021.02 |
| Security and Fire Alarm Installer | 49.2098.00 |

| Salary Forecast: | | MT | CO |
|---|---|---|---|
| Firefighter | 33-2011.00 | 41,520 | 53,900 |
| Municipal Firefighter | 33.2011.01 | 41,520 | 53,900 |
| Forest Firefighter | 33.2011.02 | 41,520 | 53,900 |
| Emergency Medical Technician | 29-2041.00 | 27,100 | 41,000 |
| Fire Inspector | 33.2021.01 | 48,500 | 66,130 |
| Fire Investigator | 33.2021.02 | 71,470 | 66,130 |
| Security and Fire Alarm Installer | 49.2098.00 | 39,280 | 44,980 |

For the most current salary information please refer to the Bureau of Labor Statistics "Occupational Outlook Handbook found at www.bls.gov/ooh/.

Program Cost:
Approximately $8,80

# Fire and Rescue

## Fire and Rescue

**Length of Program:** 4 Semesters
**Type of Program:** Associate of Applied Science
**Semester of Entry:** Fall

*Special Requirements: Successfully Passing Physical Exam, Agility Test, and Criminal Background Check*

## FIRST YEAR

### Fall Semester

| | | |
|---|---|---|
| ECP130 | Emergency Medical Technician | 4 |
| FIRE101 | Introduction to Fire Service | 3 |
| FIRE103 | Fire Fighter Safety | 3 |
| FIRE107 | Personal Physical Fitness I | 1 |
| FIRE120 | Emergency Services Customer Service | 2 |
| FIRE121 | Incident Command | 1 |
| WRIT121T | Introduction to Technical Writing | 3 |
| **Total Semester Credits** | | **17** |

### Spring Semester

| | | |
|---|---|---|
| FIRE106 | Wildland Fire Fighting | 3 |
| FIRE108 | Personal Physical Fitness II | 1 |
| FIRE110 | Hazardous Materials | 3 |
| FIRE123 | Electronic Communications | 1 |
| FIRE125 | Emergency Equipment Maintenance | 2 |
| FIRE130 | Fire Apparatus Operation | 3 |
| FIRE140 | Fire Fighting Tactics and Strategies | 3 |
| CAPP131 | Basic MS Office | 3 |
| **Total Semester Credits** | | **19** |

## SECOND YEAR

### Fall Semester

| | | |
|---|---|---|
| FIRE202 | Instructional Methodologies | 2 |
| FIRE234 | Fire Protection Systems | 3 |
| FIRE241 | Fire Inspection | 3 |
| FIRE242 | Rescue | 3 |
| FIRE260 | Fire Investigation | 3 |
| FIRE261 | Building Construction | 1 |
| M111T | Technical Mathematics | 3 |
| **Total Semester Credits** | | **18** |

### Spring Semester

| | | |
|---|---|---|
| FIRE210 | Aircraft Rescue and Fire Fighting Basic Training (ARFF) | 2 |
| FIRE215 | Fire Streams | 2 |
| FIRE225 | Fire Officer | 2 |
| FIRE232 | Basic Wildland Supervision | 2 |
| FIRE250 | Fire Ground Operations | 2 |
| FIRE270 | Fire Prevention | 3 |
| FIRE288 | Capstone | 2 |
| *Choose one of the following:* | | 3 |
| HR110T | Career Development and Human Relations | |
| PSYX161 | Fundamentals of Organizational Psychology | |
| **Total Semester Credits** | | **18** |
| | | |
| ***TOTAL CREDITS*** | | **72** |

# Interior Space Planning and Design

The Interior Space Planning and Design Certificate Program provides a distinctive curriculum with a career oriented approach. Coursework includes the fundamentals of design, design analysis by the utilization of the design process, space planning-material selection and specifications relating to both residential and commercial design, Computer-Aided Drafting (CAD skills), and codes and regulations. The one-year certificate prepares a graduate to work in interior design CAD positions, merchandising and sales, and as an interior design assistant.

## Gainful Employment

Certificate Name: Interior Space Planning and Design

Job Title & Subsequent Codes:          27-1025
Interior Designers

**PROGRAM COSTS:**
Tuition & Fees:    $3091.00
Room & Board: $5,574.00
Books & Supplies: $1,200.00

**PROGRAM STATISTICS**
- Number of students completing this certificate
- program in most recent fiscal year: <10
- Number of certificates completed within normal time: N/A
- On-time completion rate: N/A
- Job Placement Rate: N/A
- Median loan debt for most recent program completers: N/A

## Interior Space Planning and Design

Length of Program:    2 Semesters
Type of Program:      Certificate of Applied Science

### Fall Semester

| | | |
|---|---|---|
| ARTZ105 | Visual Language - Drawing | 3 |
| DFT150 | CAD 2D | 3 |
| IDSN101 | Introduction to Interior Design | 3 |
| IDSN135 | Fundamentals of Space Planning | 3 |
| WRIT121T | Introdution to Technical Writing | 3 |
| **Total Semester Credits** | | **15** |

### Spring  Semester

| | | |
|---|---|---|
| IDSN198 | Residential Studio Internship | 1 |
| IDSN230 | Interior Architectural CAD | 3 |
| IDSN240 | Studio I - Residential | 3 |
| IDSN250 | Studio II - Commercial | 4 |
| M111T | Technical Mathematics | 3 |
| **Total Semester Credits** | | **14** |

*TOTAL CREDITS*          *29*

## Advanced Certificate for Environmental Design Studies

The Environmental Design Studies Advanced Certificate at Helena College provides a distinct curriculum that further supports interior design education. The Advanced Certificate's focus on environmental design materials, building products, specifications, codes and regulations, and knowledge of the LEED process (Leadership in Energy and Environmental Design) will be vital throughout studio courses. In addition, there are courses in history relating to materials, building products and design. After the completion of the Associate of Arts and the Advanced Certificate in Environmental Design Studies, a student will be prepared to successfully compete for jobs in interior design, environmental design and related fields. The Advanced Certificate requires the completion of the Associate of Arts with a study option in Interior Space Planning and Design or the Certificate of Applied Science-Interior Space Planning and Design. Refer to the Helena College Catalog for placement testing and prerequisite requirements. A department advisor may approve transfer credits from other institutions to satisfy degree requirements.

| Course Number | Course Title | Credits |
|---|---|---|
| ANTY101 | Anthropology and the Human Experience | 3 |
| ENST230 | Nature and Society | 3 |
| IDSN110 | History of Interior Design I Ancient - 1900 | 3 |
| IDSN111 | History of Interior Design II 1900 - Contemporary | 3 |
| IDSN120 | Materials and the Environment | 3 |
| IDSN125 | Lighting the Environment | 3 |
| IDSN252 | Studio III - Corporate Studio | 4 |
| IDSN255 | Environmental Design Studio | 4 |
| IDSN275 | Professional Practices | 3 |
| IDSN298 | Internship | 2 |

*TOTAL CREDITS (minimum of 32 credits required)*

*Note: Students must earn a C- or better in design core courses.*

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## Metals Technology

Metals Technology is designed to prepare students as entry-level technicians in many areas, including automotive machining, tool and die making, mold making, job shop machinist, gun smithing, lay-out and inspection welding, new construction welder, and fabrication. Students will study machining processes and procedures, properties of metals, blueprint reading, and inspection techniques. Welding skills (including practical, theoretical, and technical training) are taught using oxyacetylene, manual stick electrode, semiautomatic Mig, Tig (Heliarc), dualshield Mig, and various additional processes. Miller Electric has chosen Helena College University of Montana as one of its regional training centers. Therefore, students will receive training on the latest state-of-the-art equipment in Mig, Tig (Heliarc), and Stick Electrode. Students will work from blueprints, follow exact specifications, and apply practical shop math to accomplish the required tasks. Much of the lab time in both areas will be used for shop project work.

An educational background in mechanical drawing, shop math, welding, and mechanical welding is helpful. Students are required to have a basic set of tools upon entrance to the program as outlined in the tool section of this catalog.

***Students may begin their instruction in the two-year Metals Technology program, depending upon the space available, in either the computer aided manufacturing or the welding area.***

## Gainful Employment

Metals Technology
Associate of Applied Science
Computer Aided Manufacturing Emphasis

Career Outlook: According to the Bureau of Labor Statistics overall employment of machinists and tool and die makers is expected to grow 7 percent from 2010 to 2020, slower than the average for all occupations. Employment growth will vary by specialty.

Employment of machinists is projected to grow 8 percent from 2010 to 2020, slower than the average for all occupations. Despite improvements in technologies such as CNC machine tools, autoloaders, high-speed machining, and lights-out manufacturing, machinists will still be required to set up, monitor, and maintain these automated systems.

In addition, employers are expected to continue needing machinists who have a wide range of skills and are capable of performing modern production techniques and almost any task in a machine shop. As manufacturers will continue to rely heavily on skilled machinists as they invest in new equipment, modify production techniques, and implement product design changes more rapidly.

Employment of tool and die makers is projected to experience little or no change from 2010 to 2020. Foreign competition in manufacturing and advances in automation, including CNC machine tools and computer-aided design, should improve worker productivity, requiring fewer workers.

Job opportunities for machinists and tool and die makers should be excellent as employers continue to value the wide-ranging skills of these workers. Also, many young people with the educational and personal qualifications needed to become machinists or tool and die makers prefer to attend college or may not wish to enter production occupations.

In fact, employers in certain parts of the country report difficulty attracting skilled workers and apprenticeship candidates with the abilities necessary to fill job openings.

Therefore, the number of workers learning to be machinists or tool and die makers is expected to be smaller than the number of job openings arising each year from the need to replace experienced machinists who retire or leave the occupation for other reasons.

Employment Opportunities with SOC Code:
First-Line Production Supervisor     51-1011.00
Prepress Technicians and Workers   51-5111.00
Machinist                                         51-4041.00

| Salary Forecast: | | **MT** | **CO** |
|---|---|---|---|
| First-Line Production Supervisor | 51-1011.00 | 52,530 | 61,610 |
| Prepress Technicians and Workers | 51-5111.00 | 28,400 | 36,910 |
| Machinist | 51-4041.00 | 38,030 | 41,950 |

For the most current salary information please refer to the Bureau of Labor Statistics "Occupational Outlook Handbook found at www.bls.gov/ooh/.

Program Cost:
Approximately $8,800

# Metals Technology

## Metals Technology

**Length of Program:** 4 Semesters
**Type of Program:** Associate of Applied Science
**Semester of Entry:** Fall

*Students in this program will take the first year of the Computer Aided Manufacturing and Welding Associate of Applied Science. It is not mandatory that the courses be completed in the order listed below. The years may be switched to better match course availibility.*

### FIRST YEAR

#### Fall Semester

| | | |
|---|---|---|
| MCH120 | Blueprint Reading and Interpretation for Machining | 2 |
| MCH130 | Machine Shop | 3 |
| MCH132 | Introduction to Engine Lathes | 5 |
| MCH134 | Introduction to Mills | 5 |
| M111T | Technical Mathematics | 3 |
| **Total Semester Credits** | | **18** |

#### Spring Semester

| | | |
|---|---|---|
| MCH136 | Advanced Lathes | 5 |
| MCH137 | Advanced Mills | 5 |
| MCH139 | Grinding Applications | 2 |
| MCH240 | Metallurgy | 1 |
| MCH245 | Shop Practices | 2 |
| CAPP131 | Basic MS Office | 3 |
| **Total Semester Credits** | | **18** |

### SECOND YEAR

#### Fall Semester

| | | |
|---|---|---|
| WLDG105 | Shop Safety | 1 |
| WLDG112 | Cutting Processes | 1 |
| WLDG117 | Blueprint Reading and Weld Symbols | 3 |
| WLDG132 | Estimating of Job Materials | 2 |
| WLDG133 | GMAW, FCAW, and GMAW-P | 4 |
| WLDG180 | Shielded Metal Arc Welding | 4 |
| WRIT121T | Introduction to Technical Writing | 3 |
| **Total Semester Credits** | | **18** |

#### Spring Semester

| | | |
|---|---|---|
| WLDG131 | Intro to Layout and Pattern Making | 3 |
| WLDG140 | Intro GAS Tungsten ARC Welding (GTAW) - Integrated Lab | 3 |
| WLDG151 | Shop Practices | 4 |
| WLDG155 | Design and Fabrication | 4 |
| WLDG160 | Rigging for Welders | 1 |
| HR110T | Career Development and Human Relations | 3 |
| **Total Semester Credits** | | **18** |
| *TOTAL CREDITS* | | **72** |

# Nursing Programs

## Nursing

The nursing curricula prepares graduates to function as members of the health care team in various health care environments. The curricula focus on preparation for employment and articulation. The nursing programs consist of an Associate of Applied Science in Practical Nursing and an Associate Degree in Registered Nursing. The nursing programs are approved by the Montana State Board of Nursing. The Helena College RN Program is NLNAC (National League for Nursing Accrediting Commission) accredited.

All PN students will be required to have all eight prerequisite classes completed before being admitted into the clinical portion of the program. PN students will be admitted in both the fall and spring semesters.

The Associate of Science degree leading to the Registered Nursing program is currently following the statewide curriculum, continuing as a Fall-Spring sequence program. The RN program is NLNAC Accreditated.

Admission to the program also requires completion of the Helena College application for admission **and** the nursing program application. Nursing applications are available through the nursing department at the Donaldson Campus at Helena College. Deadlines can be obtained from the nursing department and will be posted on the webpage. A student may apply while enrolled in the prerequisite courses with acceptance to the program to be determined after the current completed semester grades are finalized. A general physical examination is part of the application process.

A student must maintain a "C" or better in each of the courses required and complete each semester prior to progressing to the next semester. After the student is accepted into the nursing program, he or she must provide proof of the following health requirements: tuberculosis testing using the PPD or chest x-ray; Hepatitis B vaccine (a series of three injections); MMR series (those born before 1956 who did not receive the MMR will have to complete a titer); illness or vaccination for Varicella (chicken pox); Tetanus; current CPR for the Health Care Provider; and a criminal background check.

## Practical Nursing

The practical nurse uses specialized knowledge and skills that meet the health care needs of people in a variety of settings under the direction of qualified health professions. The curriculum focuses on preparation for employment. Students learn practical nursing skills through independent study, lectures, simulation demonstrations, and practice in the skills lab. Under instructor supervision, students also provide patient care in a variety of health care settings. The program is approved by the Montana State Board of Nursing

Graduates of the program are eligible to apply for the National Council of Licensing Examination (NCLEX) PN licensure examination from the Montana State Board of Nursing. Upon passing the examination, the graduate becomes a Licensed Practical Nurse, LPN. After licensure, graduates typically find employment in hospitals, nursing homes, physician offices, and other health care agencies.

Admission is by application only. The application process includes a Test of Essential Academic Skills (TEAS) pre-entrance exam. Applications are good for current start only; current applications are available through the nursing department. The application process requires that a student successfully complete the following coursework with a "C" or better:

## Gainful Employment

Nursing
Associate of Applied Science
Licensed Practical Nurse (L.P.N.)

Licensed Practical Nurse Career Outlook: According to the Bureau of Labor Statistics employment of licensed practical and licensed vocational nurses is expected to grow 22 percent from 2010 to 2020, faster than the average for all occupations. As the U.S. population ages, the overall need for healthcare is expected to increase. This trend will lead to increased employment of LPNs and LVNs in hospitals, physicians' offices, and other healthcare settings. LPNs and LVNs also will be needed in residential care facilities such as nursing homes and assisted-living centers. Many procedures that once could be done only in hospitals are now being done outside of hospitals, creating demand in other settings, such as outpatient care centers.

A large number of licensed practical and licensed vocational nurses are expected to retire over the coming decade. Job prospects should, therefore, be excellent for licensed and experienced LPNs and LVNs.

Employment Opportunities with SOC Code:
Licensed Practical Nurse   29-2061.00

| Salary Forecast: | MT | CO |
|---|---|---|
| Licensed Practical Nurse   29-2061.00 | 36,160 | 44,460 |

For the most current salary information please refer to the Bureau of Labor Statistics "Occupational Outlook Handbook found at www.bls.gov/ooh/.

Program Cost:
Approximately $7,000

# Nursing Programs

## Associate of Applied Science
## Practical Nursing

**Prerequisite Courses**
To be completed prior to application to the program.  A prerequisite course may be attempted a maximum of two (2) times.

- BIOH201 Human Anatomy & Physiology I w/Lab          4
- WRIT101 College Writing                            3
- M121 College Algebra                               3
- NUTR221 Basic Human Nutrition                      2 or 3
- BIOH211 Human Anatomy & Physiology II w/Lab        4
- NRSG100 Introduction to Nursing                    1 or 2
- PSYX100 Introduction to Psychology                 3
- CHMY121 Introduction to General Chemistry          3
- CHMY122 Introduction to General Chemistry Lab      1

**Length of Program:**    Associate of Applied Science in
                          Practical Nursing: 4 semesters,
                          51/52 credits

**Prerequisite Courses**
These courses are to be completed prior to application to the program. A prerequisite course may be attempted a maximum of two (2) times.

*Admission is by application only. Please check with the nursing department for current application information.*

**Students—Please note! Weekly schedule includes labs, clinicals and simulations that cannot be reflected on the course catalog schedule.  Students should plan for 30-40 hours per week.  The nursing department will supply students with a schedule once admission is determined.**

### FIRST YEAR

#### Fall Semester - (Pre-nursing requirements)

| Course Number | Course Title | Credits |
|---|---|---|
| BIOH201 | Human Anatomy and Physiology I w/Lab | 4 |
| WRIT101 | College Writing I | 3 |
| M121 | College Algebra | 3 |
| NUTR221 | Basic Human Nutrition | 2 or 3 |
| **Total Semester Credits** | | **12/13** |

#### Spring Semester - (Pre-nursing requirements)

| | | |
|---|---|---|
| BIOH211 | Human Anatomy and Physiology II w/Lab | 4 |
| PSYX100 | Introduction to Psychology | 3 |
| NRSG100 | Introduction to Nursing | 1 or 2 |
| CHMY121 | Introduction to General Chemistry | 3 |
| CHMY122 | Introduction to General Chemistry Lab | 1 |
| **Total Semester Credits** | | **12/13** |

### SECOND YEAR

#### Fall Semester

| Course Number | Course Title | Credits |
|---|---|---|
| NRSG130 | Fundamentals of Nursing | 4 |
| NRSG131 | Fundamentals of Nursing Lab | 3 |
| NRSG135 | Nursing Pharmacology | 3 |
| NRSG138 | Gerontology for Nursing | 2 |
| NRSG144 | Core Concepts of Mental Health Nursing | 2 |
| **Total Semester Credits** | | **14** |

#### Spring Semester

| | | |
|---|---|---|
| NRSG140 | Core Concepts of Adult Nursing | 7 |
| NRSG142 | Core Concepts of Maternal/Child Nursing | 3 |
| NRSG148 | Leadership Issues | 2 |
| **Total Semester Credits** | | **12** |

*TOTAL CREDITS*                *51/52*

# Nursing Programs

## Associate of Science Degree Registered Nursing

The Associate of Science degree program prepares graduates to function as members and leaders of health care teams in various health care environments. The curriculum focuses on preparation for employment. Some of the course work is transferable. Graduates of the program are eligible to apply for the NCLEX-RN licensure examination from the Montana State Board of Nursing. After passing the examination, the graduate becomes a Registered Nurse, RN. The Associate of Science degree program is NLNAC Accredited.

## Gainful Employment

Registered Nurse (RN)
Associate of Science Registered Nursing (ASRN)

Registered Nurse Career Outlook: According to the Bureau of Labor Statistics employment of registered nurses is expected to grow 26 percent from 2010 to 2020, faster than the average for all occupations. Growth will occur primarily because of technological advancements, permitting a greater number of health problems to be treated; an increased emphasis on preventive care; and the large, aging baby boomer population who will demand more healthcare services as they live longer and more active lives than previous generations. Faster than average growth is expected in traditional hospital settings, as well as in non-hospital settings, such as physician's offices and home healthcare services.

Growth is expected to be much faster than average in outpatient care centers, where patients do not stay overnight, such as those that provide same-day chemotherapy, rehabilitation, and surgery. Also, an increased number of procedures, as well as more sophisticated procedures once done only in hospitals, are being done in physicians' offices.

The financial pressure on hospitals to discharge patients as soon as possible should mean more people admitted to extended and long-term care facilities and more need for home healthcare. As the baby boomers grow older, there will be greater demand for home healthcare.

In addition, because many older people want to be treated at home or in residential care facilities, registered nurses will be in demand in those settings. Job growth is also expected in facilities that provide long-term rehabilitation for stroke and head injury patients, as well as facilities that treat people with Alzheimer's disease (memory loss, dementia).

Overall, job opportunities for registered nurses are expected to be excellent. Employers in some parts of the country and in some employment settings report difficulty in attracting and keeping enough registered nurses.

Job opportunities should be excellent, even in hospitals, because of the relatively high turnover of hospital nurses. To attract and keep qualified nurses, hospitals may offer signing bonuses, family-friendly work schedules, or subsidized training.

In physicians' offices and outpatient care centers, registered nurses may face greater competition for positions because these jobs generally offer regular working hours and provide more comfortable working conditions than hospitals.

Generally, registered nurses with at least a bachelor's degree in nursing (BSN) will have better job prospects than those without one.

In addition, all four advanced practice registered nurses—clinical nurse specialists, nurse anesthetists, nurse-midwives, and nurse practitioners—will be in high demand, particularly in medically underserved areas such as inner cities and rural areas.

Employment Opportunities with SOC Code:
Registered Nurses          29-1141.00

| Salary Forecast: | | MT | CO |
|---|---|---|---|
| Registered Nurses | 29-1141.00 | 60,190 | 68,670 |

For the most current salary information please refer to the Bureau of Labor Statistics "Occupational Outlook Handbook found at www.bls.gov/ooh/.

Program Cost:
Approximately $4,100 after LPN acquired

# Nursing Programs

Entry into the ASRN program is by application-only in the spring for fall semester. Applications are available through the nursing department. The application process includes a LPN STEP pre-entrance exam and a physical examination. Applications are good for current year only; current applications are available through the nursing department. The application process requires that a student have a current, unencumbered LPN licensure (from any state) and/or is a graduate of the statewide curriculum PN program, and has successfully completed the following coursework with a "C" or better:

- BIOH201 Human Anatomy and Physiology I w/Lab          4
- BIOH211 Human Anatomy and Physiology II w/Lab         4
- WRIT101 College Writing I                             3
- CHYM121 Introduction to General Chemistry            3
- CHYM122 Introduction to General Chemisty Lab         1
- M121 College Algebra                                  3
- NUTR221 Basic Human Nutrition                        2 or 3
- PSYX100 Introduction to Psychology                   3
- NRSG100 Introduction to Nursing                      1 or 2

## Associate of Science Degree
## Registered Nursing

**Length of Program:**   Associate of Science Degree in Registered Nursing: 27 credits
2 Semesters

### Fall Semester

| Course Number | Course Title | Credits |
|---|---|---|
| NRSG250 | LPN to RN Transition | 3 |
| NRSG252 | Complex Care Needs of Maternal/ Child Client | 3 |
| NRSG254 | Complex Care Needs of Mental Health Client | 2 |
| NRSG256 | Pathophysiology | 3 |
| SOCI101 | Introduction to Sociology | 3 |
| **Total Semester Credits** | | **14** |

### Spring Semester

| | | |
|---|---|---|
| BIOM250 | Microbiology for Health Sciences | 3 |
| BIOM251 | Microbiology for Health Sciences Lab | 1 |
| NRSG262 | Complex Care Needs - Adult Client | 4 |
| NRSG265 | Advanced Clinical Skills | 1 |
| NRSG266 | Managed Client Care | 4 |
| **Total Semester Credits** | | **13** |
| *TOTAL CREDITS* | | **27** |

## Administrative Office Management Specialist

The Office Technology two-year program prepares students for careers in a variety of office environments. A core curriculum is offered in office, accounting, and computer skills utilizing advanced office applications and software that are applicable to future employment. The Office Technology program offers two-year degree options in Medical Administrative Specialist and Administrative Office Management Specialist.

Certificates of Applied Science are offered in the areas of Medical Assisting, Computer Skills Specialist, and Legal Support Specialist (beginning on page 101 for details).

**Computer Competency:** Students must have a computer competency equal to CAPP131 Basic MS Office (basic Windows, Internet, Word, and Excel) to be determined through placement testing at enrollment. Students who do not meet these requirements will be required to take CAPP131 Basic MS Office at the beginning of their program, and the credits may be used to meet the elective requirements in later semesters.

## Gainful Employment

Office Technology
Associate of Applied Science
Administrative Office Management

Administrative Office Management Career Outlook: According to The Bureau of Labor Statistics overall employment of secretaries and administrative assistants is expected to grow 12 percent from 2010 to 2020, about as fast as the average for all occupations. Employment growth, however, will differ by occupational specialty.

Employment of executive secretaries and administrative assistants is projected to grow 13 percent from 2010 to 2020, about as fast as the average for all occupations, as these workers continue to provide high-level support for executives.

Employment of medical secretaries is projected to grow 41 percent from 2010 to 2020, much faster than the average for all occupations. Employment growth will be driven by rapid growth of the healthcare and social assistance industries. An anticipated increase in the use of medical services by an aging population will require many additional medical secretaries. Employment of legal secretaries is expected to grow 4 percent from 2010 to 2020, slower than the average for all occupations. This slow employment growth is due primarily to the slower-than-average growth of the legal industry overall.

Employment of secretaries, except legal, medical, and executive, is expected to grow 6 percent from 2010 to 2020, slower than the average for all occupations. Although developments in office technology are certain to continue, many secretarial and administrative duties are of a personal, interactive nature and are not easily automated. Responsibilities such as planning meetings, working with clients, and instructing staff require tact and communication skills. Because technology cannot currently substitute for these interpersonal skills, secretaries and administrative assistants will continue to play a key role in most organizations.

Overall employment of secretaries and administrative assistants is expected to grow 12 percent from 2010 to 2020, about as fast as the average for all occupations. Employment growth, however, will differ by occupational specialty.

In addition to jobs coming from employment growth, numerous job openings will arise from the need to replace secretaries and administrative assistants who transfer to other occupations or retire. Job opportunities should be best for applicants with extensive knowledge of computer software applications. Applicants with a bachelor's degree are expected to be in great demand and will act as managerial assistants who perform more complex tasks.

Employment Opportunities with SOC Code:

| | | |
|---|---|---|
| Executive Secretaries Administrative | Assistants | 43-6011.00 |
| Legal Secretaries | | 43-6014.00 |

| Salary Forecast: | | MT | CO |
|---|---|---|---|
| Executive Secretaries Administrative | | | |
| Assistants | 43-6011.00 | 41,850 | 49,800 |
| Legal Secretaries | 43-6014.00 | 27,510 | 34,270 |

For the most current salary information please refer to the Bureau of Labor Statistics "Occupational Outlook Handbook found at www.bls.gov/ooh/.

Program Cost:
Approximately $8,600

# Office Technology

## Administrative Office Management Specialist

The Administrative Office Management Specialist option is designed to prepare students for both administrative management support and information management careers in order to effectively confront the new diverse and multifaceted challenges prevalent in today's business environment. This option covers current office management principles, concepts, and organizational trends, while focusing on technological changes in the workplace and information systems management at all levels.

**Length of Option:** 4 Semesters
**Type of Program:** Associate of Applied Science
**Semester of Entry:** Fall and Spring

### FIRST YEAR

#### Fall Semester

| | | |
|---|---|---|
| BGEN105 | Introduction to Business | 3 |
| CAPP153 | MS PowerPoint | 3 |
| COMX111 | Introduction to Public Speaking | 3 |
| *Choose one of the following:* | | 3 |
| M108T | Business Mathematics | |
| M121 | College Algebra | |
| TASK113 | Keyboarding and Document Processing | 3 |
| TASK150 | Customer Service Strategies | 3 |
| **Total Semester Credits** | | **18** |

#### Spring Semester

| Course Number | Course Title | Credits |
|---|---|---|
| CAPP154 | MS Word | 3 |
| CAPP156 | MS Excel | 3 |
| CAPP158 | Basic MS Access | 3 |
| TASK201 | Production Keyboarding | 2 |
| *Choose one of the following:* | | 3 |
| WRIT101 | College Writing I | |
| WRIT121T | Intoduction to Technical Writing | |
| *Elective Credits* | | 3 |
| **Total Semester Credits** | | **17** |

### SECOND YEAR

#### Fall Semester

| | | |
|---|---|---|
| BGEN235 | Business Law I | 3 |
| BMGT215 | Human Resource Management | 3 |
| CAPP155 | MS Publisher | 3 |
| CAPP254 | Advanced MS Word | 3 |
| CAPP266 | Advanced MS Excel | 3 |
| *Choose one of the following:* | | |
| SOCI101 | Introduction to Sociology | |
| PSYX100 | Introduction to Psychology | |
| HR110T | Career Development and Human Relations | 3 |
| **Total Semester Credits** | | **18** |

#### Spring Semester

| | | |
|---|---|---|
| BGEN201 | Foundations of Business Ethics | 3 |
| *Choose one of the following:* | | 3 |
| BMGT235 | Management | |
| PSYX161 | Fundamentals of Organizational Psychology | |
| BMGT263 | Legal Issues in Human Resources | 3 |
| TASK210 | Office Success Strategies | 3 |
| TASK299 | Integrated Office Capstone | 3 |
| **Total Semester Credits** | | **15** |

| | | |
|---|---|---|
| *TOTAL CREDITS* | | *68* |

Examples of *elective credits* are courses such as Business Law II, Accounting, Organizational Psychology, Management, Economics, Ten-Key Calculation, Employment Law, and others depending on the student's skills, course prerequisites, and course availability.

# Office Technology

## Medical Administrative Specialist

This program prepares the student for employment in hospitals, medical offices, insurance companies, nursing homes, and public health agencies, often leading to careers in office management. The position of an administrative medical assistant requires skills in medical knowledge, computer technology, oral and written communications, and an awareness of effective office procedures. Positive interpersonal relations and teamwork are integrated into classroom activities.

**Computer Competency:** Students must have a computer competency equal to CAPP131 Basic MS Office (basic Windows, Internet, Word, and Excel), to be determined through placement testing at enrollment. Students who do not meet these requirements will be required to take CAPP131 Basic MS Office at the beginning of their program, and the credits may be used to meet the elective requirements in later semesters.

## Gainful Employment

Medical Administrative Specialist

Medical Administrative Specialist Career Outlook: According to The Bureau of Labor Statistics employment of medical records and health information technicians is expected to increase by 21 percent from 2010 to 2020, faster than the average for all occupations. The demand for health services is expected to increase as the population ages. An aging population will need more medical tests, treatments, and procedures. This will also mean more claims for reimbursement from private and public insurance. Additional records, coupled with widespread use of electronic health records by all types of healthcare providers, should lead to an increased need for technicians to organize and manage the associated information in all areas of the healthcare industry.

Cancer registrars are expected to continue to be in high demand. As the population ages, there will likely be more types of special purpose registries because many more types of illnesses are detected and treated later in life.

Prospects will be best for those with a certification in health information. As EHR systems continue to become more common, technicians with computer skills will be needed to use them.

Employment Opportunities with SOC Code:

| | |
|---|---|
| Medical Secretaries | 43-6013.00 |
| Medical Transcriptionists | 31-9094.00 |
| Medical Assistants | 31-9092.00 |

| Salary Forecast: | | MT | CO |
|---|---|---|---|
| Medical Secretaries | 43-6013.00 | 28,240 | 33,590 |
| Medical Transcriptionists | 31-9094.00 | 31,450 | 33,320 |
| Medical Assistants | 31-9092.00 | 29,140 | 32,650 |

For the most current salary information please refer to the Bureau of Labor Statistics "Occupational Outlook Handbook found at www.bls.gov/ooh/.

Program Cost:
Approximately $8,900

# Office Technology

## Medical Administrative Specialist

**Length of Option:** 4 Semesters
**Type of Program:** Associate of Applied Science
**Semester of Entry:** Fall and Spring

### FIRST YEAR

#### Fall Semester

| | | |
|---|---|---|
| BGEN105 | Introduction to Business | 3 |
| CAPP154 | MS Word | 3 |
| COMX111 | Introduction to Public Speaking | 3 |
| *Choose one of the following:* | | 3 |
| M108T | Business Mathematics | |
| M121 | College Algebra | |
| TASK113 | Keyboarding and Document Processing | 3 |
| *Elective Credits* | | 3 |
| **Total Semester Credits** | | **18** |

#### Spring Semester

| | | |
|---|---|---|
| ACTG101 | Accounting Procedures I | 3 |
| AHMS148 | Medical Terminology and the Human Body | 4 |
| CAPP153 | MS PowerPoint | 3 |
| CAPP156 | MS Excel | 3 |
| TASK201 | Production Keyboarding | 2 |
| *Choose one of the following:* | | 3 |
| WRIT101 | College Writing I | |
| WRIT121T | Intoduction to Technical Writing | |
| **Total Semester Credits** | | **18** |

### SECOND YEAR

#### Fall Semester

| | | |
|---|---|---|
| AHMS252 | Computerized Medical Billing | 3 |
| CAPP155 | MS Publisher | 3 |
| CAPP158 | Basic MS Access | 3 |
| CAPP254 | Advanced MS Word | 3 |
| CAPP256 | Advanced MS Excel | 3 |
| TASK150 | Customer Service Strategies | 3 |
| **Total Semester Credits** | | **18** |

#### Spring Semester

| | | |
|---|---|---|
| AHMS218 | Complete Medical Coding | 3 |
| BMGT263 | Legal Issues in Human Resources | 3 |
| TASK210 | Office Success Strategies | 3 |
| TASK299 | Integrated Office Capstone | 3 |
| *Choose one of the following:* | | 3 |
| SOCI101 | Introduction to Sociology | |
| PSYX100 | Introduction to Psychology | |
| HR110T | Career Development and Human Relations | |
| **Total Semester Credits** | | **15** |

***TOTAL CREDITS***      ***69***

Examples of *elective credits* are courses such as Nutrition, Computerized Accounting, Contemporary Economics, Legal Terminology, and others depending on the student's skills, course prerequisites, and course availability.

# Office Technology

The Computer Skills Specialist option is designed to prepare students for computer support positions in order to effectively confront the new diverse and multifaceted challenges prevalent in today's business environment. This option covers current software, customer service, and business communication concepts, while focusing on technological changes in the workplace and information systems at all levels.

**Computer Competency**: Students must have a computer competency equal to CAPP131 Basic MS Office (basic Windows, Internet, Word, and Excel) to be determined through placement testing at enrollment. Students who do not meet these requirements must take CAPP131 at the beginning of their program, and the credits may be used to meet the elective requirements in later semesters.

## Gainful Employment

Certificate Name: Computer Skills Specialist

Job Title & Subsequent Codes:       43-6011
Executive Secretaries, Executive Administrative Assistants

PROGRAM COSTS:
Tuition & Fees:    $3091.00
Room & Board: $5,574.00
Books & Supplies: $1,200.00

PROGRAM STATISTICS
* Number of students completing this certificate
* program in most recent fiscal year: <10
* Number of certificates completed within normal time: N/A
* On-time completion rate: N/A
* Job Placement Rate: N/A
* Median loan debt for most recent program completers: N/A

## Computer Skills Specialist

**Length of Option:**    2 Semesters
**Type of Program:**    Certificate of Applied Science
**Semester of Entry**:    Fall and Spring

### Fall Semester

| | | |
|---|---|---|
| CAPP154 | MS Word | 3 |
| CAPP156 | MS Excel | 3 |
| TASK113 | Keyboarding and Document Processing | 3 |
| *Choose one of the following:* | | 3 |
| M108T | Business Mathematics | |
| M121 | College Alegbra | |
| *Choose one of the following:* | | 3 |
| WRIT101 | College Writing I | |
| WRIT121T | Intoduction to Technical Writing | |
| **Total Semester Credits** | | **15** |

### Spring Semester

| | | |
|---|---|---|
| CAPP153 | MS PowerPoint | 3 |
| CAPP254 | Advanced MS Word | 3 |
| CAPP266 | Advanced MS Excel | 3 |
| *Choose one of the following:* | | 3 |
| MART145 | Web Design | |
| CAPP158 | Basic MS Access | |
| TASK150 | Customer Service Strategies | 3 |
| **Total Semester Credits** | | **15** |

*TOTAL CREDITS*    *30*

# Office Technology

The need for qualified legal office personnel in private law firms, state government, insurance companies, and many other offices continues to increase. The Legal Support Specialist Certificate option provides training to ensure employability within a one-year period of time in the areas of writing, math, computer applications, human relations, and legal concepts.

**Computer Competency:** Students must have a computer competency equal to CAPP131, Basic MS Office (basic Windows, Internet, Word, and Excel) to be determined through placement testing at enrollment. Students who do not meet these requirements must take CAPP131 at the beginning of their program.

## Gainful Employment

Certificate Name: Legal Support Specialist

Job Title & Subsequent Codes:        43-6012
Legal Secretaries

PROGRAM COSTS:
Tuition & Fees:    $3091.00
Room & Board: $5,574.00
Books & Supplies: $1,200.00

PROGRAM STATISTICS
- Number of students completing this certificate
- program in most recent fiscal year: <10
- Number of certificates completed within normal time: N/A
- On-time completion rate: N/A
- Job Placement Rate: N/A
- Median loan debt for most recent program completers: N/A

## Legal Support Specialist

**Length of Option:**   2 Semesters
**Type of Program:**    Certificate of Applied Science
**Semester of Entry:**  Fall and Spring

### Fall Semester

| | | |
|---|---|---|
| CAPP156 | MS Excel | 3 |
| OT161 | Legal Terminology | 2 |
| *Choose one of the following:* | | 3 |
| M108T | Business Mathematics | |
| M121 | College Algebra | |
| *Choose one of the following:* | | 3 |
| TASK113 | Keyboarding and Document Processing | |
| CAPP154 | MS Word | |
| *Choose one of the following:* | | 3 |
| WRIT101 | College Writing I | |
| WRIT121T | Intoduction to Technical Writing | |
| **Total Semester Credits** | | **14** |

### Spring Semester

| | | |
|---|---|---|
| CAPP254 | Advanced MS Word | 3 |
| OT165 | Introduction to Legal Research | 2 |
| OT223 | Introduction to Civil Litigation and Montana Courts | 2 |
| TASK150 | Customer Service Strategies | 3 |
| TASK210 | Office Success Strategies | 3 |
| *Choose one of the following:* | | 3 |
| CAPP266 | Advanced Excel | |
| CAPP153 | Basic MS Access | |
| **Total Semester Credits** | | **16** |

*TOTAL CREDITS*                              *30*

# Office Technology

This one-year Certificate of Applied Science is available for Office Technology students or for students who have completed their first semester of prerequisites of the Nursing program. The first semester includes courses completed in either Office Technology or Nursing programs. The second semester includes Office Technology courses with a medical or office emphasis.

## Gainful Employment

Certificate Name: Medical Assisting

Job Title & Subsequent Codes:      31-9092
Medical Assistants

PROGRAM COSTS:
Tuition & Fees:     $3091.00
Room & Board: $5,574.00
Books & Supplies: $1,200.00

PROGRAM STATISTICS
• Number of students completing this certificate
• program in most recent fiscal year: 10
• Number of certificates completed within normal time: 1
• On-time completion rate: 10%
• Job Placement Rate: N/A
• Median loan debt for most recent program completers: N/A

## Medical Assisting

**Length of Option:**   2 Semesters
**Type of Program:**   Certificate of Applied Science
**Semester of Entry:**   Fall and Spring

### Fall Semester

| | | |
|---|---|---|
| AHMS252 | Computerized Medical Billing | 3 |
| CAPP153 | MS PowerPoint | 3 |
| *Choose one of the following:* | | 3/4 |
| AHMS148 | Medical Terminology and the Human Body | |
| BIOH201 | Anatomy and Physiology I | |
| *Choose one of the following:* | | 3 |
| M108T | Business Math | |
| M121 | College Algebra | |
| *Choose one of the following:* | | 3 |
| WRIT101 | College Writing I | |
| WRIT121T | Intoduction to Technical Writing | |
| **Total Semester Credits** | | 15/**16** |

### Spring Semester

| | | |
|---|---|---|
| AHMS218 | Complete Medical Coding | 3 |
| TASK113 | Keyboarding and Document Processing | 3 |
| TASK150 | Customer Service Strategies | 3 |
| *Choose one of the following:* | | 3 |
| CAPP131 | Basic MS Office | |
| CAPP154 | MS Word | |
| *Choose one of the following:* | | 3 |
| SOCI101 | Introduction to Sociology | |
| PSYX100 | Introduction to Psychology | |
| **Total Semester Credits** | | **15** |

*TOTAL CREDITS*      *30/31*

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## Water Resources

The Water Resources Program is designed to prepare students for entry-level careers in water-related fields. Program Graduates can enter regulatory, private, and non-profit entities as water efficiency technicians, hydrologic technicians, and water specialists.

The Water Resource Program is a career-technical curriculum offering an Associate of Applied Science in Water Resources. This AAS degree focuses on water quality and quantity including biologic and environmental aspects of water while also emphasizing the nature of water in relation to earth system processes. A degree in Water Resources will prepare a student to handle a variety of water issues including evaluation of water use patterns, recommending water efficiency techniques, use of GIS and map interpretation, water collection and analysis, interpretation of water policies, technical report writing, and field methodologies.

*Note: The Water Resources Program is delivered primarily online. Consult an academic advisor regarding optional coursework if considering transferring credits to a four-year institution.*

## Gainful Employment

Water Resources
Associate of Applied Science

Water Resources Career Outlook: According to the Bureau of Labor Statistics employment of environmental science and protection technicians is expected to grow by 24 percent from 2010 to 2020, faster than the average for all occupations. Heightened public interest in the hazards facing the environment, as well as the increasing demands placed on the environment by population growth, are expected to spur demand for environmental science and protection technicians. Further demand is expected as a result of new and increasingly complex environmental laws and regulations.

Most employment growth for environmental science and protection technicians is projected to be in private consulting firms. More businesses and governments are expected to use these firms in the future to help them monitor and manager the environment and comply with regulations.

Environmental science and protection technicians should have good opportunities for employment. In addition to openings due to growth, many job openings are expected to be created by those who retire or leave the occupation for other reasons. Job candidates with an associate's degree or experience should have the best opportunities.

Job opportunities available in state and local governments will vary from year to year with the budgets of state and local environmental protection agencies.

Employment Opportunities with SOC Code:

| | |
|---|---|
| Water Waste Water Treatment | 51-8031.00 |
| Environmental Science Technician | 19-4091.00 |

| Salary Forecast: | | **MT** | **CO** |
|---|---|---|---|
| Water Waste Water Treatment | 51-8031.00 | 35,410 | 49,760 |
| Environmental Science Technician | 19-4091.00 | 36,970 | 54,580 |

For the most current salary information please refer to the Bureau of Labor Statistics "Occupational Outlook Handbook found at www.bls.gov/ooh/.

Bureau of Labor Statistics, U.S. Department of Labor, Occupational Outlook Handbook, 2012-13 Edition, Environmental Science and Protection Technicians, on the Internet at http://www.bls.gov/ooh/life-physical-and-social-science/environmental-science-and-protection-technicians.htm (visited February 26, 2013).

Program Cost:
Approximately $8,700

# Water Resources

## Water Resources

**Length of Program:** 4 Semesters
**Type of Program:** Associate of Applied Science
**Semester of Entry:** Fall and Spring.
*The suggested sequence in this catalog is for students entering in the fall semester. Please see your advisor for a suggested spring entry sequence.*

### FIRST YEAR

#### Fall Semester

| | | |
|---|---|---|
| BIOB160 | Principles of Living Systems | 4 |
| ENSC105 | Environmental Science | 3 |
| ENSC272 | Water Resources | 3 |
| GEO101 | Introduction to Physical Geology | 3 |
| GEO102 | Introduction to Physical Geology Lab | 1 |
| *Choose one of the following:* | | 3 |
| M121 | College Algebra | |
| MATH171 | Calculus I | |
| **Total Semester Credits** | | **17** |

#### Spring Semester

| | | |
|---|---|---|
| CAPP131 | Basic MS Office | 3 |
| CHMY121 | Introduction to General Chemistry | 3 |
| CHMY122 | Introduction to General Chemistry Lab | 1 |
| EVSC135 | Topographic Maps and Aerial Photo Interpretation | 3 |
| EVSC150 | Hydrologic Measurements | 3 |
| *Choose one of the following:* | | 3 |
| WRIT101 | College Writing I | |
| WRIT121T | Intoduction to Technical Writing | 3 |
| **Total Semester Credits** | | **16** |

#### Summer Semester

| | | |
|---|---|---|
| **GEN288** | **Internship** | **6** |
| **Total Semester Credits** | | **6** |

### SECOND YEAR

#### Fall Semester

| | | |
|---|---|---|
| EVSC140 | Introduction to Geographic Information Systems (GIS) | 3 |
| EVSC211 | Environmental Policy and Laws | 4 |
| EVSC215 | Ground Water Hydrology | 3 |
| EVSC220 | Surface Water Hydrology | 3 |
| *Choose one of the following:* | | 3 |
| ENSC245 | Soils | |
| ENSC270 | Water Quality | |
| **Total Semester Credits** | | **16** |

#### Spring Semester

| | | |
|---|---|---|
| COMX111 | Introduction to Public Speaking | 3 |
| ENSC242 | Environmental Sampling I | 3 |
| EVSC233 | Environment and the Economy | 3 |
| GPHY262 | Spacial Sciences Technology and Applications | 3 |
| *Choose one of the following:* | | 3 |
| WRIT210 | Scientific Report Writing | |
| WRIT201 | College Writing II | |
| **Total Semester Credits** | | **15** |

| | | |
|---|---|---|
| *TOTAL CREDITS* | | *70* |

# Welding Technology

## Welding Technology

The primary goal in the first year of the Welding Technology program is to give students the skills and instruction they need to enter the welding industry. With an emphasis on safety, students will receive hands-on, theoretical, and technical training in rigging, job estimation, blueprint reading, and layout and pattern making. In addition, students will receive extensive lab training in a wide variety of welding processes including S.M.A.W. (stick electrode), G.M.A.W. (wire processes), Pulse M.I.G., T.I.G., and Plasma cutting. The focus of the training is to give the students the skills necessary to successfully pass American Welding Society (A.W.S.) certifications. Our certification process is administered by an independent company approved by the American Welding Society. Students will also receive introductory instruction in design and fabrication, thus allowing them to perform repairs and fabricate projects.

The second year of the Welding Technology program is designed to teach students how to use their skills performing advanced fabrication and repair work on actual projects. Students will learn advanced fabrication techniques using a wide variety of equipment including shears, bending breaks, forming rolls, punches, drill presses, and track torches. This may include anything from a simple welding repair to refacing a D-9 Cat blade. Students will also receive training in various methods of pipe welding with an opportunity to take the A.W.S. certification test. Second year students will be given instruction in Computer Numerical Control (CNC) burn table programming and operation using Auto-Cad and Shop Data Systems software.

Helena College has been designated as one of ten regional training centers in the United States by Miller Electric, the industry leader in welding equipment. Students will receive training on state-of-the-art welding equipment from faculty who attend Miller Electric training schools, providing students with a distinct advantage when entering the work force.

## Gainful Employment

Welding Technology
Associate of Applied Science

Welding Career Outlook: According to The Bureau of Labor Statistics employment of welders, cutters, solderers, and brazers is expected to grow 15 percent from 2010 to 2020, about as fast as the average for all occupations.

Employment growth reflects the need for welders in manufacturing because of the importance and versatility of welding as a manufacturing process. The basic skills of welding are the same across industries, so welders can easily shift from one industry to another, depending on where they are needed most. For example, welders laid off in the automotive manufacturing industry may be able to find work in the oil and gas industry.

Growth of the defense industry, including the manufacturing of aircrafts and missiles, is expected to contribute to employment growth.

In addition, the nation's aging infrastructure will require the expertise of many welders, cutters, solderers, and braziers to rebuild bridges, highways, and buildings, resulting in some new jobs.

Overall job prospects will vary by skill level. Job prospects should be good for welders trained in the latest technologies. Welding schools report that graduates have little difficulty finding work, and many welding employers report difficulty finding properly skilled welders. However, welders who do not have up-to-date training may face competition for jobs.

For all welders, job prospects should be better for those willing to relocate.

Employment Opportunities with SOC Code:

| | |
|---|---|
| Welders, Cutters, Welder Fitters | 51-4121.06 |
| Structural Metal Fabricators | 51-2041.00 |

| Salary Forecast: | | MT | CO |
|---|---|---|---|
| Welders, Cutters, Welder Fitters | 51-4121.06 | 37,530 | 42,090 |
| Structural Metal Fabricators | 51-2041.00 | 33,480 | 39,740 |

For the most current salary information please refer to the Bureau of Labor Statistics "Occupational Outlook Handbook found at www.bls.gov/ooh/.

Program Cost:
Approximately $7,400



American Welding Society
Educational Institution Member

*The Helena College Welding Program is proudly affiliated with the American Welding Society as an Institutional Educational Member beginning Spring Semester 2013. We hold our students to the highest standards set by the American Welding Society.*

# Welding Technology

## Welding Technology

Entry into the 2nd year of the A.A.S. program is by application-only in the spring for fall semester. Applications are available through the welding department. The application process includes a welding skills test. Applications are good for current year only. The application process requires that a student has successfully completed with a "C-" or better in all of the first year welding courses including the related instruction.

**Length of Option:**    4 Semesters
**Type of Program:**    Associate of Applied Science
**Semester of Entry:**    Fall

### FIRST YEAR

#### Fall Semester

| | | |
|---|---|---|
| WLDG105 | Shop Safety | 1 |
| WLDG 112 | Cutting Processes | 1 |
| WLDG117 | Blueprint Reading and Weld Symbols | 3 |
| WLDG132 | Estimating of Job Materials | 2 |
| WLDG133 | GMAW, FCAW, AND GMAW-P | 4 |
| WLDG180 | Shielded Metal Arc Welding | 4 |
| M111T | Technical Mathematics | 3 |
| **Total Semester Credits** | | **18** |

#### Spring Semester

| | | |
|---|---|---|
| WLDG131 | Intro to Layout and Pattern Making | 3 |
| WLDG140 | Intro GAS Tungsten ARC Welding (GTAW) - Integrated Lab | 3 |
| WLDG151 | Shop Practices | 4 |
| WLDG155 | Design and Fabrication | 4 |
| WLDG160 | Rigging for Welders | 1 |
| CAPP131 | Basic MS Office | 3 |
| **Total Semester Credits** | | **18** |

### SECOND YEAR

#### Fall Semester

| | | |
|---|---|---|
| WLDG217 | Advanced Blueprint | 2 |
| WLDG225 | Structural Fabrication | 2 |
| WLDG230 | Field Welding and Processes | 2 |
| WLDG243 | Advanced Metal Fabrication I | 6 |
| WLDG255 | CNC Burn Table Programming and Operation | 3 |
| WRIT121T | Introduction to Technical Writing | 3 |
| **Total Semester Credits** | | **18** |

#### Spring Semester

| | | |
|---|---|---|
| WLDG213 | Pipe Welding Lab I | 5 |
| WLDG244 | Advanced Metal Fabrication II | 4 |
| WLDG245 | Metal Fabrication Design and Construction | 5 |
| WLDG265 | MSHA Safety Training | 1 |
| HR110T | Career Development and Human Relations | 3 |
| **Total Semester Credits** | | **18** |
| | | |
| *TOTAL CREDITS* | | **72** |

*Tool lists can be found on pages 167-170.*

# Welding Technology

## Gainful Employment

Certificate Name: Welding Technology

Job title & subsequent codes:                        51-4121
Welders, Cutters, Solderers, and Brazers

PROGRAM COSTS:
Tuition & Fees:     $3091.00
Room & Board: $5,574.00
Books & Supplies: $1,550.00

PROGRAM STATISTICS
- Number of students completing this certificate
- program in most recent fiscal year: <10
- Number of certificates completed within normal time: N/A
- On-time completion rate: N/A
- Job Placement Rate: N/A
- Median loan debt for most recent program completers: N/A

## Welding Technology

**Length of Programs:**  2 Semesters
**Type of Program:**     Certificate of Applied Science
**Semester of Entry:**   Fall

### FIRST YEAR

#### Fall Semester

| | | |
|---|---|---|
| WLDG105 | Shop Safety | 1 |
| WLDG112 | Cutting Processes | 1 |
| WLDG117 | Blueprint Reading and Weld Symbols | 3 |
| WLDG132 | Estimating of Job Materials | 2 |
| WLDG133 | GMAW, FCAW, and GMAW-P | 4 |
| WLDG180 | Shielded Metal Arc Welding | 4 |
| M111T | Technical Mathematics | 3 |
| **Total Semester Credits** | | **18** |

#### Spring Semester

| | | |
|---|---|---|
| WLDG131 | Intro to Layout and Pattern Making | 3 |
| WLDG140 | Intro GAS Tungsten ARC Welding (GTAW) - Integrated Lab | 3 |
| WLDG151 | Shop Practices | 4 |
| WLDG155 | Design and Fabrication | 4 |
| WLDG160 | Rigging for Welders | 1 |
| HR110T | Career Development and Human Relations | 3 |
| WRIT121T | Technical Communications | 3 |
| **Total Semester Credits** | | **21** |

*TOTAL CREDITS*                                    *39*

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# Professional Certificate

## E-Learning Certificate Level 1

The E-Learning Certificate Level 1 provides those who desire to deliver instructional learning materials at a distance with the foundational knowledge and skills required to design, develop, and implement effective materials for e-learning. The ideal candidates for this certificate will be those who are already involved in distance education or who work in an organization that is involved in the distribution of online instructional media. Potential students include K-12 and higher education instructors teaching in a distance education setting or those who would like to develop instructional technology skills. Additionally, potential students may include human resources professionals and employees of businesses where online training is desired for use within the organization. This professional certificate prepares students to apply the theories, principles, models, tools, and techniques associated with e-learning in diverse organizational settings.

Students who complete the E-Learning Certificate Level 1 will be able to:
- Evaluate the effective use and implementation of e-learning materials
- Design, develop, and implement successful e-learning materials
- Apply foundational e-learning principles and theories to learning activities in the work place
- Articulate the capacity to select and use technologies that support online interactions.
- Construct and deploy an online lesson and incorporate e-learning technologies

**Length of Program**:  2 Semesters
**Type of Program**:  E-Learning Professional Certificate of Completion
**Semester of Entry**:  Fall

### Fall Semester

| | | |
|---|---|---|
| CAPP208 | E-Learning Application and Web 2.0+ Basics | 3 |
| EDU106 | Foundations of E-Learning Instructional Engagement | 3 |
| EDU108 | Instructional Design I for E-Learning | 3 |
| EDU210 | Learning Technologies and Organizations | 3 |
| **Total Semester Credits** | | **12** |

## E-Learning Certificate Level 2

The E-Learning Certificate Level 2 provides students from varied professional backgrounds the foundational knowledge and skills required to design and develop effective instruction for delivery in either the classroom or professional setting. From the assessment of needs and the analysis of learning objectives to the Wrapid-development of instructional materials and their evaluation, this professional certificate prepares students to apply the theories, principles, models, tools, and techniques of systematic instructional design in diverse organizational settings.

Students who complete the E-Learning Certificate Level 2 will be able to:
- Compare and contrast foundational instructional design principles to the design, development, and implementation of learning activities in their work place
- Demonstrate an ability to effectively lead the design of effective instruction through proficient planning, develop ment, evaluation, and management
- Articulate a comprehensive knowledge of numerous theories, principles, models, tools, and techniques that can be applied to the systematic design of instruction
- Construct a successfully instructional prototype project by implementing all instructional design phases.

*Completion of the Instructional Design II course in E-Learning Certificate Level 2 requires the completion of coursework outlined under the E-Learning Certificate level 1.*

**Length of Program**:  2 Semesters
**Type of Program**:  E-Learning Professional Certificate of Completion
**Semester of Entry**:  Spring

### Spring Semester

| | | |
|---|---|---|
| EDU 208 | Instructional Design II for E-Learning | 3 |
| BMIS 270 | MIS Foundations for Business | 3 |
| EDU 258 | Structured Analysis and Design in E-Learning | 3 |
| EDU 260 | Digital Media and Visual Literacies | 3 |
| **Total Semester Credits** | | **12** |

# Professional Certificate

## Geoscience Technology

The Geoscience Technology Program is designed to prepare students to work as geoscience specialists and apply their technical knowledge to a variety of geological issues. Students receive a solid foundation in mineral and rock identification, chemistry, applied structural geology, geologic software applications, subsurface mapping, the use of GIS and map interpretation, and field methodologies. Hands-on field investigations are stressed throughout the Program and simulate the working environment of the profession. An education in Geoscience Technology will prepare students to enter industry careers such as oil field data technicians, associate geologists, geoscience technicians, geology lab techs, mineral exploration technologists, and geology assistants.

Geoscience technicians collect diverse sets of geologic data and are responsible for communicating their descriptions to senior geologists. Responsibilities may include recording the physical and geological conditions in oil/gas wells, collecting geophysical data, defining physical rock properties, and determining the elemental, mineral, and hydrocarbon composition of rock samples. Some geoscience technicians gather operations data during drilling or catalog geological and geophysical data for the development of land/lease contracts.

*Note: Selected courses require pre-requisites and mandatory lab co-requisites. Please see course descriptions beginning on page 123 for detailed pre-requisite requirements. GEO299 is taken during the final semester of study.*

**Length of Program**: 2 Semesters
**Type of Program**: Geoscience Technology Professional Certificate
**Semester of Entry**: Fall

### Fall Semester

| | | |
|---|---|---|
| CHMY141 | College Chemistry I | 3 |
| CHMY142 | College Chemistry I Lab | 1 |
| ENSC245 | Soils | 3 |
| EVSC140 | Introduction to GIS | 3 |
| GEO101 | Introduction to Physical Geology | 3 |
| GEO102 | Introduction to Physical Geology Lab | 1 |
| | **Total Semester Credits** | **14** |

### Spring Semester

| | | |
|---|---|---|
| CHMY143 | College Chemistry II | 3 |
| CHMY144 | College Chemistry II Lab | 1 |
| ENST230 | Nature and Society | 3 |
| GEO211 | Earth History and Evolution | 4 |
| GEO231 | Geoscience Field Methods | 2 |
| GEO299 | Geotech Capstone Project | 1 |
| **Total Semester Credits** | | **14** |

*TOTAL CREDITS*                28

# Focus of Study Options

*Please Note:*

*Credits will vary and may require an earned degree in an approved related discipline.*

*Please see an advisor for further information on Focus of Study Options.*

## Bookkeeping Specialist

Bookkeeping Specialist is designed for a student who has an earned degree or work experience in communications, business, or a related field. Upon successful completion of the course requirements for the Bookkeeping Specialist, the student receives a focus of study that is preparation for the national certification exam to become a Certified Bookkeeper.

**Type of Program**: Focus of Study
**Semester of Entry**: Fall and Spring

| | | |
|---|---|---|
| ACTG101 | Accounting Procedures I | 3 |
| ACTG102 | Accounting Procedures II | 3 |
| ACTG180 | Payroll Accounting | 3 |
| ACTG205 | Computerized Accounting | 3 |
| ACTG211 | Income Tax Fundamentals | 3 |
| CAPP156 | MS Excel | 3 |
| **Total Semester Credits** | | **18** |

## Human Resource Specialist

The Human Resource Specialist is designed for a student who has an earned degree or work experience in communications, business, or a related field. Upon successful completion of the course requirements for the Human Resource Specialist, the student receives a focus of study in human resource management.

**Type of Program**: Focus of Study
**Semester of Entry**: Fall and Spring

| | | |
|---|---|---|
| ACTG101 | Accounting Procedures I | 3 |
| ACTG180 | Payroll Accounting | 3 |
| BGEN105 | Introduction to Business | 3 |
| BGEN201 | Foundations of Business Ethics | 3 |
| BMGT215 | Human Resource Management | 3 |
| BMGT263 | Legal Issues in Human Resources | 3 |
| **Total Semester Credits** | | **18** |

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# Additional Academic Opportunities

Associate of Science - Business Administration
Bachelor of Applied Science - Business
Bachelor of Science - Business and Information Technology
Associate of Applied Science - Early Childhood
Bachelor of Science - Secondary Education - Industrial Technology

# Additional Academic Opportunities

Helena College is pleased to offer our students access to academic programs through partnerships with other institutions from across the state.

Offered on Helena College's campus:

| Degree | Program | Partnering Institution |
|---|---|---|
| B.A.S./B.I.T. | Accounting/Business Technology | Montana Tech |
| B.S. | Secondary Education - Industrial Technology | UM-Western |
| A.A.S. | Early Childhood Education | UM-Western |

Specific program information follows.

**Helena College is also proud to announce articulation agreements with the following institutions:**

**Carroll College**
> Accounting/Business Technology
> Computer Technology eligible degree programs:
>> Associate of Applied Science Computer Technology - Network Administration
>> Associate of Applied Science Computer Technology - Programming
>> Associate of Applied Science Computer Technology - Webmaster
>> Associate of Science Network Administration Option
>> Associate of Science Programming Option
>> Associate of Science Webmaster Option

**MSU - Northern**
> B.S. in Automotive Technology

**UM - Missoula**
> School of Business Administration Transfer Initiative

**Western Governors University**
> B.S. in Nursing

# Associate of Science - Business Administration

## Program of Study:  Business Administration

**UM - School of Business Administration Transfer Initiative**

This degree program is specifically designed for students seeking admissions into the School of Business Administration at the University of Montana-Missoula.  Upon completion of this degree, students desiring a bachelor's degree in areas of Accounting, Finance, Information Systems, Management, Marketing, and International Business are eligible to apply for admissions into UM-Missoula's School of Business Administration. Note: This degree offers eligibility for application to the School of Business Administration at UM-Missoula and does not guarantee admission. Students must earn a grade of "C" or better in all courses designated as a lower-core course.

### I.    General Education Core (31+ credits)
A:   <u>Natural Sciences/Mathematics (10+ credits)</u>

| | | |
|---|---|---|
| M121 | College Algebra | 3 |
| STAT216 | Introduction to Statistics (lower core) | 3 |

Choose one science combination listed below: (4 credits)

| | | |
|---|---|---|
| CHMY141 | College Chemistry I | 3 |
| CHMY142 | College Chemistry I Lab | 1 |
| BIOB160 | Principles of Living Systems | 3 |
| BIOB161 | Principles of Living Systems Lab | 1 |

B:   <u>Written Communication (6 credits)</u>

| | | |
|---|---|---|
| WRIT101 | College Writing I (lower core) | 3 |
| WRIT201 | College Writing II | 3 |

C:   <u>Oral Communication (3 credits)</u>

| | | |
|---|---|---|
| COMX111 | Intro to Public Speaking (lower core) | 3 |

D:   <u>Social and Psychological Sciences (6+ credits)</u>

| | | |
|---|---|---|
| NASX105 | Native American Studies | 3 D) |

Choose one of the following:

| | | |
|---|---|---|
| PSYX100 | Introduction to Psychology | 3 |
| SOCI101 | Introduction to Sociology | 3 |

E:   <u>Humanities/Fine Arts (6+ credits)</u>

| | | |
|---|---|---|
| SPNS101 | Spanish I | 4 |

Choose one of the following:

| | | |
|---|---|---|
| ARTZ106 | Visual Language – 2-D Foundations | 3 |
| HSTA101 | American History I | 3 |
| HSTA102 | American History II | 3 |
| LIT110 | Introduction to Literature | 3 |
| MUSI101 | Enjoyment of Music | 3 |
| THTR101 | Introduction to Theater | 3 |
| THTR120 | Introduction to Acting I | 3 |
| SPNS102 | Spanish II | 4 |

F:   <u>Diversity Requirement:  See Section D</u>

### II.    Additional General Education Requirements for Degree-Seeking Students (4+ credits)
Choose one science combination listed below: (4 credits)

| | | |
|---|---|---|
| CHMY143 | College Chemistry II | 3 |
| CHMY144 | College Chemistry Lab II | 1 |
| BIOB170 | Principles of Biological Diversity | 3 |
| BIOB171 | Principles of Biological Diversity Lab | 1 |

Total General Education Requirements (Minimum)    36-37 Credits

### III.  Program of Study  (24 hours)
Required Courses:

| | | |
|---|---|---|
| ECNS 201 | Principles of Microeconomics (lower core) | 3 |
| ECNS202 | Principles of Macroeconomics (lower core) | 3 |
| ACTG201 | Principles of Financial Accounting (lower core) | 3 |
| ACTG202 | Principles of Managerial Accounting (lower core) | 3 |
| BGEN235 | Business Law (lower core) | 3 |
| BMIS270 | Management Information Systems Foundations for Business (lower core) | 3 |
| CSCI 172 | Introduction to Computer Modeling (lower core) | 3 |
| M115 | Probability & Linear Mathematics* (lower core) | 3 |

Total Program Requirements    24
**Total Degree Requirements (Minimum)    60-61 Credits**

Notes:
*    Finance Majors are required to take Applied Calculus (M162) in place of Probability & Linear Mathematics (M115).  This course should be taken the student's first semester at UM-Missoula.

In the semester when students will have completed 60+ cumulative credits: 1) students must take a Writing Proficiency Assessment (WPA) exam with UM-Missoula and 2) apply for admissions into the School of Business Administration.

## Bachelor of Applied Science – Business
## Offered in Partnership with Montana Tech of the University of Montana

Contact: Barbara Yahvah, barbara.yahvah@umhelena.edu, 406-447-6963

This articulation agreement applies for the following degrees: (1) All A.A.S. degrees; (2) A.A. in Accounting Technology or Business Technology; (3) A.S. in Accounting Technology, Business Technology, or Computer Technology. Students should see their advisor to plan their transfer into B.A.S.

Any specific Helena College course will only be transferred in one the following categories: (1) Block Transfer; (2) General Education Core; or (3) Business Concentration. Classes cannot be counted in more than one category. Students need to see their advisor to maximize the transferability of their classes.

***Block Transfer*** Helena College
***(54 cr.)***

| **General Education Core** | | *(30 cr.)* | |
|---|---|---|---|
| *Communications* | | *6 cr.* | |
| WRIT101 | College Writing I | 3 | Helena College |
| WRIT322 | Business and Professional Writing | 3+ | **TECH** |
| | | | |
| *Humanities* | | *6 cr.* | |
| Humanities Elective | (History, Literature, Language) | 3 | Helena College |
| BGEN363 | Business Ethics and Decision-Making | 3+ | **TECH** |
| | | | |
| *Social Sciences* | | *6 cr.* | |
| ECNS203 | Principles of Micro and Macro Economics | 3 | Helena College |
| Social Sciences Elective | (Psychology, Sociology, Anthropology) | 3 | Helena College |
| | | | |
| *Mathematics* | | *6cr.* | |
| M115 | Probability and Linear Math | 3 | Helena College |
| M171 or STAT216 | Calculus I or Statistics | 3 | Helena College |
| | | | |
| *Physical and Life Science* | | *6-7 cr.* | |
| Physical and Life Science Elective | (BIOB, BIOH, CHMY, GEO, PHYS, SCI) | 3 | Helena College |
| Physical and Life Science Elective | (BIOB, BIOH, GEO, PHYS, SCI w/lab) | 4 | Helena College |
| | | | |
| Business Concentration Required for both tracks: | | (24 cr.) | |
| ACTG201 | Principles of Financial Accounting | 3 | Helena College |
| ACTG202 | Principles of Managerial Accounting | 3 | Helena College |
| ACTG321 | Accounting Information Systems I | 3+ | **TECH** |
| BMKT225/BMKT325 | Marketing/Principles of Marketing | 3+ | Helena College/**TECH** |
| BGEN235 | Business Law I | 3+ | Helena College/**TECH** |
| BMGT235/BMGT335 | Management/Management and Organization | 3+ | Helena College/**TECH** |
| BFIN322 | Business Finance | 3+ | **TECH** |
| BMGT426 | Strategic Management | 3+ | **TECH** |

# Bachelor of Applied Science - Business

| **Management Track** | | **(12 cr.)** | | |
|---|---|---|---|---|
| *Required* | | | | |
| BMGT329 | Human Resource Management | 3+ | **TECH** | |
| | | | | |
| *Electives (Choose 3 courses)* | | | | |
| ACTG410 | Cost/Mgmt Accounting I | 3+ | **TECH** | |
| ACTG420 | Cost/Mgmt Accounting II | 3+ | **TECH** | |
| BUS3126 | Risk and Insurance | 3+ | **TECH** | |
| BGEN236 | Business Law II | 3+ | **TECH** | |
| BMGT448 | Entrepreneurship | 3+ | **TECH** | |
| BMGT353W | Organizational Behavior | 3+ | **TECH** | |
| BMGT322 | Operations Management | 3+ | **TECH** | |
| BMKT342 | Marketing Research | 3+ | **TECH** | |
| BFIN459 | Money, Capital Markets and Institutions | 3+ | **TECH** | |
| BUS3956/3XXX | Special Topics/Other | 3+ | **TECH** | |
| BUS4956/4XXX | Special Topics/Other | 3+ | **TECH** | |
| | | | | |
| **Accounting Track** | | **(12cr.)** | | |
| *Required* | | | | |
| ACTG301 | Intermediate Accounting I | 3+ | **TECH** | |
| ACTG302 | Intermediate Accounting II | 3+ | **TECH** | |
| ACTG410 | Cost/Mgmt Accounting I | 3+ | **TECH** | |
| | | | | |
| *Electives (Choose 3 courses)* | | | | |
| ACTG401 | Principles of Fed Taxation/Individuals | 3+ | **TECH** | |
| ACTG402 | Advanced Income Tax | 3+ | **TECH** | |
| ACTG411 | Auditing I | 3+ | **TECH** | |
| ACTG412 | Auditing II | 3+ | **TECH** | |
| ACTG415 | Governmental and Not-for-Profit Accounting I | 3+ | **TECH** | |
| ACTG420 | Cost/Mgmt Accounting II | 3+ | **TECH** | |
| ACTG436 | Advanced Accounting | 3+ | **TECH** | |

Any courses that are remedial in nature, such as math courses below College Algebra, will not be counted in the block transfer credit.

+Meets the upper division requirements for a B.A.S. (minimum 39 credits).

Some courses may have pre-requisites or require specific test scores for enrollment. Pre-requisite courses not listed on this agreement may not count towards a student's transfer into the bachelor's degree program.

**Minimum Credits for B.A.S. degree in Business 120 credits. Minimum of 39 upper division credits (3XX or 4XX). Minimum of 30 upper division credits, including BMGT426, must be Montana Tech credits.**

**BMGT426 is the capstone course and should only be attempted during one of the last two semesters in the program.**

# Bachelor of Science - Business and Information Technology

## Bachelor of Science - Business and Information Technology
### Offered in Partnership with Montana Tech of the University of Montana

Contact:      Barbara Yahvah, barbara.yahvah@umhelena.edu, 406-447-6963

### Freshman Year

**Fall Semester**

| | | | |
|---|---|---|---|
| WRIT101 | College Writing I | 3 | Helena College |
| CAPP131 | Basic MS Office | 3 | Helena College |
| M115 | Probability and Linear Math | 3 | Helena College |
| Free Elective | | 3 | Helena College |
| *Physical and Life Sci.** | | 3 | Helena College |

**Spring Semester**

| | | | |
|---|---|---|---|
| BGEN105 | Introduction to Business | 3 | Helena College |
| *Humanities Elective | | 3 | Helena College |
| CSCI/ITSXXX | Computer Science Elective *** | 3 | Helena College |
| M171 | Calculus I | 3 | Helena College |
| *Phys and Life Sci. Lab** | | 3-4 | Helena College |

### Sophomore Year

**Fall Semester**

| | | | |
|---|---|---|---|
| ACTG201 | Principles of Financial Accounting | 3 | Helena College |
| ECNS201 | Principles of Microeconomics (SS) | 3 | Helena College |
| CSCI110 | Programming with Visual Basic I | 3 | Helena College |
| CAPP156 | MS Excel | 3 | Helena College/**TECH** |
| COMX111 | Introduction to Public Speaking | 3 | Helena College |

**Spring Semester**

| | | | |
|---|---|---|---|
| ACTG202 | Principles of Managerial Accounting | 3 | Helena College |
| ECNS202 | Principles of Macroeconomics (SS) | 3 | Helena College |
| CAPP158 | Basic MS Access | 3 | Helena College/**TECH** |
| STAT216 | Introduction to Statistics | 3 | Helena College |
| CSCI/ITSXXX | Computer Science Elective *** | 3 | Helena College |

### Junior Year

**Fall Semester**

| | | | |
|---|---|---|---|
| BGEN235 | Business Law I | 3+ | Helena College/**TECH** |
| BMGT235/BMGT335 | Management/Management & Organization | 3+ | Helena College/**TECH** |
| BMGT448 | Entrepreneurship | 3+ | **TECH** |
| BFIN322 | Business Finance | 3+ | **TECH** |
| BMGT353W | Organization Behavior | 3+ | **TECH** |

**Spring Semester**

| | | | |
|---|---|---|---|
| ACTG321 | Accounting Information System I | 3+ | **TECH** |
| BMKT225/BMKT325 | Marketing/Principles of Marketing | 3+ | Helena College/**TECH** |
| BMGT322 | Operations Management | 3+ | **TECH** |
| BGEN236 | Business Law II | 3+ | **TECH** |
| WRIT322 | Advanced Business Writing | 3+ | **TECH** |

# Bachelor of Science - Business and Information Technology

<div align="center">

**Senior Year**

</div>

**Fall Semester**

| | | | |
|---|---|---|---|
| BUS4326 | Marketing Strategies | 3+ | **TECH** |
| BMGT362 | Labor Relations and the Collective Bargaining Process | 3+ | **TECH** |
| BUS4526 | International Business | 3+ | **TECH** |
| Upper Div Elect (3000/4000) | | 3+ | **TECH** |
| Upper Div Elect (3000/4000) | | 3+ | **TECH** |

**Spring Semester**

| | | | |
|---|---|---|---|
| BGEN363 | Business Ethics and Decision-Making | 3+ | **TECH** |
| BMGT329 | Human Resource Management | 3+ | **TECH** |
| BFIN455 | Money, Capital Markets and Institutions | 3+ | **TECH** |
| BMGT426 | Strategic Management | 3+ | **TECH** |
| Upper Div Elect (3000/4000) | | 3+ | **TECH** |

*Students must choose electives so that the General Education Core Requirements are satisfied. They should refer to the general education core requirements in previous section.

**Any Biology (BIOB and BIOH), Chemistry (CHMY), Geology (GEO), Physics (PHYS), or Science (SCI) course.

***Students choose from CSCI 111, 114, 121, 221, 240, 241, 242; CT 161, 181, 210, 247, 253, 262, 266; ITS 212, 224, 250.

+Meets the upper division requirements for a B.S. (minimum 39 credits).

Some courses may have pre-requisites or require specific test scores for enrollment. Pre-requisite courses not listed on this agreement may not count towards a student's transfer into the bachelor's degree program.

**Minimum Credits for B.S. degree in Business Information Technology 120. Minimum of 30 upper division credits, including BMGT426, must be Montana Tech credits.**

**BMGT426 is the capstone course and should only be attempted during one of the last two semesters in the program.**

# Associate of Applied Science in Early Childhood Education

## Offered in partnership with The University of Montana—Western

The Associate of Applied Science degree in Early Childhood Education prepares early childhood practitioners to meet the unique needs of children from birth through age eight and their families in a variety of early childhood settings including child care homes and centers, Head Starts, pre-schools, etc. The program features a lab with each early childhood course, allowing ample opportunity for learning by doing. Students also have many opportunities to interact with peers and professionals in the field.

This degree is conferred by UM-Western, but all courses can be taken at Helena College. Courses designated as UM-Western are subject to their policies as outlined in their catalog. General education courses are delivered through Helena College and are subject to the policies found in this catalog.

Early childhood courses rotate on a two-year schedule, so it is imperative for interested students to contact an advisor as soon as possible. For more information students should contact the School of Outreach at UM-Western at 866-799-9140 or Admissions and Enrollment Services at Helena College University of Montana at 406-447-6900.

**First Semester (Fall Entry)**
**Helena College University of Montana Courses:**

| | | | |
|---|---|---|---|
| Social Science | | Elective | 3 credits |
| WRIT101 | College Writing I | | 3 credits |
| CAPP100 | Short Courses: Computer Literacy | | 2 credit |
| Fine Arts | | Elective | 3 credits |
| **UM-Western Courses:** | | | |
| ED142/143 | Introduction to Early Childhood/Lab | | 2 credits |
| ED250/251 | Child Growth and Development/Lab | | 4 credits |
| | | **Total:** | **17 credits** |

**Second Semester**
**Helena College University of Montana Courses:**

| | | | |
|---|---|---|---|
| M115 or higher Math | | Elective | 3-4 credits |
| Natural Science | | Elective | 3-4 credits |
| Health | | Elective | 3 credits |
| **UM-Western Courses:** | | | |
| ED144/145 | Creating an Environment for Learning/Lab | | 3 credits |
| ED240/241 | Positive Child Discipline/Lab | | 3 credits |
| | | **Total:** | **15-17 credits** |

**Third Semester**

| | | | |
|---|---|---|---|
| Professional Electives** | | | 9 credits |
| **UM-Western Courses:** | | | |
| ED242/243 | Meeting the Needs of the Family/Lab | | 3 credits |
| ED320/321 | EC Curriculum I/Lab | | 3 credits |
| | | **Total:** | **15 credits** |

**Fourth Semester**

| | | | |
|---|---|---|---|
| Professional Electives** | | | 9 credits |
| **UM-Western Courses:** | | | |
| ED344/345 | EC Professional/Lab | | 3 credits |
| ED324/325 | EC Curriculum II/Lab | | 3 credits |
| | | **Total:** | **15 credits** |
| | | **Program Total:** | **61-63 credits** |

**Professional Electives - to be decided upon in conjunction with Program Advisor. The electives can be courses in Sociology, Psychology, Health and/or Early Childhood Education. Courses can be taken through either Helena College or online through UM-Western.

# Bachelor of Science in Secondary Education - Industrial Technology

The University of Montana Western (Dillon, MT) and Helena College (Helena, MT) are collaborating to offer the Montana Western Bachelor of Science degree in Secondary Education with a major in Industrial Technology on the Helena College campus in Helena. Individuals in Helena and the surrounding communities can take classes through both institutions to complete their educational goal.

Students pursuing the Montana Western IT bachelor's degree in secondary education will take classes from both institutions; some individuals may want to earn an associate degree or certificate in a related technical area (from Helena College) while completing requirements for the Montana Western B.S. degree. Helena College will offer general education courses and some technical course requirements. Montana Western will offer industrial technology and professional secondary education coursework in their NCATE-accredited teacher education program.

## ADMISSION

Students wishing to enroll in this program must be admitted to Montana Western.

### New/Prospective Student
Submit the following information to the University of Montana Western.
- Complete a general/uniform application for admission
- Submit ALL official* transcript(s) from previously attended colleges and universities
- Submit proof of immunity against measles and rubella (two immunizations required, at least one month apart)
- Submit $30 application fee (waived if student has previously attended a unit of The University of Montana)

### Current Student
If already attending Helena College, submit a Request for Transmittal of Application Materials Form (http://mus.edu/borpol/bor300/301.5.4_Request_form.pdf) to the Registrar's office at Helena College. Contact the Montana Western admissions staff to determine if supplemental paper work is needed to transfer your file.

### Former Student
Students who stop-out (have been out of school for one semester or more) must re-apply before they can continue in the program. These individuals must complete the "returning student" application.

*"Official" transcripts are those sent directly from the previous college(s) to the Admissions Office.*

## ADVISING

Harold Kelly, Montana Western Industrial Technology course instructor in Helena, will advise all students in the Secondary Education Industrial Technology program with respect to the required IT coursework. There will be periodic visits from other Montana Western personnel to discuss the requirements of the teacher education program.

## REGISTRATION

Students will follow the registration procedures specific by each school (outlined below).

### Registration for Montana Western Courses
Students should contact Janet Jones in admissions at (406) 683-7331 or j_jones@hotdawg.umwestern.edu to enroll at Montana Western. Once admitted, students should work with Harold Kelly at (406) 447-6365 or kellyh@umhelena.edu, to plan their registration schedules.

### Registration for Helena College
Students should contact Enrollment Services and will register using the non-degree student application. Non-degree students at Helena College are limited to taking a maximum of six credits each semester; however, UMW IT Technology students will be able register for Helena College courses in excess of 6 semester credits as necessary subject to approval from the Registrar.

Please contact the Montana Western admissions office for additional information (406) 683-7191.

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# Course Descriptions

# Course Descriptions

## Transferability Initiative

The Montana University System has been undergoing a state-wide curriculum review to improve the transfer processes between its campuses. Helena College has been fully engaged in that review. As a result, many of our course prefixes, numbers, and even titles have had to change in order to more clearly connect to similar courses at other campuses. The course content is typically not any different, and any course that you took under its old name and number will be considered equivalent to the new name and number. If it is difficult to find information on a course, please contact the Helena College Academic Affairs office at 447-6929 or search the Montana University System website for the new course information (mus.edu).

**ACTG101 Accounting Procedures I**
Credits: 3
**Prerequisites: None**
An introduction to the basic accounting cycle, accounting transaction analysis, preparation of journal entries, trial balance, work sheets, and financial statements. Accounting for sole proprietorships is emphasized including special journal accounting procedures.

**ACTG102 Accounting Procedures II**
Credits: 3
**Prerequisites: A "C-" or higher in ACTG101 or consent of instructor**
A continuation of accounting transactions, financial statements, and analysis of accounts receivable, notes payable, notes receivable, merchandise inventory, property, plant, equipment, and long-term bonds. Accounting for partnerships and corporations is introduced.

**ACTG180 Payroll Accounting**
Credits: 3
**Prerequisites: A "C-" or higher in each of ACTG101, CAPP131 or satisfactory score in placement test and M108T or M121**
An introduction to payroll accounting emphasizes the process of accounting for payroll by employers and the rights of employees. Topics covered include the historical perspective of payroll accounting, the payroll accounting process from the legal issues surrounding hiring and maintaining records for employees, calculating gross pay, net pay, and payroll taxes, calculating employees deductions and benefits, recording payroll transactions, procedures for making payroll tax deposits, and completing employment tax reports.

**ACTG201 Principles of Financial Accounting**
Credits: 3
**Prerequisites: A "C-" or higher in each of ACTG101, ACTG102 and M108T or M121 or consent or instructor**
This course emphasizes the understanding of fundamental accounting principles and procedures and will develop the student's accounting problem-solving abilities and critical thinking. Topics covered include the basic structure of analyzing and recording transactions, establishing accounting policy, generally accepted accounting principles, control of cash, receivables and payables, merchandise inventory valuation methods, recording of property, plant, and equipment transactions, and long-term financing. Sources of equity capital for corporations and financial statements are analyzed.

**ACTG202 Principles of Managerial Accounting**
Credits: 3
**Prerequisites: A "C-" or higher in ACTG101, ACTG102, ACTG201; and M108T or M121 or consent of instructor**
This course emphasizes the fundamental concepts for planning, control, and decision-making. Topics covered include the basic structure of systems design, planning and control through standard costs, cost variance analysis, cost-volume-profit analysis, operating and capital budgets, and using relevant costs in decision making.

**ACTG205 Computerized Accounting**
Credits: 3
**Prerequisites: A "C-" or higher in ACTG101**
This course is an introduction to accounting on microcomputers, which provides a realistic approach to computerized, integrated accounting principles. This course emphasizes set up and maintenance of accounts and transactions used in the general ledger, sales and accounts receivable, purchasing and accounts payable, cash receipts, cash disbursements, job costing, financial statement analysis, payroll setup and processing, budgets, and business analysis.

**ACTG211 Income Tax Fundamentals**
Credits: 3          *Offered Fall Semester*
**Prerequisites: None**
A fundamental overview of tax schedules and forms as required by the Federal and State Internal Revenue Services.

**ACTG215 Foundations of Governmental and Not for Profit Accounting**
Credits: 3          *Offered Spring Semester*
**Prerequisites: A "C-" or higher in ACTG101 and ACTG102 or consent of instructor**
Accounting for governmental and nonprofit organizations is explored. Topics covered include objectives and principles of accounting for governmental entities, differences between business and government accounting, modified and accrual accounting, transactions for the general fund, special revenue funds, capital projects funds, debt service funds, permanent funds, proprietary funds (enterprise and internal service), and fiduciary funds. The influence of FASB and GASB on reporting for colleges and universities, governmental entities, and other nonprofit organizations is reviewed.

**ACTG230 Introduction to Statewide Accounting, Budgeting, and Human Resource System (SABHRS)**
Credits: 3      *Offered Occasionally*
**Prerequisite: A "C-" or higher in ACTG101**
This course gives students an overview of the accounting system utilized by state agencies. Course includes basic governmental accounting terminology and entry-level, practical application.

**ACTG292 Independent Study**
Credits: 1-3
**Prerequisites: Consent of Helena College University of Montana faculty member in the selected program area and approval of Division Chair**
This course is designed to meet specific learning needs of students. Typically, such independent study projects focus on learning opportunities not otherwise offered in our college curriculum. The student must seek prior approval of an instructor willing to serve as faculty sponsor. The student then initiates a proposal describing, among other things, the number of hours to be spent on the study project, specific learning outcomes, and how evaluation is to be accomplished. The approved proposal will have signatures of the student, faculty sponsor, department chair, and the Associate Dean.

**ACTG298 Internship**
Credits: 1-3
**Prerequisites: Consent of Helena College University of Montana faculty member in the selected program area and approval of Division Chair**
This course is designed for the student who takes the initiative to perform work outside of and in addition to the normal school curriculum. If done properly, it can be a highly rewarding experience and aid the student's transition from school to work.

**ACTG299 Capstone: Accounting**
Credits: 3      *Offered Spring Semester*
**Prerequisites: A "C-" or higher in each of ACTG101, ACTG102, ACTG180, ACTG201 or ACTG202, ACTG205, ACTG211, or ACTG215; CAPP156; COMM131 or COMM201; M108T or M121; WRIT101 or WRIT121T; and consent of instructor**
A capstone class utilizing accounting research, business knowledge, computer techniques, and communication skills in preparing a professional student portfolio.

**AHMS148 Medical Terminology and the Human Body**
Credits: 4
**Prerequisites: None**
This is an introductory course for students in the Office Technology – Medical Specialist program. The students learn to recognize that the meaning of complex medical terms can be determined by analyzing simpler components using prefixes, suffixes, and word roots. Correct pronunciation, definition, and spelling of these terms are derived through extensive usage of the textbook, medical dictionary, and computer software exercises. This course will also teach the basic structure and functioning of the systems of the human body including aspects of normal physiology and function, deviations from normal, and maintenance of health. There will also be an introduction to diseases of the body systems in correlation with the terminology.

**AHMS218 Complete Medical Coding**
Credits: 3      *Offered Spring Semester*
**Prerequisites: AHMS148**
Medical Coding is a fundamental skill requirement for the medical profession. Developing an excellent coding knowledge base will allow for future employment and advancement opportunities throughout the medical community. CPT, ICD9, & HCPCS codes will be used.

**AHMS252 Computerized Medical Billing**
Credits: 3      *Offered Fall Semester*
**Prerequisites: AHMS148; CAPP154, or consent of the instructor**
This course familiarizes the student with the capabilities of medical practice software programs. Students learn procedures such as patient scheduling, statement billing, payment reconciliation, insurance claim processing, procedure posting, HIPPA, medical records management, insurance company procedures, Medicare procedures, and insurance regulations.

**ANTY101 Anthropology and the Human Experience**
Credits: 3      *Offered Fall Semester*
**Prerequisites: None**
A survey of the various subfields of anthropology, including archaeology, physical anthropology, cultural anthropology, and linguistics.

# Course Descriptions

**ANTY103 Introduction to Latin American Studies**
Credits: 3          *Offered Occasionally in Fall Semester*
**Prerequisites: None**
A contemplation of Latin America from a variety of perspectives and disciplines – as anthropologists, geographers, historians, political scientists, and artists, to name a few – in order to better understand its histories, cultures, landscapes, and communities.

**ANTY250 Introduction to Archaeology**
Credits: 3          *Offered Spring Semester*
**Prerequisites: None**
Archaeology is the study of past human cultures through their material remains. Archaeology uses many different approaches and tools to study and explain how people lived in the distant and not-so-distant past. Artifacts, sites, settlements, and landscapes may be studied to help reveal how people lived, how they saw themselves and their world, what the environment was like, and how these factors interrelated and changed through time. In this class you will gain an overview of what archaeology is, how archaeology is done, and what it can tell us about our world - past, present and perhaps even a glimpse of our future. This course is intended to be an introductory survey of archaeology for undergraduate students, either as an elective or as a foundation for further studies in archaeology.

**ARTH160 Global Visual Culture**
Credits: 3
**Prerequisites: None**
This course is an introduction to a broad spectrum of the visual arts of Western and non-Western cultures from a Western art historical perspective with focus on seeing, thinking, and understanding art through critical analysis of form, content, function, and cultural context.

**ARTZ105 Visual Language - Drawing**
Credits: 3
**Prerequisites: None**
This course explores the principles of design, as well as application of those principles through a wide variety of hands-on projects.

**ARTZ106 Visual Language - 2-D Foundations**
Credits: 3          *Offered FallSemester*
**Prerequisites: None**
This introductory drawing course covers basic principles of drawing and design in art. Major areas of study are space, form, volume, tone, texture, and line, using various drawing materials and techniques.

**ARTZ221 Painting I**
Credits: 3          *Offered Spring Semester*
**Prerequisites: ARTZ106 or consent of the instructor**
Practice and principles of painting in traditional media, including watercolor, acrylic, and oil painting. The course emphasis is on acquiring and refining technical skills, composition, and application of color theory. Research in historical and contemporary strategies.

**ASTR110 Introduction to Astronomy**
Credits: 4          *Offered Spring Semester*
**Prerequisites: None**
This course provides an introduction to astronomy with a lab component for the non-science major. Topics include the tools of astronomy, the solar system, stars and stellar evolution, the Milky Way, extragalactic astronomy, cosmology, and life in the universe.

**AUTO104 Automotive Mechanics Core**
Credits: 2
**Prerequisites: None**
This course covers proper shop safety procedures, safety materials, basic hand tool operation and identification, pneumatic and hydraulic tool operation and identification, vehicle hoist operation and safety, material safety data sheets (MSDS), precision measurement tools and application, fasteners, and different fastener grades.

**AST108 Automotive Manual Drivetrains**
Credits: 6
**Co-requisites: AUTO104**
**Prerequisites: None**
This course covers the theory of operation and service procedures related to dry friction clutches, manual transmissions/transaxles, front drive axles, rear drive axles, drivelines, transfer cases, and locking hubs. Students will disassemble, inspect, and re-assemble selected power train components.

**AST118 Brakes and Chassis**
Credits: 6
**Prerequisites: AUTO104, AST108, AST130, AST160**
This course focuses on the function, diagnosis, and service practices of current automotive braking, steering and suspension systems. Students will learn about disc and drum brake hydraulic, mechanical, and electrical systems, to include ABS systems. Students will also study current steering, and suspension systems, to include 4 wheel alignments, suspension system, and tire service.

# Course Descriptions

**AST130 Introduction to Automotive Electronics**
Credits: 7
**Co-requisites: AUTO104**
**Prerequisites: None**
This course is designed to give Automotive Technology students the basic electrical/electronic foundation needed to build on in other advanced courses requiring electrical and electronic knowledge. The course progresses from electrical/electronic theory, circuits and circuit failure, meters, and components through to starting and charging systems. The lab component of this course is designed to provide the hands-on activities common to automotive electrical/electronic applications. Emphasis will be placed on developing a knowledge and skill base needed to diagnose and repair general automotive electrical system malfunctions.

**AST160 Automotive Engine Repair**
Credits: 6
**Prerequisites: AUTO104**
This course covers the theory of operation, diagnosis, and service procedures associated with automotive engine repair. Students will learn automotive engine theory and will disassemble, assemble, and run electronically-controlled, overhead cam training engines and their related components.

**AST172 Automotive Heating/Air Conditioning**
Credits: 5
**Co-requisites: AST230**
**Prerequisites: AUTO104, AST130**
This course is designed to provide Automotive Technology students with the knowledge and skills required to understand, service, and repair mobile air conditioning systems as used in the automotive industry. The course content includes heat and refrigeration principles, component function and interrelation concerns, and EPA requirements. The lab component is designed to provide the hands-on activities common to automotive, mobile air conditioning applications.

**AST230 Electrical/Electronic Systems II**
Credits: 4
**Prerequisites: AUTO104, AST130**
This course covers theory of operation, diagnosis, and service procedures related to selected electrical and electronically controlled systems. Systems/subjects covered include: vehicle communication networks, supplemental inflatable restraint systems, anti-theft systems, cruise control, remote keyless entry, and power accessories.

**AST262 Engine Performance I**
Credits: 8
**Prerequisites: AUTO104, AST130, AST230**
This course covers theory of operation, diagnosis, and service procedures as they relate to engine performance. Subjects studied will include the effects of engine design on performance, federal emissions legislation, fuel composition and characteristics, ignition systems, electronic fuel injection, and emission control systems. Students will learn to use industry-accepted test procedures and test equipment to determine the cause of degraded engine performance, drivability complaints, and/or excessive exhaust emissions.

**AST264 Engine Performance II**
Credits: 5
**Prerequisites: AUTO104, AST130, AST160, AST230, AST262**
This course covers principles of operation, safety practices, service, and diagnostic procedures related to computerized engine management systems. Alternative fuel and hybrid electric vehicles will be explored with special emphasis given to the development of proper diagnostic skills and the use of state of the art electronic test equipment.

**AST270 Automatic Transmissions/Transaxles**
Credits: 7
**Prerequisites: AUTO104, AST130, AST230, AST262**
This course covers the theory of operation, diagnosis, and service procedures related to hydraulically controlled and computerized automatic transmissions and transaxles. Students will disassemble, rebuild, and reassemble selected transmissions/transaxles.

**AST280 Applied Lab Experience and Light Repair**
Credits: 4
**Co-requisites: AST264 , AST270**
**Prerequisites: AUTO104, AST108, AST118, AST160, AST172, AST230, AST262**
This is a "capstone" experience course for Automotive Technology students in their second year, intended to apply their knowledge base acquired in previous courses to additional, repetitive lab experiences, thereby developing their critical thinking and physical service skills. It is important to note that this is not a "hobby shop" or "rebuild" course and will focus on "quick turn-around" light repair and problem solving. Emphasis will be placed on vehicle service practices, preventative maintenance, component diagnosis and replacement, electrical/electronic systems diagnosis and repair, heating and A/C service, and "under car" service and repair.

# Course Descriptions

**AVMT100 Introduction to Aviation Maintenance/ Mathematics/Basic Physics**
Credits: 2
**Prerequisites: None**
This course introduces students to many facets of aviation maintenance and its future. The course will also cover mathematical concepts such as powers and roots, ratio and proportion, and practical applications of plane geometry and algebra and basic physics, to include mechanical advantage, conversion between forms of energy, vibrations, the gas laws, heat, and pressure.

**AVMT105 Basic Electricity**
Credits: 2
**Prerequisites: None**
This course covers the elements of basic electricity and lays the foundation for understanding electrical circuitry concepts, the principles of electrical power generation and distribution, and aircraft electrical systems functions. This course will also describe current flow and analyze circuit operation in both theory and practical applications.

**AVMT110 Aircraft Drawings/Weight and Balance**
Credits: 2
**Prerequisites: None**
This course introduces aircraft drawings, which enhance the ability to communicate ideas, to understand and explain an operation, and to record what has been done to an aircraft using symbols and different types of drawings such as views and projections used in aircraft maintenance. The course will also introduce weight and balance for safety and efficiency of flight, for maintaining the weight of an aircraft and its center of gravity within its specified limits. The course will cover the theory of aircraft weight and balance, weight and balance information, and the procedures for weighing an aircraft, and how to find the aircraft center of gravity and perform adverse-load center of gravity checks.

**AVMT115 Materials and Processes/Fluid Lines and Fittings/ Cleaning and Corrosion Control**
Credits: 3
**Prerequisites: None**
This course provides students the opportunity to inspect aircraft components for wear, identify aircraft hardware and materials, learn the basic theory of heat-treatment processes, nondestructive inspection procedures, and perform dye-penetrant and magnetic particle inspections. The course will also cover fluid lines and fittings, which must be of the correct size and material. The student is introduced to the selection of materials for both rigid and flexible fluid lines and to the proper installation of various types of aircraft fittings on these lines. The student is also taught the proper installation and inspection of high-pressure fluid lines in an aircraft. This course also covers the importance of recognizing and properly treating an aircraft structure that shows evidence of corrosion. This introduces the student to the selection of cleaning materials, with emphasis on their relationship to the type of material being cleaned. It stresses the identification of the various types of corrosion, the evaluation of corrosion damage, the proper way of removing the corrosion deposits, and treatment of the corroded areas.

**AVMT120 Ground Operation and Servicing**
Credits: 2
**Prerequisites: None**
This course introduces servicing and ground operations of aircraft and covers the choice and identification of fuels for both reciprocating and turbine engine-powered aircraft and the necessary precautions to observe when fueling an aircraft. Since awareness of ground operations and hazards is emphasized in this section, the student is also introduced to "Safety in the Shop and on the Flight Line." This increment also covers the proper procedure for starting reciprocating and turbine engines and the procedures for proper engine run-up, aircraft movement, and tie-down.

**AVMT125 Maintenance Publications/Forms and Records/ Mechanic Privileges and Limitations**
Credits: 2
**Prerequisites: None**
This course introduces the importance of understanding the regulations governing aviation maintenance and the information furnished by the aircraft, engine, and component manufacturers, and it emphasizes the importance of the legal aspects of aviation maintenance. The student will learn how to properly describe the work done to an aircraft and must be able to make the proper maintenance record entries, and explain these records and forms step-by-step to what is expected of the mechanic by the aircraft owner and what is allowed by the FAA.

# Course Descriptions

**AVMT130 Basic Aerodynamics**
Credits: 2
**Prerequisites: None**
This course introduces knowledge of basic aerodynamics, which deals with the motion of air and the forces acting on bodies moving relative to the air. In the study of aerodynamics, the student learns about why and how an airplane flies. Although aerodynamics is a complex subject, exploring the fundamental principles which govern flight is the main challenge in understanding what makes an airplane fly and begins with learning the four forces of flight, which are lift, weight, thrust, and drag.

**AVMT135 Assembly and Rigging/Airframe Inspection**
Credits: 3
**Prerequisites: None**
This course introduces knowledge of the correct assembly and rigging of an aircraft, which is vital to safe and efficient flight. This section explains the relationship between aircraft rigging and the aerodynamics of flight. The course also introduces how to determine the legal airworthiness of an aircraft, its powerplant, and components. The student will learn the inspection aspects from a legal standpoint in which the emphasis is placed on the practical aspects and performance of required inspections.

**AVMT140 Sheet Metal**
Credits: 3
**Prerequisites: None**
This course introduces knowledge of sheet metal structures, which is one of the most important types of modern aircraft construction. This section gives students a solid lesson in the types and materials for metallic aircraft structures, a discussion that includes the stresses on aircraft structure and the strength of various metal materials. The student is taught to install conventional, special rivets, and fasteners; hand form, layout, and bend sheet metal; and to inspect and repair sheet metal structures.

**AVMT145 Composites and Plastics**
Credits: 3
**Prerequisites: None**
This course introduces knowledge of nonmetallic composite structures, which is the second most important type of modern aircraft construction. This section gives students a solid lesson in the types of composite materials and their manufacture details, a discussion that includes the foundation for the understanding of "Nonmetallic Aircraft Structures" and "Composite Structure Inspection and Repair."

**AVMT150 Wood Structures**
Credits: 2
**Prerequisites: None**
This course introduces aircraft wood structures; the student will learn and be able to identify defects and the different kinds of woods suitable for their application, describe the kinds of glues and gluing techniques, and to restore old aircraft that have wood wing spars, ribs, and plywood structures.

**AVMT155 Aircraft Covering/Aircraft Finishes**
Credits: 2
**Prerequisites: None**
This course introduces the student to the application and maintenance of fabric covered aircraft. They will learn about how a fabric covering is properly attached to aircraft structures. The student will become familiar with the different types of covering materials that are used to cover an aircraft plus the dope fillers, paints, and rejuvenator finishes used on the fabric.

**AVMT160 Aircraft Welding**
Credits: 3
**Prerequisites: None**
This course introduces the knowledge of welding, which is important because modern structures are so complex and highly stressed that welding is usually a specialized type of repair done under highly controlled conditions. This section concludes the discussion of Metallic Aircraft Structures with a detailed description of the types, tools, materials, and methods of welding for aircraft construction, maintenance, and repair.

**AVMT165 Hydraulic and Pneumatic Power Systems**
Credits: 3
**Prerequisites: None**
This course introduces hydraulic and pneumatic power systems, which are used to operate many of the vital systems, such as landing gear retraction, brakes, and powered flight controls. The students will inspect, check, service, troubleshoot, and repair these systems and will learn to work safely with these fluids and their pressurized containers.

**AVMT170 Aircraft Landing Gear Systems/Position and Warning Systems**
Credits: 2
**Prerequisites: None**
This course introduces landing gear systems, which are subject to greater stresses than any other airframe system; therefore, the student must completely understand these vital components. This section includes lectures and schematic diagrams of these systems, exploded views of the assemblies, and illustrations of the workings of brake control systems, and the required maintenance. The different systems are covered in three areas: anti-skid brakes and their systems; electrical circuits and landing gear actuation; and warning systems for instruments that indicate and measure movement.

**AVMT205 Aircraft Electrical Systems**
Credits: 2
**Prerequisites: None**
This course introduces electricity and airframe electrical systems. Basic electricity is taught along with typical airframe electrical circuits. The student will learn both general diagram symbols and specific electrical systems along with industry-accepted methods of installation and proper testing equipment used.

# Course Descriptions

**AVMT210 Aircraft Fuel Systems/Fire Protection Systems/Ice and Rain Control Systems**
Credits: 3
**Prerequisites: None**
This course introduces the complex system of tanks, valves, and pumps of modern aircraft. The student will learn these systems in order to service them efficiently and safely. This section describes the various aircraft fuels and explains the fuel system requirements. This course also introduces fire protection systems and shows that fire is an ever possible danger in an aircraft, and that the student must be aware of the nature of fire and the appropriate methods and agents for detecting and extinguishing aircraft fires. This section explains how these protection systems work. This course also covers ice and rain control systems.

**AVMT215 Cabin Atmosphere Control Systems**
Credits: 2
**Prerequisites: None**
This section covers maintaining an aircraft cabin environment with the proper pressure, temperature, humidity, and air movement, which is more than a matter of comfort; it is also a safety factor. This section backs up its discussion of these systems by starting with an explanation of "Human Needs in Flight" and how the atmosphere, the chemistry of oxygen, and the physics of heat, temperature, and pressure relate to this topic.

**AVMT220 Aircraft Instrument Systems/Communication and Navigation Systems**
Credits: 3
**Prerequisites: None**
This course introduces instrument systems that are needed to provide the flight crew with data relating to the operating of the various flight and powerplant systems. This section describes the instruments and the basic operating principles of the systems that run them. The student will learn the installation and maintenance of these systems. Aircrafts depend upon electronic navigation and communication equipment. The student will learn their responsibility for determining the condition of the installed equipment and its interface with the aircraft itself. The student will also receive a detailed discussion of communication and navigation systems, as well as basic radio theory, to provide an understanding of how these systems should work.

**AVMT225 Development of Aircraft Powerplants**
Credits: 2
**Prerequisites: None**
This course will introduce the student to the development of aircraft powerplants from the Wright brothers' first engine, to the modern piston, turbine, and turboprop engines that are used on aircraft and helicopters throughout the world today.

**AVMT230 Reciprocating Engines and Systems**
Credits: 6
**Prerequisites: None**
This course introduces aircraft powerplants that are of the reciprocating (piston) type. This section introduces the student to the different types of reciprocating engines, which include the detailed material that covers the step-by-step, hands-on procedures for reciprocating engine inspection, troubleshooting, repair, and overhaul. The course includes the operation of fuel metering components, induction and exhaust systems, heat dissipation, and starter systems.

**AVMT235 Turbine Engines and Systems**
Credits: 6
**Prerequisites: None**
This course introduces aircraft powerplants that are of the turbine type. This section introduces the student to the different types of turbine engines, which include the detailed material that covers the step-by-step, hands-on procedures for turbine engine inspection, troubleshooting, and repair. The course includes the operation of fuel metering components, induction and exhaust systems, method of heat dissipation, and starter systems.

**AVMT240 Engine Instrument Systems**
Credits: 2
**Prerequisites: None**
A knowledge of the conditions in an aircraft engine allows the flight crew to operate it in the most efficient and safest manner. For this reason, modern aircraft powerplants are equipped with sensors to monitor all of the vital parameters. This section covers all required powerplant instrumentation and also discusses the various types of electronic, digital, and computerized instrumentation of today's aircraft.

**AVMT245 Engine Electrical Systems/Auxiliary Power Unit**
Credits: 2
**Prerequisites: None**
In this section the methods of generating and controlling electrical energy are discussed. It includes a refresher of electrical principles as they apply to powerplant operation and of each control system in detail. There is also a lecture on aircraft electrical system installation, to prepare the student for the practical application of electrical system service and maintenance. The student will also learn about the APU (auxiliary power unit) system that is used to provide electricity and compressed air when the aircraft is on the ground and the main engines are not operating.

**AVMT250 Engine Fire Protection Systems**
Credits: 2
**Prerequisites: None**
This course introduces how modern aircraft powerplants are protected from fire with effective fire-detection and high-rate-discharge fire-extinguishing systems. These are described in detail so the student understands the practical application necessary in the servicing, inspection, troubleshooting, and repair of these systems.

**AVMT255 Propellers and Unducted Fans**
Credits: 6
**Prerequisites: None**
This course introduces all aspects of propeller theory, as a foundation for the understanding of propeller maintenance, repair, and inspection. A propeller is an airfoil, rotated by either a reciprocating or turbine engine. The propeller adds energy to the air passing through it by accelerating it rearward to produce a forward thrust. This course also introduces a new development in aircraft propulsion that is known as an ultra-high bypass (UHB) turbofan, or unducted fan (UDF) engine. A special lecture is devoted to the discussion of this engine.

**BFIN265 Introduction to Business Finance**
Credits: 3          *Offered Fall Semester*
**Prerequisites: A "C-" or higher in each of ACTG101, BGEN105, M108T or M121**
This course is designed to assist students in making effective financial business decisions. Topics include time value of money, cash flow, financial ratio analysis, long term financing/equity decisions, working capital management, personal finance, and the influence of the economic environment on a business's financial considerations.

**BGEN105 Introduction to Business**
Credits: 3
**Prerequisites: WRIT095 or placement in WRIT101 or WRIT121T**
This course introduces the nature of business and the trends that change the way business is conducted. Topics covered in this course include the business environment, starting a business, management, ethics, social responsibility, human resources, marketing, and finance.

**BGEN201 Foundations of Business Ethics**
Credits: 3
**Prerequisites: A "C-" or higher in BGEN105 and WRIT101 or WRIT121**
This course is designed to apply business concepts in studying ethics. The course will help students differentiate between ethical and unethical practices in the business world. Topics covered include basic principles of ethics, social costs, justice and fairness, utilitarianism, free market and rights, ethics in the marketplace, business and external exchanges, and ethics relating to internal constituencies (employee issues).

**BGEN235 Business Law**
Credits: 3
**Prerequisites: A "C-" or higher in BGEN105**
This course is an overview of business law, including the judicial system and procedures. Emphasis will be on ethics and law, tort law, contract law, sales and lease laws, negotiable instruments, bankruptcy laws, and legal ramifications for organizational types.

**BGEN236 Business Law II**
Credits: 3          *Offered Occasionally*
**Prerequisites: A "C-" or higher in BGEN105**
This course is an overview of business law including the judicial system and procedures. Emphasis will be on ethics and law, contract law, warranties and product liability, consumer protection laws, personal property, real property, wills, intestacy, and trusts, business organizations and regulation, and the impact of computers and e-commerce on the law.

**BGEN292 Independent Study**
Credits: 1-3
**Prerequisites: Consent of Helena College faculty member in the selected program area and approval of the Division Chair**
This course is designed to meet specific learning needs of students. Typically, such independent study projects focus on learning opportunities not otherwise offered in our college curriculum. The student then initiates a proposal describing, among other things, the number of hours to be spent on the study project, specific learning outcomes, and how evaluation is to be accomplished. The approved proposal will have signatures of the student, faculty sponsor, Division Chair, and the Associate Dean.

**BGEN298 Internship**
Credits: 1-3
**Prerequisites: Consent of Helena College University of Montana faculty member in the selected program area and approval of the Division Chair**
This course is designed for the student who takes the initiative to perform work outside of and in addition to the normal school curriculum. If done properly, it can be a highly rewarding experience and aid the student's transition from school to work.

**BGEN299 Capstone: Business**
Credits: 3          *Offered Spring Semester*
**Prerequisites: A "C-" or higher in each of ACTG101, ACTG180, ACTG205; BFIN265; BGEN105; BMGT210, BMGT235; BMKT225; CAPP156; COMX111 or COMX250; M108T or M121; WRIT101 or WRIT121; and consent of instructor**
This capstone course helps students synthesize the learning process with the production of a Business Plan for launching of a new small business venture. Students utilize communication skills, computer skills, accounting skills, and management problem-solving techniques toward the development of the culminating project.

# Course Descriptions

**BIOB101 Discover Biology**
Credits: 3
**Co-requisites: BIOB102**
**Prerequisites: None**
This nonmajors Biology course introduces the student to the fundamentals of biological organization, the scientific method, cellular biology, molecular biology, genetics, ecology, and origins. Relationships between form and function, acquisition and the use of energy, and continuity among generations will be addressed.

**BIOB102 Discover Biology Lab**
Credits: 1
**Co-requisites: BIOB101**
**Prerequisites: None**
This nonmajors biology lab course accompanies the Discover Biology lecture.

**BIOB160 Principles of Living Systems**
Credits: 4          *Offered Fall Semester*
**Prerequisites: None**
The first course in a biology sequence is an introduction to the basic concepts and principles of general biology with an emphasis on lab experiences, critical thinking, problem solving, and the scientific method. Areas of study include organic chemistry and biochemistry, cellular biology, cell growth, genetics and genetic engineering, reproduction, cell metabolism, ecology, evolution theory, and classification systems in biology.

**BIOB170 Principles of Biological Diversity**
Credits: 4          *Offered Spring Semester*
**Prerequisites: BIOB160**
The second course in the biology sequence emphasizes study of the principles of biology within specific classifications such as kingdoms and species. Areas of study include viruses, bacteria, protists, fungi, plant, invertebrates, vertebrates, and human biology.

**BIOB260 Cellular and Molecular Biology with Lab**
Credits: 4          *Offered Spring Semester*
**Prerequisites: CHMY 143/144 with "C" or better, and BIOB 101 or higher**
An introduction to the biology of the cell, including the nature of organization of the cell, growth, basic bioenergetic and enzyme function, cell environment, membrane structure and function, the chemical and physical mechanisms of metabolism in plants and animals, and the work performed by cells. Laboratory is included.

**BIOH104 Basic Human Biology**
Credits: 4
**Prerequisites: None**
This one-semester course covers the basic anatomy and physiology of the human body. Lecture will concentrate on the physiology (function) of several body systems including the nervous, cardiovascular, respiratory, and urinary systems and how they contribute to homeostasis of the body. Lab will mainly concentrate on the anatomy (form) of bones, muscles, brain and spinal cord, and the heart.

**BIOH201 Anatomy and Physiology I with Lab**
Credits: 4
**Prerequisites: None**
This is the first course of a two-semester course series. In this course the student will build on the general principles of cell biology and basic chemistry. Structure and function of the integumentary, skeletal, muscular, and nervous systems will be studied, with emphasis on homeostasis, control and integration of the human body. Lecture will concentrate on physiology (function) while the lab experience will concentrate on anatomy (form), including histology (cellular level).

**BIOH211 Anatomy and Physiology II with Lab**
Credits: 4
**Prerequisites: BIOH201**
This is the second course of a two-semester course series. In this course the student will build on the general principles of cell biology and basic chemistry, structure and function of the endocrine system, cardiovascular system, digestive system, renal system and reproductive system. Lecture will concentrate on physiology (function) while the lab experience will concentrate on anatomy (form), including histology (cellular level).

**BIOM250 Microbiology for Health Science**
Credits: 3          *Offered Spring Semester*
**Co-requisites: BIOM251**
**Prerequisites: BIOB160 or BIOH201**
This course will survey both general and medical microbiology. It will emphasize medical microbiology and place it in perspective with the whole of human health. Bacterial, fungal, and viral agents of disease will be studied and the methods for their identification and control.

**BIOM251 Microbiology for Health Science Lab**
Credits: 1          *Offered Spring Semester*
**Co-requisites: BIOM250**
**Prerequisites:  BIOB160 or BIOH201**
This lab component is designed to reinforce the material covered in BIOM250 by providing students with a practical hands-on opportunity to execute and to observe supplemental exercises in a lab setting. This course can also function as a stand-alone course for students who have completed the lecture component of microbiology previously.

**BMGT210 Small Business Entrepreneurship**
Credits: 3
**Prerequisites: A "C-" or higher in BGEN105**
This course introduces the student to the entrepreneurial mindset necessary to discover opportunities for markets and situations in which a small business can be developed successfully. Topics covered include the nature of small business, seeking entrepreneurial opportunities, developing new ventures, marketing and managing a small business, and the social and legal environment of businesses.

**BMGT215 Human Resource Management**
Credits: 3
**Prerequisites: A "C-" or higher in BGEN105**
This course introduces the student to an overview of the background of human resource management, acquisition of human resources, training and development of employees, compensation of human resources, and labor relations. Topics covered include human resource planning, recruitment, selection and training, equal opportunity and employment laws, job analysis and design, performance management systems, compensation and benefits, and employee/labor relations.

**BMGT235 Management**
Credits: 3
**Prerequisites: A "C-" or higher in BGEN105 and WRIT101 or WRIT121**
Students learn efficient and effective use of resources in achieving organizational goals. Topics include the environment of management, the functions of planning, organizing, leading, and controlling, and decision-making for organizational leaders.

**BMGT263 Legal Issues in Human Resources**
Credits: 3
**Prerequisites: A "C-" or higher in BGEN105**
This course introduces the student to an overview of legal issues in human resources and employment law. Topics covered include employment relationships, hiring, termination, employment discrimination, employment regulation (wage and hour, safety, workers' compensation), and employee evaluation.

**BMIS270 MIS Foundations for Business**
Credits: 3
**Prerequisites: None**
The field of Management Information Systems (MIS) is an exciting discipline that is integral to all business activities. This course is designed to introduce students to Information Systems (IS) and to examine how these powerful systems have fundamentally reshaped modern organizations, as well as our society. This course focuses on the key components of Information Systems – people, software, hardware, data, and telecommunications – highlighting how these components can be integrated and managed to create and sustain competitive advantage.

**BMKT225 Marketing**
Credits: 3
**Prerequisites: A "C-" or higher in each of BGEN105 and WRIT101 or WRIT121**
This course introduces the student to making marketing decisions. Topics covered include the marketplace and consumers, marketing plans, market analysis, the marketing mix, and global marketing.

**CAPP100 Short Courses: Computer Literacy**
Credits: 2
**Prerequisites: None**
This course introduces the students to computer hardware and software and their uses. The course provides basic computer literacy concerning terminology, careers, and social issues related to computer, network, and information technology issues including ethics, crime, and copyright issues.

**CAPP106 Short Courses: Computer Applications**
Credits: 1
**Prerequisites: None**
This course is an overview of the uses of the microcomputer in the technical and health fields. Topics will include the microcomputer operating system and overviews of word processing and spreadsheet applications.

**CAPP131 Basic MS Office**
Credits: 3
**Prerequisites: None**
This course provides students with basic computer literacy, terminology, career information, and social issues related to computers, as well as network and information technology. Topics include issues with computer use, ethics, crime, and copyright laws. Students will explore a computer operating system, word processing and spreadsheet application software, and the internet to find solutions for real world problems. Through hands-on activities participants will learn effective uses of a Windows-based computer as a tool to increase productivity.

**CAPP153 MS PowerPoint**
Credits: 3
**Prerequisites: None**
Using MS PowerPoint, students will apply effective design concepts and features to create readable, well-balanced presentations to use in a business or educational setting. A variety of appropriate presentation techniques will be discussed and applied.

**CAPP154 MS Word**
Credits: 3
**Prerequisites: None**
Students will learn basic principles of word processing. Emphasis is placed on creating, saving, editing, and formatting documents along with some of the special features of word processing software. This course uses Microsoft Word.

# Course Descriptions

**CAPP155 MS Publisher**
Credits: 3     *Offered Fall Semester*
**Prerequisite: None**
Students will learn the basic principles of design as it applies to the publication of business cards, newsletters, invoices, business flyers, and other business publications. Emphasis is placed on creating, saving, editing, and designing publications using text and graphic elements. MS Publisher will be used in this course.

**CAPP156 MS Excel**
Credits: 3
**Prerequisite: CAPP131**
This course serves the needs of business people learning electronic spreadsheets. Spreadsheets can be used for a variety of applications including general ledger, payroll, taxation, budgeting, and forecasting. Spreadsheets are also valuable tools for personal finance.

**CAPP158 Basic MS Access**
Credits: 3
**Prerequisites: CAPP131 or satisfactory score on placement test**
This course highlights the role of data management in the business environment. Students learn how to create, edit, and manipulate large amounts of data with Microsoft Access. Topics include basic database design, tables and forms, sorting, and queries. Other topics include building and working with relational databases.

**CAPP208 E-Learning Application and Web 2.0+ Basics**
Credits: 3
**Prerequisites: None**
This course explores connections between technology and the teaching and learning processes through current research in instructional technology. Students will examine industry standard e-learning development tools for training in a virtual environment including various asynchronous, synchronous, rapid development, and web-based technologies. Students will compare and contrast popular e-learning authoring tools. The tools demonstrated in this course will include lecture capture, web authoring, wikis, virtual reality software, video editing, Google Docs, and others. Students will gain a better understanding of which media are best suited to meet their learning objectives and/or business training goals.

**CAPP254 Advanced MS Word**
Credits: 3
**Prerequisite: CAPP154 or TASK113 or consent of instructor**
Students will learn and practice advanced applications of MS Word software. Topics covered include tables, styles, templates, mail merges, graphics, charts, forms, macros, and long documents.

**CAPP266 Advanced MS Excel**
Credits: 3
**Prerequisite:  CAPP156**
This course serves the needs of business people learning spreadsheets requiring a higher level of skill. This is an advanced course and elaborates on the skills learned through CAPP156. Electronic spreadsheets can be used for a variety of applications including general ledger, payroll, taxation, budgeting, and forecasting. Spreadsheets are also valuable tools for personal finance.

**CHMY121 Introduction to General Chemistry**
Credits: 3
**Co-requisites: CHMY122**
**Prerequisites: A "C-" or higher in M095 or satisfactory score on placement test**
This course is designed to provide students with a working knowledge of the basic principles of chemistry and the physical world at a microscopic scale. Topics include the atomic model of matter, energy, chemical bonds and reactions, the states of matter, acids and bases, and an introduction to organic chemistry. The course integrates lecture and homework assignments to provide students practical examples of applications of course material to "real world" situations.

**CHMY122 Introduction to General Chemistry Lab**
Credits: 1
**Co-requisites: CHMY121**
**Prerequisites: A "C-" or higher in M095 or satisfactory score on placement test**
This lab component is designed to reinforce the material covered in CHMY121 by providing students with a practical hands-on opportunity to execute and to observe supplemental exercises in a lab setting.

**CHMY123 Introduction to Organic and Biochemistry**
Credits: 3     *Offered Spring Semester*
**Co-requisites: CHMY124**
**Prerequisites: A "C-" or higher in CHMY121 and CHMY122 or consent of instructor**
This course is designed to expand on the information presented in Introduction to General Chemistry, providing students with a working knowledge of the basics of organic and biologic chemistry. Topics include the basic organic functional groups and their reaction properties, and basic biologic molecules such as carbohydrates, lipids, proteins, and enzymes and how these molecules form and function in biologic systems. The course integrates lecture, homework assignments, and lab exercises to provide students practical examples of applications of course material to "real world" situations.

# Course Descriptions

**CHMY124 Introduction to Organic and Biochemistry Lab**
Credits: 1          *Offered Spring Semester*
**Co-requisites: CHMY123**
**Prerequisites: A "C-" or higher in CHMY121/122 or consent of instructor**
This lab component is designed to reinforce the material covered in CHMY123 by providing students with a practical hands-on opportunity to execute and observe supplemental exercises in a lab setting.

**CHMY141 College Chemistry I**
Credits: 3          *Offered Fall Semester*
**Prerequisites: M121**
This is the first semester of a two-semester college chemistry sequence. Topics covered include atomic structure, chemical reactions, stoichiometry, chemical bonding, the periodic table, and the states of matter. The experimental and mathematical aspects of chemistry are emphasized.

**CHMY142 College Chemistry I Lab**
Credits: 1          *Offered Fall Semester*
**Co-requisites: CHMY141**
**Prerequisites: M121**
This is the lab portion of CHMY141. It is designed to reinforce the material covered in CHMY141.

**CHMY143 College Chemistry II**
Credits: 3          *Offered Spring Semester*
**Prerequisites: A "C-"or higher in CHMY141 and M121**
This is the second semester of a two-semester college chemistry sequence designed for students entering a science, engineering, or pre-med field of study.  Covered topics include solution chemistry; chemical equilibria, kinetics, and thermodynamic; acids and bases; electrochemistry; and nuclear chemistry. Heavy emphasis will be placed the mathematical aspects of chemistry and on making connections to "real-world" applications of chemistry.

**CHMY144 College Chemistry II Lab**
Credits: 1          *Offered Spring Semester*
**Co-requisites: CHMY143**
**Prerequisites: A "C-"or higher in CHMY141 and M121**
This is the lab portion of College Chemistry II. It is designed to reinforce the material learned in CHMY143.

**CHMY221 Organic Chemistry I**
Credits: 3          *Offered Fall Semester*
**Co-requisites: CHMY222**
**Prerequisites: A "C-" or higher in CHMY143/144**
This is the first semester of a one-year sequence with emphasis on fundamental concepts of structure, nomenclature, properties and reaction mechanisms of organic compounds, and an introduction to biochemical molecules. Laboratory offered as CHMY222.

**CHMY222 Organic Chemistry I Lab**
Credits: 2          *Offered Fall Semester*
**Co-requisites: CHMY221**
**Prerequisites: A "C-" or higher in CHMY143/144**
This lab component is designed to reinforce the material covered in CHMY221 by providing students with a practical hands-on opportunity to execute and to observe supplemental exercises in a lab setting.

**CHMY223 Organic Chemistry II**
Credits: 3          *Offered Spring Semester*
**Co-requisites: CHMY224**
**Prerequisites: A "C-" or higher in CHMY221/222**
This is the second semester of a one-year sequence with emphasis on functional group interconversions, chemistry of aromatic compounds, multistep reaction pathways, molecular structure determinations using spectroscopic methods, retrosynthetic analysis, and introduction to biological chemistry. Laboratory included.

**CHMY224 Organic Chemistry II Lab**
Credits: 2          *Offered Spring Semester*
**Co-requisites: CHMY223**
**Prerequisites: A "C-" or higher in CHMY221/222**
This integral lab component is designed to reinforce the material covered in CHMY223 by providing students with a practical hands-on opportunity to execute and to observe supplemental exercises in a lab setting.

**CJUS121 Introduction to Criminal Justice**
Credits: 3
**Prerequisites: WRIT095 or equivalent score on writing placement**
This course is a survey of the history and philosophy of American justice concepts with the emphasis on present day practical application through the efforts of the law enforcement, court, and correction segments of the criminal justice system.

**COMM132 Interpersonal Communication**
Credits: 1          *Offered Occasionally*
**Prerequisites: COMX111 or consent of instructor**
Interpersonal communication, or how humans communicate with one another in our personal lives, impacts the function and form of communication in other areas. Through a theoretical study of interpersonal communication students will gain an understanding of the maintenance and termination of platonic, romantic, and family relationships. In addition, we will explore topics of attraction, initiation, commitment, intimacy, child-parent communication, and destructive behavior.

**COMM133 Small Group Communication**
Credits: 1          *Offered  Occasionally*
**Prerequisites: COMX111 or consent of instructor**
This course studies group communication processes. Focusing on communication theory, the course will dissect how groups communicate effectively and ineffectively and the impact on day-to-day human relations.

# Course Descriptions

**COMX111 Introduction to Public Speaking**
Credits: 3
**Prerequisites: None**
Development of oral communication skills through an emphasis on audience analysis, organization of ideas, and delivery of spoken messages.

**COMX250 Introduction to Public Relations**
Credits: 3          *Offered  Spring Semester*
**Prerequisites: A "C-" or higher in WRIT101 or WRIT121T, or consent of instructor**
This course introduces students to theory and to practice of public relations, with practical application of public relations, writing, and delivery strategies.  Additionally, students will study the media and produce a communications plan.

**CRWR212 Introduction to Nonfiction Workshop**
Credits: 3          *Offered Occasionally*
**Prerequisites: None**
Students will gain confidence and competence in writing through journal writing and then taking those journal entries and creating essays. The journal exercises will be guided exercises, designed to elicit a variety of responses and ideas from the students.

**CRWR240 Introduction to Creative Writing Workshop**
Credits: 3          *Offered Spring Semester*
**Prerequisites: None**
This course is designed to give students experience with generating and developing original works of poetry and short fiction through two methods: analysis and discussion of works by practicing authors, and drafting and polishing their own work through workshops and writing tanks.

**CSCI100 Introduction to Programming**
Credits: 3
**Prerequisites: None**
This course is an introduction to elementary programming techniques using Pseudo code, flowcharting, and C#. A wide range of programs will be written by the student and run on a computer.  Students learn the techniques of looping, functions and sub/routines, arrays, variables and data types, user input/output, file input/output, and appropriate programming practices.

**CSCI111 Programming with Java I**
Credits: 4          *Offered Fall Semester*
**Prerequisites: CSCI100**
This course offers a thorough introduction to the concepts behind object-oriented software development, including the terminology and methodologies utilizing the Java Programming Language.  This course provides the student with the fundamentals of programming with a focus on object-oriented techniques. These skills are needed to work effectively in the area of information technology. The ability to understand the relationship between data and the algorithmic manipulation of data is crucial in IT related fields.

**CSCI115 Programming with PERL**
Credits: 3          *Offered Spring Semester*
**Prerequisites: CSCI100 or consent of instructor**
This course will familiarize the student in the use of the PERL scripting language for automating administrative and business operations. Topics include file system management, user administration, directory services, database administration, log files, security, and network monitoring. Students will implement PERL scripts on Windows and Linux platforms.

**CSCI121 Programming with Java II**
Credits: 4          *Offered Spring Semester*
**Prerequisites: CSCI111**
This course covers some of the more advanced topics of Java Standard Edition.  Topics covered include Java integration to databases (JDBC), Generics, Collections, Object Serialization, Network Sockets, Advanced GUI development with Swing components, and multi-threaded applications.  This course does NOT cover Servlets, JavaServer Pages, or Enterprise JavaBeans as they are covered in CT262.

**CSCI172 Introduction to Computer Modeling**
Credits: 3
**Prerequisites: None**
This course covers problem solving with spreadsheets and databases using the computer to analyze a set of data; presentation of results of analysis.

**CSCI206 .NET Applications**
Credits: 3          *Offered Fall Semester*
**Prerequisites: CSCI111 and CSCI240**
This course covers advanced desktop and web application features of the .NET framework. Students will learn Exception Handling, Collections, Multithreading, .NET XML Web Services, ADO.NET, ADO.NET Entity Framework, Stored Procedures, and Object Oriented Programming. Students will use C# language and Microsoft SQL Server for all projects.

**CSCI210 Web Programming**
Credits: 3          *Offered Fall Semester*
**Prerequisites: CSCI100, CSCI240, and MART145**
This course provides students with skills necessary to use the PHP scripting language to develop dynamic Web-based applications.  Topics of study include the fundamentals of the scripting, using PHP with HTML forms, creating functions, and integrating with MySQL databases.

**CSCI211 Client Side Web Development**
Credits: 3          *Offered Spring Semester*
**Prerequisites: CSCI100 and MART145**
This course focuses on the concepts of client side web development including AJAX Development covering JavaScript, DOM, XML, and Asynchronous page updates.

**CSCI212 Web Server Administration**
Credits: 3          *Offered Spring Semester*
**Prerequisites: ITS280**
Explores issues dealing with building and managing a web server. Topics will include web server and network issues, Domain Name System, TCP/IP connectivity, server setup, web site administration, Internet commerce, and security. Students will implement web servers using Apache and IIS.

**CSCI221 Systems Analysis and Design**
Credits: 4          *Offered Fall Semester*
**Prerequisites: CSCI240**
This course studies the concepts and skills needed to analyze and design information systems. The primary focus in this course is to prepare the student to understand the systems development life cycle. Special emphasis is placed on business functions, process flows, dataflow diagramming, entity relationship diagramming, and database requirements.

**CSCI236 XML Data Processing**
Credits: 2
**Prerequisites: CSCI240**
The course studies the use of XML data in data processing and its use in data transmission between organizations. Students will learn to create and validate XML data documents. Students will create applications that generate, transform, query, and transmit XML data. Students will create applications that manipulate XML data using professional software development tools on multiple platforms.

**CSCI238 Standards Based Mobile Applications**
Credits: 3
**Prerequisites: CSCI111 and MART145**
This is an introductory course in developing mobile applications utilizing industry standard languages, tools, and frameworks. Applications will be created using standards based HTML 5, Cascading Style Sheets (CSS) 3, and JavaScript along with frameworks to assist in the deployment to different mobile platforms. Frameworks such as PhoneGap will be utilized to gain access to platform devices and sensors.

**CSCI240 Databases and SQL**
Credits: 4
**Prerequisites: None**
This course focuses on the concepts of relational databases and includes tables, records and typed fields, primary and foreign keys, and database normalization, and a thorough coverage of Structured Query Language "SQL". Through a variety of exercises, the student will learn how to model a business enterprise using the entity-relationship approach to relational database design. The Oracle database is used for all exercises.

**CSCI242 Enterprise Applications**
Credits: 4          *Offered Spring Semester*
**Prerequisites: CSCI111, and CSCI240**
The topics covered are applicable to enterprise database platforms such as Oracle's10g or IBM's DB2. Students will get in-depth, hands-on experience creating numerous increasingly complex Java applications using enterprise tools and frameworks. The Hibernate Object Relational Mapping framework will be used for database interaction. Java XML Web Services will be covered in the REST and SOAP styles.

**CSCI276 Application Security**
Credits: 2
**Prerequisites: CSCI111 and CSCI240**
The course studies the best practices in the development of secure software applications. Through code reviews, students will analyze and test application code for security vulnerabilities such as SQL injection, XML injection, cross site scripting, buffer overflow, and improper error handling. Students will analyze different types of security attacks and discuss countermeasures to safeguard applications and data. Security issues of particular programming languages, platforms, and application types will also be discussed. Network and physical security are not covered in this course but are covered in ITS218 Network Security.

**CSCI292 Independent Study**
Credits: 1-3
**Prerequisites: Instructor approval**
This course is designed to meet specific learning needs of students. Typically, such independent study projects focus on learning opportunities not otherwise offered in our college curriculum. The student must seek prior approval of an instructor willing to serve as faculty sponsor. The student then initiates a proposal describing, among other things, the number of hours to be spent on the study project, specific learning outcomes, and how evaluation is to be accomplished. The approved proposal will have signatures of the student, faculty sponsor, division chair, and the Associate Dean.

**CSCI298 Internship**
Credits: 1-3
**Prerequisites: Instructor approval**
Designed for the student who takes the initiative to perform work outside of and in addition to the normal school curriculum. If done properly, it can be a highly rewarding experience and aid the student's transition from school to work.

# Course Descriptions

**CSCI299 Thesis/Capstone**
Credits: 2
**Prerequisites: Instructor approval**
This course is a self-directed, integrated, and applied learning opportunity that integrates the coursework, knowledge, and skills gained in Computer Technology coursework. Students will be matched with an organization that needs assistance on an Information Technology project. Students will work with the organization and assigned Computer Technology Faculty to complete the project. Project demonstration and required documentation will be presented at project completion.

**CSTN100 Fundamentals of Construction Technology**
Credits: 3
**Prerequisites: None**
Students in attendance will learn the importance that safety has in the construction industry. Students will learn to identify and follow safe work practices as well as inspection of power equipment (portable and stationary) and hand tools. Students will also demonstrate the safe and proper use of each tool.

**CSTN120 Carpentry Basics and Rough-In Framing**
Credits: 5
**Prerequisites: CSTN100**
This course will introduce the student to the different components used for residential floor systems (joists, rim joist hangers, etc.) wall systems (king studs, timmer studs, headers, wall plates, rough sills, etc.) roof systems (both truss and rafter) and basic stair building, with an emphasis placed on platform framing.

**CSTN124 Cabinet Installation, Interior/Finish/Paint**
Credits: 2
**Prerequisites: CSTN100**
This course will include installing interior doors and hardware, interior casing, and base trim installation. Painting, staining, and application of clear finishes will be used to complete surfaces and cabinet installation.

**CSTN137 Insulation and Energy Building Practices**
Credits: 2
**Prerequisites: CSTN100**
This course will introduce students to energy efficient building and insulating techniques and practices. The lab component of this class will enable students to install batt insulation as well as loose fill insulation. The lab part of the insulation class will be done in conjunction with CSTN161 (Construction Concepts & Building Lab II) in which the students will be installing insulation.

**CSTN145 Ext. Finish, Stair and Metal SF**
Credits: 3
**Prerequisites: CSTN100**
Students in attendance will learn about the installation of windows, exterior doors, locksets, and hardware. Also covered is the installation of exterior corners, soffit, fascia, cornices, and exterior sidings in conjunction with (CSTN161 Construction Concepts & Building Lab II).

**CSTN148 Blueprint Reading, Codes and Estimating**
Credits: 3
**Prerequisites: None**
Covers a graphic approach to problems involving residential drawings in orthographic and perspective design. Students will study blueprint symbols and working drawings and develop a residential house plan, and develop a list of materials, timeline, and cost breakdown from this working blueprint.

**CSTN150 Drywall Application and Finishing**
Credits: 3
**Prerequisites: CSTN100**
Students will learn about the different thickness and types of drywall and where each thickness and types are used and then the student will learn proper taping, the different finishing, and texture techniques.

**CSTN160 Construction Concepts and Building Lab**
Credits: 3
**Prerequisites: CSTN100**
This course is intended to be implemented in conjunction with lecture and lab settings for classes CSTN100 and CSTN120 in a controlled lab setting to introduce and let the students practice the building procedures learned, along with the safety skills to be used on one of our building sites.

**CSTN161 Construction Concepts and Building Lab II**
Credits: 3
**Prerequisites: CSTN100**
Students in attendance will learn about the installation of insulation, vapor barriers, windows, doors (both interior and exterior), siding soffits, fascia, cornices, proper gypsum board installation, interior finish, painting, staining, and clear coat finish of interior trim boards, and installation of cabinets.

**CSTN171 Site Prep, Foundations, and Concrete Installation**
Credits: 3
**Prerequisites: CSTN100, CSTN160, CSTN161, and CSTN230**
This course covers basic site layout, distance measurement, and leveling. Students will be introduced to concrete formulas, foundation and flatwork, as well as handling and placing concrete. The use of manufactured forms will also be covered in this course.

**CSTN175 Roofing Applications**
Credits: 3
**Prerequisites: CSTN100**
This course introduces the student to the materials used and the installation techniques of the various roofs. The student will learn about the different types of asphalt, fiberglass, cedar shakes, shingles, and the different styles of metal roofing, delta rib, standing seam, and metal shakes. Students will learn the different methods of sealing up the valleys. The students will be installing fiberglass shingles on a roof with a cricket for practice. The students will make a water tight valley using the newer weaving pattern design.

# Course Descriptions

**CSTN200 Light Equipment and Rigging**
Credits: 3
**Prerequisites: None**
Students in attendance will be introduced to the basic methods and safety procedures of moving material and equipment on the job site. Students will also learn basic inspection techniques, knots, and load handling along with the American National Standards Institute hand signals. In addition, the students will operate a skid steer, three forklifts each with different capacities, rough terrain forklift (extend-a-boom forklift), and scissor lifts. The students will be given the chance to operate additional equipment if available.

**CSTN211 Advanced Framing Systems**
Credits: 3
**Prerequisites: CSTN100, CSTN160, and CSTN161**
Students will expand knowledge of floor, wall, and roof systems by studying and applying techniques reflecting new technologies in both residential and light commercial construction.

**CSTN225 Decks and Patios**
Credits: 2
**Prerequisites: CSTN100**
Emphasis will be on designing and identifying the different types of decks and patios. It will introduce students to traditional and new deck materials, different concrete-stamping methods, and types of placers. Several basic fence styles will also be described.

**CSTN230 Advanced Roof, Floor, Wall, and Stair Systems**
Credits: 4
**Prerequisites: CSTN100, CSTN160 and CSTN161**
Provides lab/site setting for application of building practices covered in third semester curriculum. Emphasis will be on advanced framing techniques for floor, wall, and roof systems. Building an onsite structure will also provide a setting for practical application of learning outcomes associated with CSTN200 and CSTN211.

**CSTN235 Stationary Machines and Joinery**
Credits: 2
**Prerequisites: CSTN100**
This course introduces students to the use of stationary machines commonly used in a shop/lab setting. Emphasis will be on safety and general usages and applicable material processing and practices. The student should be able to name, recognize, and build the different components used in building a cabinet.

**CSTN236 Advanced Stationary Machine and Joinery**
Credits: 2
**Prerequisites: CSTN100**
This course covers the usage of a multi-pin borer, pocket cutters, European hinge cutter, and drill presses along with advanced dado blade techniques on the table saw. The student will be doing advanced material processing for the different components used in building a cabinet.

**CSTN250 Construction Estimating**
Credits: 3
**Prerequisites: CSTN100, CSTN160 and CSTN161**
This class introduces the students to the basic concept of construction estimating for both residential and light commercial construction with emphasis on residential. Students will learn how to use a construction calculator to estimate site-development, concrete costs, and all building materials associated with a construction project.

**CSTN260 Construction Concepts and Building Lab III**
Credits: 3
**Prerequisites: CSTN230**
Advanced Structural Concepts and Building Lab IV provides the lab/field setting for the application of the building practices taught during the 4th semester classes. Primary emphasis will be on implementing the practices taught in CSTN171 and CSTN225. Other time may be spent onsite implementing live work components of some 3rd semester classes. The lab/shop settings as well as off-campus and on-campus projects may be used for guided practice, live work, and/or individual student assessment. Upon successful completion of CSTN260, students should be able to perform the student outcomes applicable to class safety, in a suitable time frame allowable in the construction industry.

**CSTN270 Foundations of Construction Project Management**
Credits: 2
**Prerequisites: CSTN100**
This course introduces topics such as licensing, code jurisdictions, building inspection, record keeping, timelines, project development, ordering materials, supervision of construction, OSHA, employee rights, safety requirements, subcontractors, construction loans, punch lists, etc.

**CSTN295 Practicum: Construction**
Credits: 2
**Prerequisites: Successful completion of first-year construction program courses**
This class provides classroom and lab settings for the application of building practices not covered in the current 1st year's curriculum. These modules were chosen because of current construction trends, advisor recommendations, and student requests. Topics covered in this year's special topics class may include but are not limited to electrical, plumbing, metal stud construction, with a variety of different community based projects.

# Course Descriptions

**CSTN298 Construction Internship**
Credits: 3
**Prerequisites: Successful completion of first-year construction program courses**
This course enhances classroom learning with a real-life work experience. The host contractor provides on-the-job training. The student intern will gain valuable work experience and interact with professional construction workers and management personnel.

**CT161 Web Page Graphic Design**
Credits: 4          *Offered Spring Semester*
**Prerequisite: MART145**
This course studies professional page layout and graphic design techniques for the Web. Students will learn to critique existing Web sites with an eye toward aesthetics and usability. Students will build effective site layouts based on visual design principles that enhance the site aesthetics. Through professional graphics tools, students will create Web graphics and animation. The impact of different design techniques on site accessibility will be discussed. Students will also learn to effectively use cascading style sheets (CCS) to stylize entire web sites.

**CT230 Introduction to the Large Enterprise System I**
Credits: 3
**Prerequisites: CAPP100 or placement; CSCI100 or previous programming experience; ITS280 or previous desktop computer administration experience; or consent of instructor**
An introductory course designed to provide an overview of enterprise-based computer technology and computer information systems used in the workplace. Students gain an understanding of the reasons companies choose mainframe systems and are introduced to hardware systems architecture, batch processing software, and procedures. Explores integration and application in business and other segments in society. Students will be introduced to the z/OS operating system and the tools and utilities used when developing programs for the z/OS operating system. Topics covered include the mainframe in business today, including mainframe job roles; capacity, scalability, availability, systems management mainframe interfaces; Job Control Language; mainframe hardware and architecture; and application programming on the mainframe.

**CT253 Developing Web Applications**
Credits: 3          *Offered Fall Semester*
**Prerequisites: CSCI100, CSCI240, and MART145**
This is an introductory course in ASP.NET using the C# programming language.  It is imperative that business and government offer accessibility to their customers and clients through interactive web pages. In this course, students will develop a fully-functioning interactive website simulating an on-line business or government capability. Students will do their work using Microsoft Visual Studio and the Windows IIS web server.

**CT262 Web Databases**
Credits: 4          *Offered Spring Semester*
**Prerequisite: CSCI111, CSCI240, and MART145**
The focus of this class will be on the development of web-based front-ends to databases. Oracle and open source tools will be used to implement web database applications in multi-tier environments. Students will learn Java Servlets, Java Server Pages (JSP), Spring MVC and an ORM framework.

**DST110 Diesel Electrical and Electronics I**
Credits: 3
**Prerequisites: None**
This course is designed to give students basic electrical/electronic knowledge.  The course progresses from electrical/electronic theory, circuits and circuit failure, and components of the starting and accessory systems.  Emphasis will be placed on developing the knowledge base needed for diagnosing and repairing diesel equipment electrical systems.

**DST111 Diesel Electrical and Electronics II**
Credits: 2
**Prerequisites: DST110**
This course is designed to give students basic electrical/electronic knowledge.  The course is a continuation from Diesel Electrical and Electronics I.  Emphasis will be placed on developing the knowledge base needed for charging systems, circuit diagnosing, diesel computer control systems, and repairing diesel equipment electrical systems.  It is also designed to provide hands-on activities common to diesel equipment electrical and electronic applications.

**DST130 Diesel HVAC and Transport Refrigeration**
Credits: 7
**Prerequisites: DST110 and DST111**
This course is designed to provide Diesel Technology students with the knowledge and skills required to understand, service, and repair mobile air conditioning systems as used in the Diesel industry. The course content includes heat and refrigeration principles as they relate to transport refrigeration. Component functions and EPA requirements are covered in this course.

**DST142 Hydraulics**
Credits: 7
**Prerequisites: DST110 and DST111**
This is an introductory course that will cover the basic theory and understanding of hydraulic principles as related to many components and systems covered in the advanced courses in the Diesel Technology program.  In addition to the basic theory, the function of basic systems and components will be discussed. Using school-owned hydraulic mock-ups, the students will disassemble, inspect, and reassemble hydraulic pumps, motors, cylinders, and electric and manual control valves. Students will learn how to read schematics and create a functioning hydraulic circuit.

# Course Descriptions

**DST145 Diesel Engine Repair**
Credits: 6
**Prerequisites: DST110 and DST111**
This course is designed to provide students with the knowledge and skills required to understand and repair various engine systems as used in the heavy-duty, diesel-powered, on-and-off-road equipment industry. Emphasis will be placed on pre-electronic diesel engines.

**DST200 Diesel Engine Performance**
Credits: 7
**Prerequisites: DST110, DST111 and DST145**
This is an advanced level course offered to second-year, Diesel Technology students. This course builds upon the knowledge and skills attained in the first-year courses DST110 and DST111 Electrical/Electronics, as well as DST145 Diesel Engine Repair, to solve diesel engine performance problems. Students will be exposed to maintenance, diagnostic, and repair experiences involving a variety of systems on diesel-powered equipment. The diesel engine systems included are starting, charging, accessory, lighting, instrumentation, as well as diesel engine mechanical fuel systems, electronic engine control, and tune-up.

**DST210 Diesel Maintenance Practices**
Credits: 3
**Prerequisites: DST110 and DST111**
This is a preventative maintenance course for heavy-duty, diesel powered, on-and-off-road equipment. This course familiarizes the student with routine service, inspection, and adjustment of the following component/systems: engine, power train, hydraulic, pneumatic, electrical, steering, braking, cooling, and air intake systems. Lubricants, fuels, and filters will also be included. Students will also be exposed to annual Department of Transportation inspection of heavy-duty diesel trucks.

**DST240 Heavy Duty Manual Drive Trains**
Credits: 6
**Prerequisites: DST110 and DST111**
This course includes the basic fundamentals of manual drive trains including power flow, ratios, gears, bearings, and seals. With removal, troubleshooting, repair, and replacement of clutches, transmissions, drive lines, drive axles, final drives, power takeoffs, and specialty drives that are related to heavy-duty, diesel powered, on-and-off-road equipment.

**DST245 Heavy Duty Hydraulic Drive Trains**
Credits: 4
**Prerequisite: DST110, DST111 and DST142**
This course covers the fundamentals, operation, diagnosis, and repair of hydrostatic and power shift transmissions, torque converters and torque dividers that are related to the heavy duty, diesel powered, on and off road equipment.

**DST255 Heavy Duty Brakes and Undercarriage**
Credits: 7
**Prerequisites: DST110 and DST111**
This course covers the adjustment, maintenance, troubleshooting, and repair of heavy-duty air-actuated brakes, dual air system valves and circuits, heavy-duty ABS systems, and hydraulic- assisted brakes as used with on-and-off-road diesel powered equipment. This course also includes maintenance, adjustment, and repair of suspension systems as used with tandem axle diesel trucks and off-road equipment. Students will be exposed to alignment of solid I-beam front axles and 5th wheels as related to heavy-duty trucks.

**DST265 Applied Lab Experience**
Credits: 8
**Prerequisites: 2nd year standing or consent of instructor**
This course builds upon the knowledge and skill attained in previous courses. It is intended to match students with live, practical lab experiences involving subject matter previously covered in other courses. When provided with diesel powered equipment in need of maintenance, service, inspection, or repair of any component or system that the student has had previous instruction while in the program, the student will interact with the customer/operator, generate the work order, and in a safe, efficient, and organized manner, set about to perform the proper operations needed to place equipment back into operation, and complete the documentation needed to close the work order. This will be accomplished to meet customer requests, industry standards, and instructor's satisfactory critique of student performance and productivity with available resources.

**DESL287 Independent Study**
Credits: 1-3
**Prerequisites: Consent of instructor and approval of the Division Chair**
This course is designed to meet specific learning needs of students. Typically, such independent study projects focus on learning opportunities not otherwise offered in our college curriculum. The student then initiates a proposal describing, among other things, the number of hours to be spent on the study project, specific learning outcomes, and how evaluation is to be accomplished. The approved proposal will have signatures of the student, faculty sponsor, Division Chair, and the Associate Dean.

**DST298 Internship**
Credits: 1-3
**Prerequisites: Consent of instructor and approval of the Division Chair**
This course enhances classroom learning with a real life work experience. The host employer provides on-the-job training. The student intern will gain valuable work experience and interact with professional technicians and management personnel. The approved proposal will have signatures of the student, faculty sponsor, Division Chair, and the Associate Dean.

# Course Descriptions

**DFT150 CAD 2D**
Credits: 3
**Prerequisites: None**
This course is an introduction to computer-aided design software using a 2D medium with emphasis on features, limitations, and considerations associated with the commands and characters.

**DFT210 Technical Drafting I - CAD 2D**
Credits: 3
**Prerequisites: None**
Application of technical drafting technology using computer-aided drafting (CAD) as the medium. Auxiliary views, revolutions, dimensioning, tolerancing, fasteners, design, and working drawing shall be covered.

**DFT225 Architectural Drafting I - CAD**
Credits: 3
**Prerequisites: A "C-" or higher in DFT150 or consent of instructor**
Application of construction architectural drawings using the power of CAD as the medium for drafting. This course utilizes working drawings to focus on scale to drawing parameters, symbol libraries, dimensioning, and drawing enhancement and also introduces CAD generated three-dimensional drawings.

**DFT230 CAD 3D**
Credits: 3
**Prerequisites: A "C-" or higher in DFT150 and DFT225 or consent of instructor**
This course continues instruction of computer-aided design software and its application capabilities in the creation of advanced 3-D designs.

**ECNS201 Principles of Microeconomics**
Credits: 3          *Offered Fall Semester*
**Prerequisites: None**
The course studies the market behavior of individuals, households, and businesses, focusing on how individual choice influences and is influenced by economic forces. Areas of study include individual decision-making, pricing, supply and demand functions of firms, market structures, impacts of the government sector, and impacts of distribution of income alternatives.

**ECNS202 Principles of Macroeconomics**
Credits: 3          *Offered Spring Semester*
**Prerequisites: None**
The course studies the market as a whole, focusing on aggregate relationships such as unemployment, inflation, and business cycles. Areas of study include aggregate supply and demand, fiscal policy, money and banking, monetary policy, economic growth, impacts of government budget and deficit financing, and consequences of international trade.

**ECNS203 Principles of Micro and Macro Economics**
Credits: 3
**Prerequisites: None**
This course covers the major principles of microeconomics and macroeconomics. Topics covered include scarcity, resource utilization, utility, supply/demand, opportunity cost, production possibilities, curve/economic models, market structures, cost/profit, circular flow of money, GDP, unemployment, inflation, fiscal/monetary policy, and the relationship of current events to both micro and macroeconomic concepts.

**ECP130 Emergency Medical Technician**
Credits: 4
**Prerequisites: Hepatitis B Vaccines, Tuberculosis test (current or within past six months) and Criminal Background Check**
This course covers all emergency medical techniques currently considered to be within the responsibilities of the EMT-B providing emergency care with an ambulance service. The course involves classroom, in-hospital observation, and clinical experience. The purpose of the training is to ensure individual competency in each student by the successful completion of each objective.

**EDU106 Foundations of E-Learning Instructional Engagement**
Credits: 3
**Prerequisites: None**
This course provides an introduction to theoretical and practical foundations of e-learning. The student will explore the history, trends, current issues, best practices, and instructional technology of e-learning and learning theories. Through group and individual assignments, students will design and create basic instructional, educational, and business training environments by developing wireframe models. Students will develop the instructional models through the process of writing measurable learning objectives that align with assessments, integrating task analyses, and incorporating online learning communities promoting collaborative learning. A final project and presentation will include an extensive review and evaluation of the e-learning environment developed in class.

**EDU108 Instructional Design I for E-Learning**
Credits: 3
**Prerequisites: None**
This introductory course will explore learning theories including behaviorist, cognitive, constructivist, and social learning by examining the relationship each has to instructional practices and course design. This course will introduce basic e-learning principles and vocabulary. The Instructional Design I course identifies factors for and suggests strategies to influence learner motivation, learner engagement, and learning styles. Students will begin to identify learning outcomes that can be addressed in an e-learning setting. A final project will include the development of an e-learning instructional unit using a learning management system (LMS) to incorporate the instructional design concepts.

# Course Descriptions

**EDU200 Introduction to Education**
Credits: 3
**Prerequisites: WRIT095 or equivalent score on writing placement test**
This course explores education in America from early childhood through high school graduation. This course will introduce the philosophical foundations, learning environments, social contexts, curriculum and instruction, standards and assessment, as well as contemporary issues related to the field. The roles, responsibilities, and daily life of teachers, schools, and students will be examined.

**EDU202 Early Field Experience**
Credits: 3
**Prerequisites: EDU200 and WRIT095 or equivalent score on writing placement test**
This course provides students with the opportunity to explore education through field experience and teaching portfolio development. Students will begin building a teaching portfolio that will be used to provide them with authentic assessment information about how well they are progressing toward specific program goals in their efforts to become teachers. Students will complete 30 hours of field experience.

**EDU208 Instructional Design II for E-Learning**
Credits: 3
**Prerequisites: EDU108 or consent of instructor**
Students will expand on a variety of instructional design philosophies and strategies used to develop instructional materials for the educational or workforce training environment. Students will conduct a needs assessment and use formative evaluations to identify instructional effectiveness of the learning material. This course, being the second course in the Instructional Design series, will expand upon e-learning environments, the role of learning management systems, online collaboration, synchronous communication, and asynchronous communication by using industry standard tools to create interactive learning experiences for students. A project and report/presentation are major products of this course.

**EDU210 Learning Technologies for Organizations**
Credits: 3
**Prerequisites: None**
This course explores the ways in which technology is reshaping how organizations work and how learning takes place. Students will examine these changes in the context of educational technology leadership and knowledge management in business, corporations, government/military agencies, associations, schools, and universities. In addition to providing an overview of how and why technology impacts workforce training, this course will discuss emerging technological roles and expectations. Students learn various project management concepts and processes that can be applied to projects in a real-world training environment. A final project will include the development of a case study on an e-learning project that requires assessment, design, development, project management, and evaluation associated with an organizational setting.

**EDU258 Structured Analysis and Design in E-Learning**
Credits: 3
**Prerequisites: EDU208 or consent of instructor**
This course focuses on using a structured analysis and design approach to develop instructional resources. Students will learn basic instructional design development techniques, strategies of instruction, management of the online environment, and evaluation of the learning site based on best practices evaluation criteria. The hands-on component of this course includes defining system users, identifying considerations for improving communication among diverse stakeholders, developing and applying a needs assessment, defining instructional objectives, designing a the new system, and managing the site from a teacher/facilitator perspective. Within the design phase students will create exercises, assignments, and activities that can be used in online courses. In order to make more informed instructional decisions, students will incorporate the use of data analysis tools to develop strategies that improve the decision making process

**EDU260 Digital Media and Visual Literacies**
Credits: 3
**Prerequisites: EDU208 or consent of instructor**
This course investigates digital media literacy and its impact on the learning process. This course engages students by discussing the practice of communicating with visual resources. Additionally, this course places an emphasis on using visuals for communication in digital media environments as well as understanding the responsible use of digital media globally. Design of instructional video, audio, graphics, learning management systems, animation, presentation, and other personal learning networks for instantaneous and targeted professional development and communication are covered. Using a course template and working from online tutorials, students will create components of an online course, adding content from their discipline. Web related accessibility issues will be explored with an emphasis on providing students with the necessary design skills to develop online courses and course materials that are universally accessible.

**ENSC105 Environmental Science**
Credits: 3
**Prerequisites: None**
This course is designed to introduce students to important science-related issues in the world around us. The class will examine environmental issues on global, regional, and local scales. Class discussions and activities will emphasize the basic scientific principles needed to evaluate scientific problems relevant to environmental issues.

**ENSC242 Environmental Sampling I**
Credits: 3
**Prerequisites: EVSC215 and EVSC220 or consent of instructor**
Environmental Sampling I expands on the fundamental knowledge taught in Hydrologic Measurements, Surface Water Hydrology, and Groundwater Hydrology. Using the skills and methods required for measuring and analyzing surface water and groundwater, students will make predictions or decisions in water resource applications. The course will emphasize the practical application of knowledge learned in previous courses.

**ENSC245 Soils**
Credits: 3
**Corequisites: CHMY 141/142 or higher or consent of the instructor**
**Prerequisites: M121 or higher**
This course discusses soils and their properties as components of landscapes and ecosystems. Students will understand the application of soils knowledge to problems in environmental sciences and management of agricultural, wild land, and urban landscapes.

**ENSC270 Water Quality**
Credits: 3
**Prerequisites: CHMY121/122; ENSC272; M121; or consent of the instructor**
This water quality course provides an understanding and an awareness of the basic principles of water quality. Course content will include water quality parameters, pollution sources, and water treatment. This will be related to water regulations, requirements, policies, understanding the basics of a water quality plan both locally and regionally, and testing procedures. The water quality course is designed to prepare students for future careers in applied water resource management.

**ENSC272 Water Resources**
Credits: 3
**Prerequisites: None**
This course provides a basic introduction to the fundamental concepts, techniques, and knowledge required to understand and manage water resources. The course will provide an introduction to a variety of water resource topics, including: water resources terminology, the principles of the hydrologic cycle, water balance techniques, hydrology, hydrogeology, basic computational techniques, historic water information, water law, and water rights overview. Through the use of professional sources, the students will develop a working knowledge of the hydrologic, water quality, legal, economic, political, and social factors that determine water availability, hazards, use, demand, and allocation.

**ENST230 Nature and Society**
Credits: 3
**Prerequisites: WRIT101 or WRIT121T**
This course is designed to provide students with an understanding of the relationship between human society and the environment and how it has changed through the growth of modern civilization. The course applies the idea that true environmental studies are a mixture of multiple disciplines and not just a science topic. The course is presented to allow students flexibility to draw and present their own conclusions, similar to a philosophy course in the humanities. Students will read from multiple sources and class discussions will reflect topics of student interest and their applications to modern society.

**EVSC135 Topographic Maps and Aerial Photo Interpretation**
Credits: 3
**Prerequisites: M121 or higher or consent of instructor**
The course will introduce basic principles, techniques, processes, and procedures for quantitative and qualitative interpretation of topographic maps and aerial photographs. The course will entail not only formal explanation of principles and concepts, but also hands-on exercises that focus on various practical applications for effective interpretation of maps and air photos in order to make quality assessments of physical objects or locations of interest. Each student is required to conduct an individual research project, which will consist of problem solving using the analytical skills learned during the semester.

**EVSC140 Introduction to Geographic Information Systems (GIS)**
Credits: 3
**Prerequisites: CAPP131 or higher or consent of instructor**
This course teaches the basics of Geographic Information Systems (GIS) and the science and technology behind it. Students will be introduced to the fundamentals of geography and spatial relationships and the concepts and tools used to create, maintain, and display GIS data. The course will consist of online lessons and readings each with approximately 2-4 hours of material.

**EVSC150 Hydrologic Measurements**
Credits: 3
**Prerequisites: ENSC272 and M121 or higher or consent of instructor**
Increasing competition for water has led to the need for accurate water measurement in order to more efficiently manage the resource. This course is designed to teach the basics of surface and ground water measurement and provide a theoretical understanding of the science. Students will learn the most commonly used measurement and data collection techniques and how to properly analyze the data.

# Course Descriptions

**EVSC211 Environmental Policy and Laws**
Credits: 3
**Prerequisites: ENSC105 or consent of instructor**
This course is an introduction to the study of environmental politics, policy, and laws. It examines the development of environmental policy in the United States while exploring the opposing environmental relationships between science versus belief, rich versus poor, the powerful versus the disenfranchised, and idealism versus practice. Through analysis and case studies, this course provides an overview and assessment of key environmental policy issues, developmental framework of current laws, and their associated implications for environmental issues.

**EVSC215 Ground Water Hydrology**
Credits: 3
**Prerequisites: EVSC150 and M121 or consent of instructor**
Ground Water Hydrology presents fundamental concepts and principles of the geology of ground-water occurrence, aquifer types and their hydraulic properties, ground-water flow, well drilling and design technology, aquifer testing analysis methods, and interpretation and assessment of aquifer-testing results and pumping impacts.

**EVSC220 Surface Water Hydrology**
Credits: 3
**Prerequisites: EVSC150 and M121 or consent of instructor**
Surface Water Hydrology is designed to provide students with an understanding of basic surface water hydrology and hydrological processes, beginning with conceptual principles to quantitative and qualitative standards and methods. This course involves an in-depth analysis of the hydrologic cycle and principles including precipitation, evapotranspiration, stream flow, and open channel hydraulics, rainfall, interception, infiltration, and groundwater hydrology. This class will prepare students for careers emphasizing surface water resource management.

**EVSC233 Environment and the Economy**
Credits: 3
**Prerequisites: None**
This introductory course covers the economics of natural resources with an emphasis on economic tools used to analyze key economic aspects associated with water and natural resources. Topics covered include but are not limited to urban demand for water, water supply and economic growth, water benefit-cost analysis, water utility economics, irrigation demand, large water projects, economic impacts of surface water law and institutions, economics of salinity and drainage, and economics of groundwater management.

**EVSC235 Soils, Weather, and Climate**
Credits: 3
**Prerequisites: ENSC105 and ENSC272 or consent of instructor**
This course provides an overview of regional hydrologic cycles in relationship to climatology, weather, and soils. An examination of soil profiles, classification of soils, and water movement in soils in association with an introduction to the water balance, and its relationship to components including evapotranspiration, interception, soil moisture storage, land usage, groundwater storage, and overland flow will be examined.

**EVSC240 Geographic Information Systems (GIS)**
Credits: 3
**Prerequisites: A "C-"or higher in EVSC140 or consent of instructor**
Geographic Information Systems (GIS) are used for the creation, storage, representation, research, and analysis of spatial information in a digital environment. This course expands on the fundamentals and principles of GIS and cartography learned in the Introduction to Geographic Information Systems course. Students will learn the processes, procedures, and the critical thinking involved with performing geospatial analysis. The course will entail a hands-on lab that focuses on GIS concepts and techniques utilized for data design, analysis, and map creation. Each student is required to conduct their own individual research project, which will consist of model building and design for spatial analysis.

**EVSC260 Field Methods and Reporting**
Credits: 3
**Prerequisites: EVSC215 and EVSC220 or consent of instructor**
The Field Methods and Reporting course is designed to provide students with a working knowledge of the scientific principles and protocols used in water resource measurements and field methods. The course will emphasize equipment utilized in water resource measurements and experimental design for water resource studies. Measurement, sampling strategies, and safety practices in the field will be discussed along with field trips to demonstrate application of field methods.

**FIRE101 Introduction to Fire Service**
Credits: 3
**Prerequisites: None**
This course will introduce the student to the fire service and covers basic information needed to understand the fire protection career field. Basic terms, facts, and pieces of equipment used by the fire service will be shown and used during this course.

# Course Descriptions

**FIRE103 Fire Fighter Safety**
Credits: 3
**Prerequisites: None**
This course will allow the student to learn the reasons for firefighter deaths and injuries. It is designed to allow the student to develop and use safe working practices in firefighting. The course covers OSHA and NFPA standards relating to firefighter safety, types of protection equipment, and their use and care.

**FIRE106 Wildland Fire Fighting**
Credits: 3
**Prerequisites: None**
This course introduces the methods, equipment, and terminology specific to wildland firefighting. Students will learn the behavior of wildland fires and federal wildland firefighting procedures and references.

**FIRE107 Personal Physical Fitness I**
Credits: 1
**Prerequisites: None**
Emergency personnel must maintain healthy physical conditioning to handle the physical demands of responding to emergency incidents. Students in this course will learn effective workout habits and improve their own body conditioning.

**FIRE108 Personal Physical Fitness II**
Credits: 1
**Prerequisites: None**
Emergency personnel must maintain healthy physical conditioning to handle the physical demands of responding to emergency incidents. Students in this course will learn the importance of choosing and maintaining a career-long lifestyle that includes good nutrition and physical conditioning.

**FIRE110 Hazardous Materials**
Credits: 3
**Prerequisites: None**
This course covers a basic introduction to hazardous materials, their definition types, hazards, and characteristics. Students will be introduced to hazardous materials and the first responder's responsibility when responding to a hazardous materials incident.

**FIRE120 Emergency Services Customer Service**
Credits: 2
**Prerequisites: None**
This course will familiarize the student with the techniques necessary to establish positive relationships with the community, the fire service, and all other groups that are called upon to mitigate the effects of emergency and disaster situations. The student will become familiar with basic emergency policies dealing with equal employment opportunities, discrimination, and harassment and will develop a professional self-image.

**FIRE121 Incident Command**
Credits: 1
**Prerequisites: None**
A firefighting team needs to know who is in charge and how to effectively respond to the incident commander. This course focuses on the vital importance of incident command and commonly accepted practices.

**FIRE123 Electronic Communications**
Credits: 1
**Prerequisites: None**
This course covers communication equipment, radio frequencies, and proper communication techniques for emergency situations.

**FIRE125 Emergency Equipment Maintenance**
Credits: 2
**Prerequisites: None**
This course provides practical experience with the proper maintenance of all types of emergency equipment. The maintenance of firefighting and medical emergency equipment will be taught along with the basic maintenance of emergency vehicles.

**FIRE130 Fire Apparatus Operation**
Credits: 3
**Prerequisites: None**
This course covers the major types of firefighting apparatus such as pumpers, aerial apparatus, aircraft crash vehicles, and other support vehicles. Students will be taught operation and operator maintenance of these specific vehicles.

**FIRE140 Fire Fighting Tactics and Strategies**
Credits: 3
**Prerequisites: None**
Basic firefighting tactics and strategy used in all types of fire emergencies are taught in this course. Pre-planning, size-up, and applications of tactics based on the selected strategy are described and simulated for student learning.

**FIRE202 Instructional Methodologies**
Credits: 2
**Prerequisites: None**
Students will learn the basics of training other fire fighters at the company, battalion, or department level. Various methods of instruction, testing, and delivery will be discussed and practiced along with utilizing sources of instructional materials and the legal restrictions placed upon them.

# Course Descriptions

**FIRE210 Aircraft Rescue and Fire Fighting Basic Training (ARFF)**
Credits: 2
**Prerequisites: Students must be physically able to secure SCBA's, perform physically demanding tasks, and supply their own NFPA approved clothing.**
This course is aimed at providing students with the fundamental knowledge and skills necessary to effectively handle an aircraft emergency in accordance to FAR 139. It will contribute to the student's knowledge of basic firefighting and rescue principles.

**FIRE215 Fire Streams**
Credits: 2
**Prerequisites: FIRE130**
A fire fighter must be capable of understanding and calculating water hydraulics and fire stream flows in order to perform basic fire suppression duties as a member of a team. This course emphasizes the importance of fire streams.

**FIRE225 Fire Officer**
Credits: 2
**Prerequisites: FIRE120**
The duties of a fire officer at the company level in the fire service are taught in this course. Students will gain valuable leadership experience while performing the roles and responsibilities of a fire officer.

**FIRE232 Basic Wildland Supervision**
Credits: 2
**Prerequisites: FIRE106**
Basic supervision of wildland firefighting crews and equipment is covered in this course, as well as intermediate fire behavior. Effective use of personnel and equipment as well as resource typing will be emphasized.

**FIRE234 Fire Protection Systems**
Credits: 3
**Prerequisites: None**
This course covers fire and smoke behavior with emphasis placed on detection, suppression, and the methods of automatic and manual extinguishments. Detection and sprinkler systems will be discussed.

**FIRE241 Fire Inspection**
Credits: 3
**Prerequisites: None**
This class focuses on codes, prevention, and inspections. It covers the basic information required to complete a basic fire inspection and serves as an introduction to the codes and regulations that apply to building inspection.

**FIRE242 Rescue**
Credits: 3
**Prerequisites: FIRE101 and FIRE103**
Basic rescue techniques, tools, and equipment are covered in this class. Students will participate in auto extrication and high-angle rescue techniques.

**FIRE250 Fire Ground Operations**
Credits: 2
**Prerequisites: FIRE101, FIRE103, FIRE130, and FIRE242**
Individuals working together as a functional company unit will prepare for and demonstrate to State Certifications. This class monitors the knowledge and physical ability to perform the tasks required by the certification process.

**FIRE260 Fire Investigation**
Credits: 3
**Prerequisite: Knowledge of fire behavior obtained through successful completion of first year Fire and Rescue program courses.**
This course covers basic fire cause determination techniques. Students will learn to find the area of origin, how the fire started, and the basics of arson detection and prosecution.

**FIRE261 Building Construction**
Credits: 1
**Prerequisites: None**
Students will learn basic building construction techniques and types as they relate to fire fighter safety, fire behavior, and building behaviors when subjected to fire and other natural and human caused occurences.

**FIRE270 Fire Prevention**
Credits: 3
**Prerequisites: None**
Students are provided fundamental information regarding the history and philosophy of fire prevention. Topics include the organization and operation of a fire prevention bureau, use of fire codes, identification and correction of fire hazards, the relationship between fixed fire suppression systems, fire loss mitigation, fire inspections, and fire and life safety public education programs.

**FIRE288 Capstone**
Credits: 2
**Prerequisite: FIRE101**
This capstone course is designed to assist the firefighting student in synthesizing prior knowledge gained in the firefighting curriculum. It also provides the student information regarding the current status of firefighting. This course is also designed to meet specific learning needs of students in their final semester of course study. There is independent study projects focusing on learning opportunities not otherwise offered in our college curriculum. Among the choices offered to the student, he or she may design projects within this course to target his or her own learning needs. The student must seek prior approval of an instructor willing to serve as a Faculty Sponsor. The student then initiates a proposal describing specific learning outcomes and an evaluation process for the projects. Final grading in the course also depends on the student successfully preparing a comprehensive report and presenting to the sponsoring organization and/or peers.

# Course Descriptions

**FIRE289 Fire Service Internship**
Credits: 2
**Prerequisites: EMT-B Registry, third-semester standing**
The student will report for duty with a combat shift of firefighters in an approved uniform with proper personal protective equipment. The student will be assigned to a firefighter mentor who will demonstrate the duties of a firefighter during real working shifts. The student will participate in all activities that the firefighters would be expected to perform during normal working days including physical training, equipment inspections and maintenance, station cleanup, drills, training, fire inspections, and emergency response. The student will not be allowed to perform any offensive firefighting duties that would require entering an IDLH atmosphere. The student will not be allowed to drive the host fire department's apparatus.

**FRCH101 Elementary French I**
Credits: 4
**Prerequisites: None**
This introductory course prepares students for basic communication in French and presents fundamentals of the language holistically through listening, speaking, reading, and writing. The course also explores cultural information.

**FRCH102 Elementary French II**
Credit: 4
**Prerequisites: FRCH101**
This course continues and builds on basic communication in French and presents more in-depth aspects of the language holistically through listening, speaking, reading, and writing. The course also explores cultural information.

**GEN287 Independent Study**
Credits: 1-3
**Prerequisites: Consent of instructor and approval of the Division Chair**
This course is designed to meet specific learning needs of students. Typically, such independent study projects focus on learning opportunities not otherwise offered in our college curriculum. The student then initiates a proposal describing, among other things, the number of hours to be spent on the study project, specific learning outcomes, and how evaluation is to be accomplished. The approved proposal will have signatures of the student, faculty sponsor, Division Chair, and the Associate Dean.

**GEN288 Internship**
Credits: 1-6
**Prerequisites: Students must have successfully completed at least two semesters (30 credits) in General Education courses and/or be recommended by a faculty member in order to become eligible for a student intern position.**
This course is designed for the student who takes the initiative to perform work outside of and in addition to the normal school curriculum. It is designed to be a highly rewarding workplace experience to give the student exposure to real workplace conditions, with the opportunity to enhance his or her résumé and to aid in the student's transition from school to work.

**GEO101 Introduction to Physical Geology**
Credits: 3
**Prerequisites: None**
This course is designed as both a general interest and application-based course for understanding natural processes that affect the earth's surface. Topics include geologic history, mountain building, formation of the continents, earthquakes, weathering and erosion, rock and mineral identification, and physical and chemical aspects. It serves as an entry-level geology course for those who wish to pursue geology professionally or as a terminal course for those who wish to have a general knowledge of geologic principles.

**GEO102 Introduction to Physical Geology Lab**
Credits: 1
**Prerequisites: None**
This is the lab component for Introduction to Physical Geology.

**GEO211 Earth History and Evolution**
Credits: 3
**Prerequisites: GEO101 or consent of instructor**
Earth History and Evolution traces the history of the Earth since its inception 4.5 billion years ago. This course present scientific theories for the origin of the earth and the nature of important earth-shaping events in the past, including the development of the oceans, atmosphere, and climate..

**GEO231 Geosciences Field Methods**
Credits: 2
**Prerequisites: GEO101 and GEO102; or GPHY111**
This course introduces students to a variety of field methodologies routinely used in the collection, processing, and interpretation of scientific data.

**GEO299 Geotech Capstone Project**
Credits: 1
**Co-requisite: GEO231 (Optional)**
**Prerequisites: None**
Students will complete a project in conjunction with GEO231 or as a separate assignment during the final semester of the program. This capstone course will provide the opportunity for the student to demonstrate that they have learned the material from the program and can apply it in the real world. It provides the student with the opportunity to develop a plan to solve a problem dealing with a geoscience issue.

# Course Descriptions

**GPHY111 Physical Geography and Lab**
Credits: 4
**Co-requisites: M090 or above**
**Prerequisites: None**
This lecture and lab course serves as an introduction to the manner in which natural systems function at global and regional scales. The lecture part of the course uses a geographical perspective to analyze landforms, climate, the water cycle, and the biosphere; examining spatial relationships and regional variations; and addressing spatial patterns of human activity as related to environmental phenomenon. The lab component of the course introduces the students to concepts and techniques needed to understand and analyze the information contained in the course as well as exercises on various types of maps, graphs, aerial photos, imagery, and other graphics and geographic data sets.

**GPHY262 Spatial Sciences Technology and Applications**
Credits: 3
**Prerequisites: EVSC140**
This course addresses the fundamentals of GPS, GIS, and remote sensing, and their application in a wide range of disciplines. Students will gain hands-on experience with GPS, GIS, and remote sensing software.

**HR100T Human Relations**
Credits: 2
**Prerequisites: None**
Students will survey the human components of successful working environments with an emphasis on awareness of human/workplace needs, self-awareness, and responsibility to relationships in the workplace.

**HR101 College Success**
Credits: 3
**Prerequisites: None**
This course is meant to enhance the students' analytic thinking and critical reading skills and introduce students to available academic and campus resources. Students will learn various Insitutional procedures and be introduced to the scholarly life of a college student, study topics and experiences designed to support their academic success and foster personal growth, explore and identify a variety of learning styles and develop financial literacy skills. This course will help students gain ownership of their educational experience and also become an integral part of the Helena College community.

**HR110T Career Development and Human Relations**
Credits: 3
**Prerequisites: None**
This course serves as an introduction to the working environment, emphasizing self-awareness and responsibility to relationships, as well as the written and oral interactions necessary to gain employment: resumes, cover letters, applications, and interviews. It is recommended for students in their third or fourth semester.

**HSTA101 American History I**
Credits: 3          *Offered Fall Semester*
**Prerequisites: None**
A survey of the political, constitutional and diplomatic history, economic history, and social, intellectual and cultural history of the United States from the first settlement to the Civil War. Emphasizes a substantive understanding of the events, trends, and personalities of U.S. history and the development of skills in analysis and communication.

**HSTA102 American History II**
Credits: 3          *Offered Spring Semester*
**Prerequisites: None**
A survey of the political, constitutional and diplomatic history, economic history, and social, intellectual, and cultural history of the United States from the Civil War to the present day. Emphasizes a substantive understanding of the events, trends, and personalities of U.S. history and the development of skills in analysis and communication.

**HSTA160 Introduction to the American West**
Credits: 3          *Offered Occasionally*
**Prerequisites: None**
A survey of the social, economic, political, and environmental history of the United States west of the Mississippi River from prehistory to the Second World War. This course emphasizes the analysis and interpretation of the events, trends, and personalities that characterized the American West and its impact on U.S. History.

**HSTA215 Post-WW II America**
Credits: 3          *Offered Fall Semester*
**Prerequisites: None**
A comprehensive overview of United States history from 1945 to the beginning of the Reagan Era in 1980, this course includes reading, lecture/discussions, and audio-visual materials that address key issues that faced the United States in the wake of World War II. Topics include the Cold War and nuclear weapons, Nixon, the civil rights movement, the Korean and Vietnam wars, popular culture, the Baby Boom, television, and the space program.

**HSTA255 Montana History**
Credits: 3          *Offered Spring Semester*
**Prerequisites: None**
This course offers a comprehensive study of the social, economic, cultural, and political development of Montana, with an emphasis on critical reading, interpretation, research, and written analysis.

# Course Descriptions

**IDSN101 Introduction to Interior Design**
Credits: 3
**Prerequisites: None**
Design fundamentals as related to the study and practice of Interior Design. Students will be introduced to the career of interior design, the design process, elements and principles of design, and design concept. Other topics include materials, lighting, human factors, and space planning, environmental design, and health and safety design issues. Course will include lectures, media presentations, and class discussions.

**IDSN110 History of Interior Design I Ancient - 1900**
Credits: 3
**Prerequisites: None**
Course surveys the historical relationship between Western interior architecture, furniture, and decorative arts from antiquity to the 19th century. Style development will be emphasized as it relates to people, social conditions, and political context. Lecture format with media presentations.

**IDSN111 History of Interior Design II 1900 - Contemporary**
Credits: 3
**Prerequisites: None**
Course surveys the interiors, furniture, and the decorative arts from the Victorian period to the present. Style development will be emphasized as it relates to people, social conditions, political context, and technology. Lecture format with media presentations.

**IDSN120 Materials and the Environment**
Credits: 3
**Prerequisites: IDSN101**
This course introduces textiles and various interior materials and sources that would be selected, specified, installed, and maintained in an interior environment. In this course, studies will include research and application of environmentally green products. Students will research the "green" appropriateness of textiles, materials for flooring, walls, ceilings, upholstery, millwork, and cabinetry. The course introduces equipment, appliances, and how to measure, specify, and understand correct installation methods and product maintenance.

**IDSN125 Lighting the Environment**
Credits: 3
**Prerequisites: DFT150 and IDSN101**
This course introduces lighting design for interior environments. Students explore human visual perception, properties of natural and artificial light, lighting devices and controls, and visual communication of lighting designs. Discussion regarding energy issues and selection of green products is throughout the course. The course includes application to specific design problems.

**IDSN135 Fundamentals of Space Planning**
Credits: 3
**Prerequisites: IDSN101**
Students will learn how to plan spaces with graphic tools and techniques to communicate space planning and conceptual design through two-dimensional drawings, schematics, and three-dimensional models. This course introduces fundamental theories and processes for the organization and arrangement of spaces in the interior environment. Students will learn to examine space in terms of human behavior, their activities, and their built environment.

**IDSN198 Residential Studio Internship**
Credits: 1
**Co-requisites: IDSN240**
**Prerequisites: A "C-" or higher in ARTZ105; DFT150; IDSN101, and IDSN135**
This course is for students who wish to only complete the one-year certificate. Students will observe professional design environments to develop an awareness of the responsibility to relationships in the workplace. Students will complete a thirty hour internship.

**IDSN230 Interior Architectural CAD**
Credits: 3
**Prerequisite: A "C-" or higher in DFT150 or consent of instructor**
This course is the application of construction architectural drawings using the power of CAD as the medium for drafting. This course utilizes working drawings to focus on scale-to-drawing parameters, symbol libraries, dimensioning, and drawing enhancement and also introduces CAD generated three-dimensional drawings.

**IDSN240 Studio I - Residential**
Credits: 3
**Prerequisites: A "C-" or higher in DFT150; IDSN101 and IDSN135**
Students apply the problem-solving discipline of the design process and its application to residential design. Students develop concepts to achieve design goals and apply technical skills to their design solutions as they work on a variety of relevant interior design projects. Students apply the problem-solving discipline of the design process and its application to residential design. Students develop concepts to achieve design goals and apply technical skills to their design solutions as they work on a variety of relevant interior design projects. This course focuses on environmental "green" interior materials and products that would be selected and specified in residential spaces. (Studio format with 5 hours contact)

# Course Descriptions

**IDSN250 Studio II - Commercial**
Credits: 4
**Prerequisites: A "C-" or higher in IDSN101 and IDSN135; recommends IDSN110 with a "C-" or higher**
Students apply the problem-solving discipline of the design process and its application to public design. Students develop concepts to achieve design goals and apply technical skills to their design solutions as they work on a variety of relevant interior design projects, which could include office, medical, and/or retail environments. This course focuses on environmental "green" interior materials and products that would be selected and specified in public studio. In this course, students will learn codes, regulations, and laws as they relate to public interiors. (Studio format with 6 hours of contact)

**IDSN252 Studio III - Corporate**
Credits: 4
**Prerequisites: DFT150; IDSN101, IDSN120, IDSN135, IDSN230 and IDSN240**
Students apply the problem-solving discipline of the design process and its application to corporate design. Students develop concepts to achieve design goals and apply technical skills to their design solutions as they work on a variety of office spaces. A portion of this course focuses on environmental "green" interior materials and products that would be selected and specified in a corporate studio. In this course, students will learn codes, regulations, and laws as they relate to office interiors. Students will develop appropriate working drawings for an office space. (Studio format with 6 hours of contact)

**IDSN255 Environmental Design Studio**
Credits: 4
**Prerequisites: DFT150; IDSN101, IDSN120, IDSN135, IDSN230 and IDSN240**
Students apply the problem-solving discipline of the design process and its application to design. Students develop concepts to achieve design goals and apply technical skills to their design solutions as they work on a variety of office spaces. This course focuses on environmental "green" interior materials and products that would be selected and specified in various interior spaces. In this course, students will learn to design with materials and methods that support green building concepts. (Studio format with 6 hours of contact)

**IDSN275 Professional Practices**
Credits: 3
**Prerequisites: Successful completion of at least the first year of the program**
Students will learn the concept of the business and professional management of an interior design practice. Topics include resume writing, marketing skills, and creation of a portfolio. Students learn about working with showrooms, personnel in a design firm, and clients. Lecture format.

**IDSN291 Special Topic: Introduction to Quick Sketch Drawing Techniques**
Credits: 1
**Prerequisites: None**
This special topic course allows in-depth study of a subject supplementing the interior space planning and design curriculum. ISDN291 emphasizes simple techniques and skills related to sketching quickly in a loose, conceptual format to communicate ideas.

**IDSN298 Internship**
Credits: 1 - 3
**Prerequisites: A "C-" or higher in ARTZ105; DFT150; IDSN101, IDSN120, IDSN125, IDSN135, IDSN150, IDSN230, IDSN240 and IDSN250**
Provides "real-life" experience in an approved design firm where students are able to apply knowledge and skills learned in their courses. Students work in settings relevant to their future employment plans. Course includes directed learning and required internship hours.

**ITS150 CCNA 1: Exploration**
Credits: 4
**Prerequisites: None**
This course is a fundamentals class based on the CISCO Network Academy curriculum. It is the first in a four-course series. This course covers network terminology, the OSI Network model and standards for network topologies and network wiring, IP addressing, subnet masks, network administration, and network planning. An introduction to the concept of network routers and their role in networking will be discussed. These basic principles are reinforced with hands-on lab work.

**ITS152 CCNA 2: Exploration**
Credits: 3
**Prerequisites: ITS150**
Router Technology - this course is the second of four courses in the curriculum designed by CISCO for learning network administration. This course requires a level of experience working with CISCO router commands and will build on those commands learned in ITS150. The course will cover routing theory and router configuration. Routing protocols RIP V1 & 2, OSPF, EIGRP and communication protocols will be explored with hands-on lab models to reinforce the lecture concepts. Both live and simulation work allows students the freedom to learn by doing.

**ITS164 Networking Fundamentals**
Credits: 3
**Prerequisites: None**
This course is an introduction to networking fundamentals with both lecture and hands-on activities. Topics include the OSI model and industry standards, network topologies, IP addressing (including subnet masks), and basic network design. Concepts are reinforced with lab activities using equipment in live and simulated environments.

# Course Descriptions

**ITS212 Network Operating System - Server Admin**
Credits: 4          *Offered Spring Semester*
**Prerequisites: ITS280**
Students will install and use their own Windows 2008 Servers to explore server-based operating systems administration techniques. Emphasis will be on security, Active Directory structure, user administration, performance, resource sharing, and network access.

**ITS218 Network Security**
Credits: 3          *Offered Spring Semester*
**Co-requisites: ITS212**
**Prerequisites: ITS224 and ITS280**
This seminar class focuses on network design as it relates to network security. Network architecture, security, network administration, documentation, and other networking topics pertinent to today's network administrator are included in this course.

**ITS224 Introduction to Linux**
Credits: 3          *Offered Fall Semester*
**Prerequisites: CSCI100 and ITS280**
Students are introduced to accessing a multi-user system. They learn to manage files and directories in a shared environment. Topics include simple user administration, scripts, and network access.

**ITS250 CCNA 3: Exploration**
Credits: 3
**Prerequisites: ITS152**
LAN switching and wireless technologies are the focus of the third course in the CISCO curriculum leading to CCNA certification. The course explores the role of switches in the modern networking environment, the CISCO IOS command-line interface used in switch configuration, VLANs, spanning-tree protocol, VLAN trunking protocols, and security. Wireless technologies are introduced as well as the placement of routers within a switched network. Students will build on and apply information from ITS150 and ITS152. Material is presented with both lecture and hands-on activities, using live and simulation work. Distance learning technologies allow students the freedom to learn by doing in the lab and from home via internet connection with simple software. Our extensive equipment inventory and the current configuration allow the student to practice network device configuration and troubleshooting much as they would in a "real world" environment.

**ITS252 CCNA 4: Exploration**
Credits: 3
**Prerequisite: ITS250**
Accessing the WAN is the fourth course in the CISCO series leading to the CISCO Certified Networking Associate (CCNA) exam. The curriculum focuses on network design with advanced network management projects. Topics covered include Wide Area Networking (WAN) setup and design, Point to Point Protocol (PPP), ISDN, Frame Relay and Voice over IP (VOIP). This course builds upon the previous three classes and expands knowledge of IP addressing, wildcard masks and security. In addition to the CISCO online curriculum, the course explores DHCP, Network Address Translation (NAT) and Port Address Translation (PAT) concepts with advanced hands-on activities and network configurations. Once again distance learning technologies are used to enable the students to access the equipment from home or other Helena College University of Montana classroom computers. IP phones, POE switches and router interfaces are combined to enlarge the student knowledge base for both CCNA certification testing and workplace application.

**ITS255 IP Telephony**
Credits: 3          *Offered Fall Semester*
**Co-requisites: ITS250**
**Prerequisites: ITS152**
A fundamental course helping students add to their data networking skills and gain essential Voice over IP (VoIP) knowledge, learn how VoIP works, why VoIP works, and how to implement VoIP as part of a converged network. Technical terminology, concepts, and non-CISCO devices are covered to broaden the students' knowledge base. The lecture portion of the class uses technical jargon and detailed presentations to illustrate the subject matter. Products such as Wireshark, trixbox (formerly Asterisk@Home), Linksys Ethernet phone, SIP-based ATA, SIP-based Server, and PBX products from Brekeke Software, Inc. are reviewed and discussed in light of their contributions to the industry. The hands-on labs reinforce lecture content. Students set up, configure and troubleshoot IP networks using CISCO routers, switches, and IP telephone equipment as well as CISCO Call Manager Express software. CISCO IOS commands learned in ITS150, 152, and 250 are used and expanded to router and switch configuration.

# Course Descriptions

**ITS280 Computer Repair and Maintenance**
Credits: 4
**Prerequisites: None**
This course is an in-depth exposure to computer hardware and operating systems with an eye toward the CompTIA A+ certification exam. Students learn functionality of hardware, computer maintenance, and safety. Hardware/software component interaction, customer service and networking concepts are discussed and explored with hands-on lab assignments. Students will gain confidence with the components of personal computer systems by learning proper procedures for hardware and software installations, upgrades, and troubleshooting.

**LIT110 Introduction to Literature**
Credits: 3
**Prerequisites: None**
Instruction in critical analysis of imaginative literature - fiction, poetry, and drama. Emphasis is on articulating strong responses to varied texts.

**LIT212 American Literature Survey**
Credits: 3          *Offered Spring Semester*
**Prerequisites: A "C-" or higher in WRIT095 or satisfactory score on placement test. A "C-" or higher in WRIT101 is recommended.**
An introduction to American cultural traditions through readings and discussions of representative texts from the Colonial Period to the present. This course presents the richness of American literature - - its thematic and stylistic range and its geographical and ethnic diversity.

**LIT213 Montana Literature**
Credits: 3          *Offered Occasionally*
**Prerequisites: A "C-" or higher in WRIT095 or satisfactory score on placement test. A "C-" or higher in WRIT101 is recommended.**
The course will survey representative writings from modern-day Montana writers. Students will analyze a variety of prose genera and appreciate the different styles, messages, and cultures presented in the works. Emphasis will be placed on themes and their reflection of Montana, the West, and all people, all places, all times.

**LIT223 British Literature I**
Credits: 3          *Offered Fall Semester*
**Prerequisites: A "C-" or higher in WRIT095 or satisfactory score on placement test. A "C-" or higher in WRIT101 is recommended.**
In this survey of representative texts from the Anglo-Saxon period through the Enlightenment, students will explore a range of approaches to the development of British literature.

**LIT224 British Literature II**
Credits: 3          *Offered Spring Semester*
**Prerequisites: A "C-" or higher in WRIT095 or satisfactory score on placement test. A "C-" or higher in WRIT101 is recommended.**
In this survey of representative texts from Romanticism to postmodernism, students will explore a range of approaches to the development of British literature and cultural identity.

**LIT227 Introduction to Shakespeare**
Credits: 3          *Offered Fall Semester*
**Prerequisites: A "C-" or higher in WRIT095 or satisfactory score on placement test. A "C-" or higher in WRIT101 is recommended.**
This course introduces students to the drama of Shakespeare. Students will use critical approaches to read and to analyze representative plays from the tragedies, comedies, histories, and romances.

**LIT228 Introduction to Irish Literature**
Credits: 3          *Offered Spring Semester - Even Numbered Years*
**Prerequisites: None**
Students will survey Irish literature in English ranging from the mythological to the modern. The course will explore how a literature with a long history evolves and how it defines and expresses a cultural identity. Texts will include fiction, poetry, plays, videos, and prose.

**LIT230 World Literature Survey**
Credits: 3          *Offered Spring Semester*
**Prerequisites: A "C-" or higher in WRIT095 or satisfactory score on placement test. A "C-" or higher in WRIT101 is recommended.**
World Literature is a survey course of poetry, drama, short stories, and novels in translation that focuses on critical interpretation of the works individually and collectively. Students will explore literary themes, structures, and critical strategies.

**LIT250 The Novel**
Credits: 3          *Offered Fall Semester*
**Prerequisites: None**
The course introduces critical analysis of the novel, with an emphasis on articulating strong responses to varied texts.

**LIT291 Special Topics Variable**
Credits: 3          *Offered Occasionally*
**Prerequisites: A "C-" or higher in WRIT095 or satisfactory score on placement test. A "C-" or higher in WRIT101 is recommended.**
This is an omnibus course, in which students will analyze and interpret selected literature, usually from a specific genre, period, or of a particular author or defined group of authors, depending upon the specific course offering. Specific course offerings may be experimental, intended as one-time only, or intended as part of a catalog of offerings that may be offered or rotated on a periodic basis.

# Course Descriptions

**M065 Pre-Algebra**
Credits: 3
**Prerequisites: None**
A review of basic math skills to prepare for M090, M108 or M111. This course focuses on addition, subtraction, multiplication and division of decimals, fractions, and integers; order of operations; ratios; proportions and percentages; solving single variable linear equations; and the Cartesian Coordinate System.

**M066 Pre-Algebra Lab**
Credits: 1
**Co-requisites: M065**
**Prerequisites: None**
Students enrolled in M065 co-enroll in this course for additional instruction for M065 curriculum. This course focuses on addition, subtraction, multiplication, and division of decimals, fractions, and integers; order of operations; ratios, proportions, and percentages; solving single variable linear equations; and the Cartesian Coordinate System. Course is offered pass/fail.

**M080 Pre and Introductory Algebra**
Credits: 5
**Prerequisites: None**
This course serves as a review of basic math skills and as an introduction to algebra. The course focuses on addition, subtraction, multiplication and division of whole numbers, decimals, fractions, and integers; order of operations; ratios, proportions, and percentages; the study of algebraic expressions, linear equations, linear inequalities, exponents, radicals, polynomials, quadratic equations, and graphs of linear equations and inequalities.

**M090 Introductory Algebra**
Credits: 3
**Prerequisites: A "C-" or higher in M065 or satisfactory score on placement test**
This course serves as an introduction to algebra which includes the study of real numbers, algebraic expressions, linear equations and inequalities, exponents, polynomials, quadratic equations, and graphs of linear equations and inequalities.

**M095 Intermediate Algebra**
Credits: 4
**Prerequisites: A "C-" or higher in M080 or M090 or satisfactory score on placement test**
This course studies systems of linear equations, absolute value equations and inequalities; functions, quadratic equations and their graphs; rational expressions and equations; radical expressions and equations; rational exponents and complex numbers.

**M100T Introduction to Technical Mathematics**
Credits: 1
**Prerequisites: None**
This course reviews basic math skills commonly used in the technical occupations, including fractions, decimals, ratios, and formulas specific to the students' trade areas. Required in some certificate programs and for students whose placement scores indicate a need for preparatory work in mathematics.

**M108T Business Mathematics**
Credits: 3
**Prerequisites: A "C-" or higher in M065 or satisfactory score on placement test**
Students in this course will examine the mathematics of business ownership and demonstrate an understanding of business decisions. Topics include ratios and percentages, algebraic equations, marketing, payroll, cash flow, simple and compound interest, insurance, financial statements, depreciation, annuities, and inventory valuation.

**M111T Technical Mathematics**
Credits: 3
**Prerequisites: A "C-" or higher in M065 or satisfactory score on placement test**
The course includes fractions, decimals, ratios, proportions, formulas, and word problems. Topics studied are metric and standard American measurement systems, linear equations, developing applied skills in practical geometry, solid figures, and basic trigonometry.

**M115 Probability and Linear Mathematics**
Credits: 3
**Prerequisites: A "C-" or higher in M095 or satisfactory score on placement test**
This course is intended to give an overview of topics in finite mathematics together with their applications. Topics covered include linear equations and functions; systems of linear equations and matrices; sets and counting; probability and statistics; and finance.

**M121 College Algebra**
Credits: 3
**Prerequisites: A "C-" or higher in M095 or satisfactory score on placement test**
This course is the study polynomial, rational, radical, exponential, and logarithmic functions; circular equations; and systems of linear and non-linear equations and inequalities.

# Course Descriptions

**M145 Mathematics for the Liberal Arts**
Credits: 3          *Offered Occasionally*
**Prerequisites: A "C-" or higher in M095 or satisfactory score on placement test**
This course is designed to meet the general education mathematics requirement for the liberal arts major. It surveys some of the important ideas and practical applications in mathematics and uses algebra skills to solve real problems. Topics include problem solving, financial math, mathematical modeling (linear and quadratic), and elementary statistics.

**M151 Pre-Calculus**
Credits: 4          *Offered Spring Semester*
**Prerequisites: A "C-" or higher in M121 or satisfactory score on placement test**
This course is primarily for students who intend to take calculus. Topics include problem solving with two and three dimensional geometry, rational functions, exponential functions, logarithmic functions, trigonometric functions, law of sines, law of cosines, trigonometric identities and equations, vectors and polar coordinates, extended use of magnitude, circles, ellipses, hyperbolas, and sequences and series.

**M171 Calculus I**
Credits: 4          *Offered Fall Semester*
**Prerequisites: A "C-" or higher in M151 or satisfactory score on placement test**
The subject of this course is single variable calculus. Topics include functions, limits, continuity, differentiation, tangents, implicit differentiation, Mean Value Theorem, integration, Fundamental Theorem of Calculus, logarithmic, exponential functions, and applications of integration.

**M172 Calculus II**
Credits: 4          *Offered Spring Semester*
**Prerequisites: A "C-" or higher in M171 or satisfactory score on placement test**
Topics include transcendental functions, applications of integration, techniques of integration, improper integrals, infinite series and convergence test, Power series, Taylor's theorem, polar coordinates, and parametric equations.

**MART145 Web Design**
Credits: 3
**Prerequisites: None**
Students will create complex web pages using a text editor and professional development tools. Students will learn the basic elements of HyperText Markup Language (HTML), Cascading Style Sheets (CSS), and JavaScript.

**MCH120 Blueprint Reading and Interpretation for the Machinist**
Credits: 2
**Prerequisites: MCH130**
Blueprint reading covers orthographic projection, line identification, auxiliary and sectional views, dimensioning of drawings, common abbreviations, tolerancing, and sketching techniques.

**MCH130 Machine Shop**
Credits: 3
**Prerequisites: None**
This course includes an emphasis on shop and work area safety. Instruction covers standard shop work, such as measurement, layout, basic hand tools, drills, drill presses, and taps and dies. Use of pedestal grinder will be covered. Work assignments incorporate projects requiring use of the above machines, tooling, and emphasizes safety.

**MCH132 Introduction to Engine Lathes**
Credits: 5
**Prerequisites: None**
This course covers tool bit grinding, facing, turning, boring, parting off, threading, tapering, knurling, trepanning, between center work, and use of faceplates and steady rests. Engine lathe safety will also be covered. Use and care of precision measuring tools will be included.

**MCH134 Introduction to Mills**
Credits: 5
**Prerequisites: MCH130**
The course covers all types of vertical and horizontal milling machines and use of all related mill accessories. Work assignments incorporate projects requiring use of these machines and tooling.

**MCH136 Advanced Lathes**
Credits: 5
**Prerequisites:  None**
The Advanced Lathe course will use engine lathes to manufacture industrial parts. The use of assorted cutting tools and support tooling, such as form tools, carbide inserts, taper attachments, follower, and steady rests. Close tolerance machining required. Actual customer projects will be incorporated into the course work. Safety concerns for both machines will be reviewed.

**MCH137 Advanced Mills**
Credits: 5
**Prerequisites: None**
The Advanced Mills course will utilize the horizontal and vertical mills in the lab. The use and care of rotary tables, indexing heads, end mills, slab mills, gear cutters, carbide cutters, criterion, and line boring will be covered. The various work holding methods, location methods, process planning and operations will be discussed. Safety concerns for both machines will be reviewed. Actual customer projects will be incorporated into the course work.

**MCH139 Grinding Applications**
Credits: 2
**Prerequisites: None**
The course covers setup, use, and safety requirements of grinding machines. Hands-on use of machines will be emphasized.

# Course Descriptions

**MCH230 Tooling and Fixtures in CNC**
Credits: 2
**Prerequisites: None**
Tooling and fixtures used in CNC are discussed in a classroom environment. These topics, for both mill and lathe, will be discussed in order to facilitate the students' ability to select proper work holding devices and cutting tools for various types of machining operations that may be performed. Cutting tool information is one of the most multifaceted areas of study for developing machinists and programmers. Both must be able to discern proper set-ups based on part and tool geometry while providing proper speed and feed data. The use of formulas and reference materials will be studied as a necessary facet of the manufacturing process.

**MCH231 CNC Turning Operations Level 1**
Credits: 3
**Co-requisites: MCH230**
**Prerequisites: Completion of 1st Semester**
This course is an introduction to CNC Turning Centers and the safe operation of common operating procedures, set-up and maintenance of the machine and control panel, which will be discussed and implemented. The student will become acquainted with the ways in which various companies utilize CNC machine tools and personnel while learning methods for the installation of tools, establishing machine, fixture and part zero reference offsets. The students will also be introduced to the methods and reasons behind the modification of these reference offsets and other geometry offsets used to machine parts to demanding geometric tolerances.

**MCH232 CNC Turning Programming Operations 2**
Credits: 3
**Prerequisites: MCH231**
This class introduces students to word address programming (G and M code) for CNC Turning Centers. The student will write formatted programs, set-up, and run their programs on the CNC Turning Center. Students will use basic and intermediate "G" codes with coordinates to create common part features such as contours, shoulders, bores, grooves, and chamfers. Students will learn to apply geometry offsets for machining their parts to exacting geometric tolerances. The goal will be to prepare, plan, then write safe, effective, and efficient CNC programs. Students will then use key concepts for part set-up, program verification, editing, and documentation.

**MCH233 CNC Turning Programming Operations 3**
Credits: 3
**Prerequisites: MCH231 and MCH232**
This class enhances a student's ability to program, set up, verify and operate CNC Turning Centers. The student will write well formatted CNC programs, utilizing strategic programming and logic techniques and CAD / CAM generated files, then set-up and run their programs on various CNC Turning Machines. Students will use "canned cycles" and intermediate level "G and M" codes to create common part features such as contours, grooves, bores, holes and threads, with an emphasis placed on Internal Diameter (ID) operations. The goal will be to prepare, plan manufacturing process, then write safe, effective, and efficient CNC programs. Students will then use key concepts for part set up, program verification, editing, and documentation of process.

**MCH234 CNC Milling Operations Level 1**
Credits: 3
**Co-requisites: MCH230**
**Prerequisites: Completion of 1st Semester**
This course is an introduction to CNC Milling Centers. The common operating procedures, set-up, and maintenance of the machine and control panel will be discussed and implemented. The student will become acquainted with the ways in which various companies utilize CNC machine tools and personnel while learning methods for the installation of tools, establishing machine, fixture, and part zero reference offsets. The students will also be introduced to the methods and reasons behind the modification of these reference offsets and other geometry offsets used to machine parts to demanding geometric tolerances.

**MCH235 CNC Milling Programming Operations 2**
Credits: 3
**Prerequisites: MCH234**
This class introduces students to word address programming (G and M code) for CNC Machining Centers. The student will write formatted programs, set up, and run their programs on the CNC Machining Center. Students will use basic and intermediate "G" codes with coordinates to create common part features such as contours, slots, bores, holes, and pockets. The goal will be to prepare, plan, then write safe, effective, and efficient CNC programs. Students will then use key concepts for part set-up, program verification, editing, and documentation.

# Course Descriptions

**MCH236 CNC Milling Programming Operations 3**
Credits: 3
**Prerequisites: Completion of 1st Year**
Common uses of the CNC Machining Center are discussed and implemented. Canned cycles for pocketing, hole manufacturing, threading, cutter compensation, and other standard controller features will be utilized. Students will learn to use loops, multiple work offset programming techniques, subroutines, and subprograms to shorten and simplify programs. All these programming approaches will be performed on 3 axis and 4 axis machining centers. Students will also learn advanced techniques for making programs run more efficiently.

**MCH237 CAD/CAM CNC Turning Center**
Credits: 5
**Co-requisites: MCH233**
**Prerequisites: Completion of 1st Year**
This class introduces students to Mastercam X for Lathe/ Turning application. Students will learn to navigate the program's GUI interface for the purpose of 1) creating part geometry as CAD entities; 2) defining cutting tools and machining operations; 3) generating CAM type tool paths; 4) graphically render their machining operations for verification purposes; and 5) post process their work. Students will then have the opportunity to load their programs into a CNC Turning Center and perform all necessary tasks to complete the manufacturing process for their piece part. This class will walk a student through the entire creative process of part design, manufacturing process development, and machining a finished product.

**MCH238 CAD/CAM fCNC Machining Center**
Credits: 5
**Co-requisites: MCH236**
**Prerequisites: Completion of 1st Year**
This class introduces students to Mastercam X for CNC Milling application. Students will learn to navigate the program's GUI interface for the purpose of 1) creating part geometry as CAD entities; 2) defining cutting tools and machining operations; 3) Generating CAM type tool paths; 4) graphically rendering their machining operations for verification purposes; and 5) post processing their work. Students will then have the opportunity to load their programs into a CNC Milling Center and perform all necessary tasks to complete the manufacturing process for their piece part. This class will walk a student through the entire creative process of part design, manufacturing process development, and machining a finished product.

**MCH240 Metallurgy**
Credits: 1
**Prerequisites: MCH130**
The student will learn about types of ferrous and nonferrous metals and their applications. Metal numbering systems and the types of heat-treating will also be covered.

**MCH245 Shop Practices**
Credits: 2
**Prerequisites: MCH120, MCH130, MCH132, and MCH134**
This is an ongoing semester course during normally scheduled shop hours. It is intended to match spring semester students with live, practical shop experiences involving subject matter previously covered in other courses. Emphasis will be on productivity.

**MECH205 Small Engines**
Credits: 2
**Prerequisites: None**
This course concentrates on small gasoline engines as used in the Outdoor Power Equipment industry (less than 20 horse power). Emphasis will be on the four major theories of small engines-compression, ignition, carburetion, and governing. Students will disassemble, familiarize, inspect, reassemble, and operate a school-owned small engine.

**MUSI101 Enjoyment of Music**
Credits: 3          *Offered Fall Semester*
**Prerequisites: None**
This course traces the development of art music through the past 1000 years. Vocal and instrumental music and composers from the Middle Ages, Renaissance, Baroque, Classical, Romantic, and 20th century will be examined through listening, reading, and writing. Students will be presented with the analytical and comparative tools to identify and understand the various historical musical eras.

**NASX105 Introduction to Native American Studies**
Credits: 3          *Offered Spring Semester*
**Prerequisites: None**
This course is a study of the cultural makeup of Native Americans in Montana and subsequently in the United States. Education, historical, legal, and social aspects will be analyzed for their influence on the modern Indian culture.

**NRSM280 Water Rights and Water Policy**
Credits: 3
**Prerequisites: None**
This course is designed to examine the laws and policies governing water resources along with the historical, social, environmental, and economic forces that shape them. The evolution of water laws and policy up to and through the transformative 1970s to the present will be explored by an examination of water resources and their allocation in several Montana watersheds and California's Mono Basin. The administration of water rights and water quality laws by state and federal agencies in Montana and the West will be studied utilizing recent legal and policy debates and decisions.

# Course Descriptions

**NRSG100 Introduction to Nursing**
Credits: 1; 1 Lecture
**Prerequisites: None**
The intent of this course is to socialize the participant to the roles/functions/expectations of the nurse. This course provides an introduction to nursing history and current views of nursing as a discipline (including various types of nursing occupations and educational requirements). Scholastic expectations required to complete a program of study in nursing are introduced as well as professional expectations of the practicing nurse. The following core concepts related to nursing practice are presented: the caring nature of the nursing profession; the importance of critical thinking/clinical judgment; legal/ethical/cultural issues in nursing; the need to understand human motivation and behavior; and use of the nursing process. Communication in various forms is emphasized.

**NRSG130 Fundamentals of Nursing**
Credits: 4; 4 Lecture
**Prerequisites: None**
This course introduces learners to the clinical skills essential for the nursing role. It also includes complex concepts and behaviors of nursing roles within the context of the nursing process, holistic care, and health care. The course emphasizes the theoretical and practical concepts of nursing skills required to meet the needs of clients in a variety of settings.

**NRSG131 Fundamentals of Nursing Lab**
Credits: 3; 3 (90 hrs.) Lab
**Prerequisites: None**
This course introduces learners to the clinical skills essential for the nursing role. It also includes complex concepts and behaviors of nursing roles within the context of the nursing process, holistic care, and health care. Emphasis will be on the theoretical and practical concepts of nursing skills required to meet the needs of clients in a variety of settings.

**NRSG135 Nursing Pharmacology**
Credits: 3; 3 Lecture
**Prerequisites: None**
Through caring, communication, professionalism, critical thinking, and critical judgment, students learn a structured systematic approach to the study of drug therapy. Medications are studied according to drug classes and therapeutic families. Students will learn to apply the nursing process to drug therapy with an emphasis on accessing relevant information to ensure client safety.

**NRSG138 Gerontology for Nursing**
Credits: 2; 1 Lecture, 1 (45 hrs.)
Clinical
**Prerequisites: None**
This course introduces the student to the skills and knowledge needed to provide nursing care to aging clients. Topics explored include current trends (including legal and ethical issues) in gerontological nursing; developing stages and transitions associated with aging; expected aging related physiological changes and assessment findings; recognition and management of acute and chronic illnesses that commonly occur in the older adult population; promotion of health for the older adult client; and end-of-life issues and care.

**NRSG140 Core Concepts of Adult Nursing**
Credits: 7; 4 Lecture, 3 (135 hrs.) Clinical
**Prerequisites: None**
This course prepares the student to care for clients experiencing common, well- defined health alterations in settings where stable clients are anticipated. Students are introduced to standardized nursing procedures and customary nursing and collaborative therapeutic modalities. The following body systems will be addressed: neurological, cardiac, respiratory, renal/urological, gastrointestinal, musculoskeletal, endocrine, reproductive, integumentary, sensory, and hematological. The topics of pre-operative care, pain, infection/immunity, and cancer will be addressed. Additionally, recognition and emergent treatment of rapidly changing conditions will be introduced.

**NRSG142 Core Concepts of Maternal/Child Nursing**
Credits: 3; 2 Lecture, 1 (45 hrs.) Clinical
**Prerequisites: None**
Emphasizing caring, communication, professionalism, and critical thinking, the course provides information about fetal development and prenatal and postnatal care of the mother and newborn. Role of the nurse in meeting the needs of the family is emphasized. Clinical application of care for the mother and newborn will allow the student to demonstrate acquired knowledge. The course also includes growth and development patterns as well as care of the well and sick child.

**NRSG144 Core Concepts of Mental Health Nursing**
Credits: 2; 2 Lecture
**Prerequisites: None**
This course will explore physiological, psychological, sociocultural, spiritual, and environmental factors associated with Mental Health/Illness affecting individuals and families. Focus will be placed on basic concepts of psychiatric nursing, therapeutic modalities, as well as psychiatric disorders including psychopharmacological management.

# Course Descriptions

**NRSG148 Leadership Issues**
Credits: 2; 1 Lecture, 1 (45 hrs.) Clinical
**Prerequisites: None**
This capstone course provides the Practical Nursing student information regarding the current status of vocational nursing. This course assists the nursing student in bridging the role between student and employee. Leadership/management skills, healthcare delivery systems, continuing educational needs, licensure requirements, legal issues, and standards of practice are investigated. Personal and professional identity and entry into the job market are explored. There is a forty-five hour clinical/precepted component to provide the student opportunity to apply theoretical knowledge in the long-term setting.

**NRSG250 LPN to RN Transition**
Credits: 3; 3 Lecture
**Prerequisites: None**
This course will focus on the role transition from LPN to RN in relation to the concepts and principles of holistic nursing care. Focus is on the continuing development of roles and responsibilities of the RN as defined by the scope of practice standards, nursing theory, and conceptual models.

**NRSG252 Complex Care Needs of Maternal/Child Nursing**
Credits: 3; 2 Lecture, 1 (45 hrs.) Clinical
**Prerequisites: Admission to the Associate of Science Registered Nursing Program**
This course presents concepts and principles related to the registered nurse providing nursing care for childbearing families and children who experience complex alterations in the functional dimensions of health. Focus is on the use of the nursing process in assessment and application of advanced concepts in the care of the childbearing family, or a child with more complex health care problems from birth through adolescence. The course will explore special needs and complications during the perinatal experience, and altered functioning, special needs and disease processes manifested in children.

**NRSG254 Complex Care Needs of Mental Health Nursing**
Credits: 2; 1 Lecture, 1 (45 hrs.) Clinical
**Prerequisites: None**
This course explores physiological, psychological, sociocultural, spiritual, and environmental factors associated with Mental Health/Illness affecting individuals and families across the lifespan. Focus will be placed on basic concepts of psychiatric nursing, therapeutic modalities, as well as psychiatric disorders including psychopharmacological management. Through the implementation of the nursing process, students will formulate a plan of care for an individual who has been diagnosed and treated for a mental illness.

**NRSG256 Pathophysiology**
Credits: 3; 3 Lecture
**Prerequisites: None**
This course will introduce the student to the basic principles and processes of Pathophysiology including cellular communication, genes and genetic disease, forms of cellular injury, fluid and electrolyte/acid base balance, immunity, stress coping and illness, and tumor biology. Pathophysiology of the most common alterations according to body system will also be discussed as well as the latest developments in research related to each area.

**NRSG262 Complex Care Needs-Adult Client**
Credits: 4; 2 Lecture, 2 (90 hrs.) Clinical
**Prerequisites: None**
This course prepares the student to provide nursing care to adult clients experiencing acutely changing conditions in settings where outcome is less predictable. Emphasis is placed on the nurse's response to emergent/life-threatening/rapidly changing conditions. Topics covered include collaborative therapeutic modalities related to acute/complex neurological, cardiac, respiratory, hematological, endocrinologic events, shock, sepsis/SIRS, complex burns, etc.

**NRSG265 Advanced Clinical Skills**
Credits: 1; 1 (30 hrs) Lab
**Prerequisites: None**
This course prepares the student to carry out complex nursing interventions across the lifespan. Topics covered include IV therapies such as central venous therapy, parenteral nutrition, IV medication administration, complex IV infusions, blood/blood product administrations, advanced airway/ventilatory support, wound care, laboratory values, complex gastrointestinal problems, arrhythmia identification, mobility issues, disaster preparedness, and palliative care.

**NRSG266 Managed Client Care**
Credits: 4; 2 Lecture, 2 (90 hrs.) Clinical
**Prerequisites: None**
This course covers topics related to integrated nursing care of individual clients and groups of clients as well as basic principles related to leadership and management in nursing. Topics include effective communication techniques in the employment setting; role differentiation among care providers; organization and prioritization; delegation, supervision, management of health care resources, legal and ethical issues, values clarification, conflict resolution, and consensus building. The course requires students to integrate knowledge and skills learned from other nursing courses and help them transition from the role of student to that of a Registered Nurse. Licensure exam (NCLEX-RN) preparation and process are also included as a component of the course. The preceptor-based clinical component allows the student to function in the role of a registered nurse while working one-on-one with a designated RN preceptor.

# Course Descriptions

**NUTR221 Basic Human Nutrition**
Credits: 3
**Prerequisites: None**
This course is an introductory study of human nutrition. Major nutrients are covered as well as food sources, how nutrients are used by the body, age-related recommendations for food intake, eating behaviors, methods of nutritional assessment and standard measures of normal nutritional status. Major public health nutrition problems are discussed.

**OT107 Introduction to Paralegal Studies**
Credits: 3
**Prerequisites: None**
Introduction to Paralegal Studies introduces the student to a variety of paralegal careers in private law firms, government agencies, and business. The course provides an overview of the framework of American law, the structure and functions of state and federal court systems, and the steps involved in the litigation process. Students will develop an awareness of the skills and attributes required to perform the job duties of a paralegal, as well as learn about functioning effectively in the legal environment.

**OT161 Legal Terminology**
Credits: 2          *Offered Fall Semester*
**Prerequisites: None**
Designed to give students background in basic pronunciation, spelling, and definition of terms commonly used in the legal field. This course covers a variety of areas of law in addition to terms dealing with courts, legal systems, and litigation procedures. General Latin terms in common usage are also given.

**OT165 Introduction to Legal Research**
Credits: 2          *Offered Spring Semester*
**Prerequisites: None**
This course introduces the student to the art of legal research. The students will develop an understanding of the fundamental sources of the law and how to locate the law. Computerized sources of law will be introduced, including LEXIS, WESTLAW, and the Internet. Units on Montana Code Annotated and the Montana State Law Library will also be included.

**OT223 Introduction To Civil Litigation and Montana Courts**
Credits: 2          *Offered Spring Semester*
**Prerequisites: None**
This course provides an overview of the structure and functions of various levels of the Montana court system and pretrial procedures used by legal support professionals. Students will learn about organizing and managing case files, the discovery process, collecting evidence, preparing exhibits for trial, as well as how to prepare pleadings and other documents according to the Montana Rules of Civil Procedure, Montana Rules of Appellate Procedure, and related statutes.

**PHL110 Problems of Good and Evil**
Credits: 3
**Prerequisites: None**
This course includes an analysis of basic moral concepts and a survey of the ways in which these concepts operate in contexts. Applications are made to contemporary moral issues one might encounter in the work world or in the student's field of study.

**PHL215 Introduction to Consciousness Studies**
Credits: 3          *Offered Spring Semester*
**Prerequisites: PSYX100**
Students will learn about the basic issues in consciousness studies. These issues include the "problem" of consciousness, philosophical views, neurological models, and other issues in pertinent fields.

**PHSX205 College Physics I**
Credits: 3          *Offered Fall Semester*
**Co-requisites: PHSX206**
**Prerequisites: A "C-" or higher in M151, or placement into M171**
This is the first semester of a two semester series of college physics. Topics covered include mechanics, wave mechanics, and thermodynamics. The lab component complements lecture material.

**PHSX206 College Physics I Lab**
Credits: 1          *Offered Fall Semester*
**Co-requisites: PHSX205**
**Prerequisites: A "C-" or higher in M151, or placement into M171**
This is the lab portion of the first semester of a two-semester series of college physics. Topics covered include mechanics, wave mechanics, and theromodynamics. The lab component complements lecture material.

**PHSX207 College Physics II**
Credits: 3          *Offered Spring Semester*
**Co-requisites: PHSX208**
**Prerequisites: A "C-" or higher in PHYX205 and PHYX206**
This is the second semester of a two-semester series of college physics. Topics covered include states of matter and quantum mechanics. The lab component complements lecture material.

**PHSX208 College Physics II Lab**
Credits: 1          *Offered Spring Semester*
**Co-requisites: PHSX207**
**Prerequisites: A "C-" or higher in PHYX205 and PHYX206**
This is the lab portion of the second semester of a two-semester series of college physics. Topics covered include states of matter and quantum mechanics. The lab component complements lecture material.

# Course Descriptions

**PSCI210 Introduction to American Government**
Credits: 3
**Prerequisites: None**
This course explores the nature, purpose, and forms of the America government; the relationship between function and structure; the dynamics of political change; and the governmental problems of modern society. Emphasis will be placed on constitutional principles, political processes, public opinion, interest groups, political parties, elections, congress, the Presidency, and the Courts.

**PSCI240 Introduction to Public Administration**
Credits: 3 *Offered Spring Semester*
**Prerequisites: A "C-" or higher in BGEN105**
This course is designed to introduce the student to management practices and networking opportunities with the public sector. Topics covered include policy-making, management issues, funding procurement, and professional ethics as they relate to local, state, and federal levels of government and not for profit agencies.

**PSYX100 Introduction to Psychology**
Credits: 3
**Prerequisites: A "C-" or higher in WRIT095 or placement score in WRIT101**
This course is an introduction to the scientific study of behavior in humans and other animals, including the biological bases of behavior, learning and memory, cognition, motivation, developmental and social processes, psychological disorders, and their treatment.

**PSYX120 Research Methods I**
Credits: 3 *Offered Fall Semester*
**Prerequisites: PSYX100**
This course examines the experimental and quantitative methods employed in the scientific study of behavior. It is an introduction to the design and analysis of psychological research. Topics include the logic and philosophy of psychological research, conceptualizing research questions, hypothesis testing, data collection, and analysis strategies used by researchers in psychology. It is also an introduction to using statistical data analysis.

**PSYX161 Fundamentals of Organizational Psychology**
Credits: 3 *Offered Occasionally*
**Prerequisites: None**
This course covers the field of study that investigates the impact that individuals, groups, and structure have on behavior within organizations for the purpose of applying such knowledge toward improving an organization's effectiveness and efficiency. The focus is on behavioral consequences of designed learning experiences, leadership, motivation, ethics, managing, job design, and perception within an organization. This is the psychology of management and human relations.

**PSYX182 Stress Management**
Credits: 3 *Offered Occasionally*
**Prerequisites: None**
This course examines the impact of today's stressful world on the physical and mental health of the individual. Techniques for coping with these stressors are explored and practiced in class (e.g., meditation, relaxation, breathing, etc.). Topics include personality and disease, job burnout, optimal performance, family stress, and others.

**PSYX230 Developmental Psychology**
Credits: 3
**Prerequisite: A "C-" or higher in PSYX100**
Developmental Psychology is a comprehensive study of development across the lifespan including physical structure, thought, and behavior of a person as a result of both biological and environmental influences. It provides an up-to-date presentation of key topics, issues, and controversies in the field of lifespan development.

**PSYX240 Fundamentals of Abnormal Psychology**
Credits: 3
**Prerequisites: A "C-" or higher in PSYX100**
This course will explore psychopathology, the major psychiatric syndromes, the different theoretical perspectives, treatment, and therapy.

**PSYX250 Fundamentals of Biological Psychology**
Credits: 3 *Offered Spring Semester*
**Prerequisites: A "C-" or higher in PSYX100**
This course is an introduction to the relationships between neurological structures and mechanisms and their corresponding psychological cognitive processes. Origins and adaptations of structures and behaviors as well as the methods used to study these relationships are also reviewed. Clinical applications of course material are examined.

**PSYX260 Fundamentals of Social Psychology**
Credits: 3 *Offered Fall Semester*
**Prerequisites: A "C-" or higher in PSYX100**
This course serves as an exploration of the scientific study of how people think about one another, influence one another, and relate to one another. It emphasizes the situation, the person, and personal reactions to situations, as well as the application of social psychological principles to different societies and cultures.

**PSYX270 Fundamentals of Learning**
Credits: 3 *Offered Fall Semester*
**Prerequisites: A "C-" or higher in PSYX100 or consent of instructor**
This course is an introduction to scientific principles, theories, and applications of learning, including but not limited to respondent and operant conditioning, social learning, and verbal learning. The research base of learning is aslo covered.

# Course Descriptions

**PSYX298 Mental Health Direct Care Internship**
Credit: 3
**Prerequisites: A "B" or higher in PSYX240**
This course is the Mental Health Direct Care Internship. It provides the students with two aspects of mental health direct care. First, it is an overview of the mental health system. Included in this is 1) the different professionals within mental health (psychiatrists, psychologists, case managers, psychotherapists), 2) levels of care (from outpatient to hospitalization), 3) political backdrop of mental health care, 4) governmental programs in mental health care (local, state, federal), 5) training in suicide prevention techniques, 6) training in dealing with violent mentally ill patients, and 7) advocacy programs available for mental health issues. Second, it is an internship at a mental health care facility where students will gain hands on experience providing direct mental health care.

**READ070 Fundamentals of Reading**
Credits: 3
**Prerequisites: None**
This course is designed to enable college students to develop strategies and skills to meet the demands of college reading.

**SOCI101 Introduction to Sociology**
Credits: 3
**Prerequisites: None**
An introduction to basic sociological concepts and principles, emphasizing human social organization and how groups influence behavior.

**SOCI201 Social Problems**
Credits: 3
**Prerequisites: None**
An introduction to sociological perspectives regarding society's problems, this course examines the causes of major current and historical social problems, as well as the role of social research in identifying and solving problems.

**SOCI215 Introduction to Sociology of the Family**
Credits: 3        *Offered Spring Semester*
**Prerequisites: None**
This course examines contemporary issues and patterns within family life and the influence of larger social trends. The implication of these changes on the state of the family as an institution is also explored.

**SOCI235 Aging and Society**
Credits: 3        *Offered Spring Semester*
**Prerequisites: None**
This course focuses on the demographic, social, and cultural effects of aging in society. Students will examine how the aging population will affect and be affected by such factors as government, health care, and the economy. Emphasis is placed upon aging in the United States.

**SPNS101  Elementary Spanish I**
Credits: 4
**Prerequisites: None**
This introductory course prepares students for basic communication in Spanish and presents fundamentals of the language holistically through listening, speaking, reading, and writing. The course also explores cultural information.

**SPNS102 Elementary Spanish II**
Credits: 4
**Prerequisites: A "C-" or higher in SPNS101**
This course continues and builds upon the fundamentals of the Spanish language, and prepares students for more in-depth communication through listening, speaking, reading, and writing. Cultural information is also included.

**STAT216 Introduction to Statistics**
Credits: 3
**Prerequisites: A "C-" or higher in M115, M121. or M145 or higher or satisfactory score on placement test**
This course teaches a basic introduction to the fundamental concepts and methods of statistics. Topics include frequency distributions, measures of central tendency, measures of dispersion, fundamentals of probability, bionomial distribution, estimation, confidence intervals and hypothesis testing for normal distributions, correlation, and simple linear regression.

**TASK113 Keyboarding and Document Processing**
Credits: 3
**Prerequisites: None**
This course is for students who either have successfully completed Introduction to Keyboarding (TASK090) or have previously mastered basic keyboarding skills at the rate of 20 wpm for one minute with two errors or fewer. Preparation of memos, business letters, simple tabulations, reports, along with continued speed building, and proper keyboarding techniques, are included in this course. Students will learn the basic principles of Microsoft Word 2010 and will use the software to format documents.

# Course Descriptions

**TASK150 Customer Service Strategies**
Credits: 3
**Prerequisites: None**
Customer service is an integral part of doing business. Developing excellent customer service can help a business earn customers and accomplish its goals. In this course students will define and evaluate effective customer service while focusing on determining and meeting the needs of internal and external customers.

**TASK201 Production Keyboarding**
Credits: 2
**Prerequisites: TASK113 or consent of instructor**
Students work on development and improvement of keyboarding techniques, keyboarding skills, speed, and accuracy. Production of mailable copy for business applications useful in an office situation will be emphasized.

**TASK210 Office Success Strategies**
Credits: 3      *Offered Spring Semester*
**Prerequisites: None**
This course is an introduction to the many aspects of a business environment. Topics covered include teamwork and office relationships, telephone and postal procedures, office equipment, use of reference materials, prioritizing and calendaring, meetings and travel arrangements, ergonomics and safety, and office etiquette.

**TASK292 Independent Study**
Credits: 1-3
**Prerequisites: Consent of instructor and approval of the Division Chair**
This course is designed to meet specific learning needs of students. Typically, such independent study projects focus on learning opportunities not otherwise offered in our college curriculum. The student then initiates a proposal describing, among other things, the number of hours to be spent on the study project, specific learning outcomes, and how evaluation is to be accomplished. The approved proposal will have signatures of the student, Faculty Sponsor, Division Chair, and the Associate Dean.

**TASK298 Internship**
Credits: 1-3
**Prerequisites: Consent of instructor and approval of the Division Chair**
Designed for the student who takes the initiative to perform work outside of and in addition to the normal school curriculum. If done properly, it can be a highly rewarding experience and aid the student's transition from school to work.

**TASK299 Integrated Office Capstone**
Credits: 3      *Offered Spring Semester*
**Prerequisites: CAPP153, CAPP154, CAPP156, CAPP158, and CAPP254**
Integrated Office Capstone is designed as a course to be taken during the third or fourth semester of a student's program. The first half of this course introduces the students to a project management software program that will allow the student to collaborate, administer, track, and analyze project information. The student will learn to use projects to organize and analyze the details involved with achieving a specific goal or objective. The second half of the course the student will work in assigned groups of three to five on a service-learning project that integrates many of the areas in Office Technology using the project management software as a tool. A service learning project will culminate in a binder which will include a written report, a project activity (such as the design of a systems or procedure manual for a non-profit business in the community), and a presentation to a group of faculty and pertinent business members from the community.

**THTR101 Introduction to Theater**
Credits: 3      *Offered Fall Semester*
**Prerequisites: None**
An exploration of the expressive powers of theater, with an emphasis on reflection, comparison, and analysis of written and performed dramatic works.

**THTR120 Introduction to Acting I**
Credits: 3      *Offered Spring Semester*
**Prerequisites: None**
Students will work on basic acting skills through group as well as individual acting exercises, hands-on script analysis, and scene study with fellow actors.

**WLDG101 Welding Fundamentals for Auto Tech/Diesel**
Credits: 1
**Prerequisites: None**
This course provides students the basic welding skills needed to adequately and safely make minor repairs to automobiles and diesel powered cars and trucks using the SMAW and GMAW weld processes. Students will also be given instruction on the safe and proper use of an oxy-acetylene cutting torch and plasma cutter.

**WLDG103 Welding Fundamentals for Construction Trades**
Credits: 1
**Prerequisites: None**
This course will instruct students on proper set up and techniques used in the cutting, fitting, and welding of steel studs used in the construction industry. Students will also receive training in the use of a cutting torch as it relates to the construction trade.

# Course Descriptions

**WLDG105 Shop Safety**
Credits: 1
**Prerequisites: None**
Safe work practices are paramount in all aspects of industrial work. Students will receive training in each piece of equipment using manufacturers' safety recommendations. Students will learn to identify and follow safe work practices as well as inspections of power equipment (portable and stationary), hand tools, and also demonstrate the safe and proper use of each tool.

**WLDG112 Cutting Processes**
Credits: 1
**Prerequisites: None**
This course will examine the different cutting processes used in today's welding industry. The cutting processes examined in this course are Oxy Fuel, Plasma Arc, and Carbon Arc cutting. Hands on training will be administered throughout this course to ensure that proper technique and safety measures are met with all above mentioned cutting processes.

**WLDG117 Blueprint Reading and Weld Symbols**
Credits: 3
**Prerequisites: None**
This course covers the basics for understanding the reading of blueprints and shop drawings. The use of AWS welding symbols for blueprint reading is also covered.

**WLDG131 Intro to Layout and Pattern Making**
Credits: 3
**Prerequisites: None**
This course covers fabrication and layout of different types of welding designs, including multi-core elbows, transitions, square to rounds, flanges, and other types of dust and emission control fittings. Students will be required to layout patterns on paper transfer patterns to steel plates and tubing. Use of shear, brake, and roll machines will also be required during this phase of welding.

**WLDG132 Estimation of Job Materials**
Credits: 2
**Prerequisites: None**
This course covers the estimating of material needed to complete a job. With the use of shop drawings, students create a list of the required materials. Steel supply books are used as a reference to calculate weights and then prices. Labor time is then estimated to create a total bid for the project to be completed. This course also includes the use of formulas to measure volume, length, and weights.

**WLDG133 GMAW, FCAW, and GMAW-P**
Credits: 4
**Prerequisites: None**
The course starts with a basic understanding of how the MIG welding processes work, with the concepts of basic electricity, filler metals, and applications. A hands-on welding experience is gained in GMAW, GMAW-Dual Shield, GMAW-P. Using these welding processes in multiple steps, exercises, and welding positions, the student will gain a wide variety of welding knowledge. An American Welding Society certification in GMAW-Dual Shield core wire can be obtained at the end of the course.

**WLDG140 Intro GAS Tungsten Arc Welding (GTAW)-Integrated Lab**
Credits: 3
**Prerequisites: WLDG105, WLDG117, WLDG131, WLDG132, and WLDG133**
In this course, students will be given instruction on using the Gas Tungsten ARC welding (GTAW) process. This course will cover instruction on safety, setup, and proper techniques in welding aluminum, mild steel, and stainless steel. Instruction will also be given on proper setup and uses of spool guns used in industry.

**WLDG151 Shop Practices**
Credits: 4
**Prerequisites: WLDG105, WLDG117, WLDG131, WLDG132, WLDG133, and WLDG140**
This is an ongoing semester course during normally scheduled shop hours. It is intended to match spring semester students with live, practical shop experiences involving subject matter previously covered in other courses. Emphasis will be on productivity.

**WLDG155 Design and Fabrication**
Credits: 4
**Prerequisites: WLDG117, WLDG131, WLDG132, WLDG133, WLDG140, and WLDG180**
This course incorporates all skills learned during the fall semester courses. Students will learn proper identification, care, and use of hand tools used in metal fabrication. Students will be assigned in-shop and live work projects to refine their fabrication and welding skills.

**WLDG160 Rigging for Welders**
Credits: 1
**Prerequisites: None**
This course is designed to provide basic knowledge of rigging procedures. This course will include instruction on how to safely use slings, hitches, rigging hardware, sling stress, hoists, and rigging operations and practices. Students will receive training on how to communicate with hand signals and have the opportunity to operate a six-ton carry deck crane.

# Course Descriptions

**WLDG180 Shielded Metal Arc Welding**
Credits: 4
**Prerequisites: None**
This course starts with a basic understanding of the stick welding process, including the concepts of basic electricity, filler metals, and applications. A hands-on welding experience is gained through multiple steps and exercises, using multiple welding filler metals and welding positions. An American Welding Society certification can be obtained at the end of the course.

**WLDG213 Pipe Welding Lab I**
Credits: 5
**Prerequisites: Completion of Certificate of Applied Science in Welding**
This course provides the student with a thorough technical understanding of preparation and fit-up for welding pipe. Students acquire the necessary skills to perform satisfactory welds on different materials of pipe, in all positions and situations, using SMAW welding process. The student develops the skills necessary to produce quality pipe fitting and welds needed in today's workforce.

**WLDG217 Advanced Blueprint**
Credits: 2
**Prerequisites: Completion of Certificate of Applied Science in Welding**
This course will instruct students how to draw and read sophisticated blueprints using AutoCAD format. Instructions will also include taking general arrangement drawings and breaking down into shop drawings. Students will learn how to properly dimension, detail, and include weld symbols into shop drawings.

**WLDG225 Structural Fabrication**
Credits: 2
**Prerequisites: Completion of Certificate of Applied Science in Welding**
This course is designed to give students the ability to lay out and fabricate various components used in the structural construction of buildings and infrastructure. Students will lay out, drill, and cut to length columns and beams according to blueprint specifications. Instruction will also be given on how to layout and fabricate base plates, gusset supports, and brackets used to support steel structure. In addition, students will fabricate a stairway and adjoining handrail using proper rise and run standards and dimensions.

**WLDG230 Field Welding and Processes**
Credits: 2
**Prerequisites: Completion of Certificate of Applied Science in Welding**
This course is designed to introduce the students into a field welder's environment. The students will become knowledgeable in the different weld applications presented in the field and the welding variables that can occur. In this course the students will learn to properly set up and maintain portable welding power sources, suitcase wire feeders, cutting systems, and other field equipment. Students will be taught safety in the field environment.

**WLDG243 Advanced Metal Fabrication I**
Credits: 6
**Prerequisites: Completion of Certificate of Applied Science in Welding**
Metal Fabrication will focus on the planning and execution of projects using the knowledge and skills already acquired during the first year of the welding program. Students will apply these skills in a shop-like atmosphere working directly with customers, completing repairs, modifications and new construction. With this work the students will prepare blueprints, using hand drawing techniques along with AutoCAD to complete more complicated drawings.

**WLDG244 Advanced Metal Fabrication II**
Credits: 4
**Prerequisites: Completion of Certificate of Applied Science in Welding**
Students will learn to lay out and fabricate various ventilation components found in industrial settings. This course will give students instruction in laying out, cutting and fabricating elbows, square to round, cones, offsets, and laterals. These components will be fabricated using shears, bending breaks, forming rolls, and hydraulic punches. In addition students will weld out and assemble ventilation components according to blueprint specifications.

**WLDG245 Metal Fabrication Design and Construction**
Credits: 5
**Prerequisites: Completion of Certificate of Applied Science in Welding**
This course is designed to challenge students on more complex fabrication and repair job assignments. Students will systematically plan out, order material, and perform repair and fabrication work orders. Students will select the proper welding procedures and processes for each job assignment. Although instructors will oversee the job, students will be challenged to take on a leadership role with less supervision. Students will experience working with others in a team-like atmosphere while accomplishing specific goals.

# Course Descriptions

**WLDG255 CNC Burn Table Programming and Operation**
Credits: 3
**Prerequisites: Completion of Certificate of Applied Science in Welding**
Introduction to computer numerically controlled machines with an emphasis on programming, setup, and use in plasma-cutting burn tables. Students will use the Shop Data Systems HVAC program to create duct work transitions to be cut on the CNC burn table. AutoCad is used to create specialty parts for burn table cutting. As a final step, all parts are programmed through the use of OneCNC programming by the students to prepare the G-codes used by the CNC burn table.

**WLDG265 MSHA Safety Training**
Credits: 1
**Prerequisites: Completion of Certificate of Applied Science in Welding**
A major part of the welding industry involves working in the mining industry. This course will cover required safety rules governing work performed in the mining industry. Upon satisfactory completion of this course, students will be certified to work at mine and quarry sites. In addition, students will receive certification in C.P.R.

**WRIT080 Building Basic Writing Skills**
Credits: 3
**Prerequisites: None**
A review of fundamental writing skills, this course focuses on sentences and paragraphs. Students will develop short compositions that demonstrate control of the conventions of standard written English, sentence structure, and sequence of ideas. Course is offered Pass/No pass.

**WRIT095 Developmental Writing**
Credits: 3
**Prerequisites: A "C-" or higher in WRIT080 or satisfactory placement score**
Developmental Writing provides experience in written expression of ideas in expository prose with emphasis on development of ideas, awareness of audience, structure, and clarity.

**WRIT096 College Writing Lab**
Credits: 1
**Prerequisites: Score of 6 or higher on E-Write test, ACT, or SAT**
This course reviews the basics of good writing. It emphasizes mastering the components of an essay, as well as the conventions of English grammar, usage, and mechanics. WRIT096 may be selected as a co-requisite to WRIT101, in lieu of WRIT095, by students who score a 6 or higher on the E-Write, ACT, or SAT writing tests.

**WRIT101 College Writing I**
Credits: 3
**Prerequisites: A "C-" or higher in WRIT095 or satisfactory placement score**
This course provides experience in written expression of ideas in expository prose with emphasis on the development of ideas, awareness of audience, structure, and clarity.

**WRIT104T Workplace Communication**
Credits: 2          *Offered Spring Semester*
**Prerequisites: None**
An introduction to the basic demands of written communication in the workplace. Emphasis on the elements of and strategies for effective communication in typical written formats, with particular attention paid to job applications, job inquiry letters, resumes, and interviews.

**WRIT121T Introduction to Technical Writing**
Credits: 3
**Prerequisite: A "C-" or higher in WRIT095 or satisfactory placement score**
Experience in communication formats typical of technical careers. Emphasis on writing as the craft of the critical thinker, involving analysis of audience, context, and purpose, as well as the ability to locate, synthesize, analyze, organize, and present information effectively.

**WRIT201 College Writing II**
Credits: 3
**Prerequisites: A "C-" or higher in WRIT101**
Continued experience in written expression of ideas in expository prose with an emphasis on critical response, argumentation, and research. Areas of study include research methods, evaluating source materials, and formal documentation, critical review and evaluation, and presenting logical, coherent, and forceful arguments.

**WRIT210 Scientific Report Writing**
Credits: 3          *Offered Occasionally*
**Prerequisites: A "C-" or higher in WRIT101 or WRIT121T**
This course provides students with the tools to write effective research documents and other documents in the scientific and industrial fields. Topics include the challenges of scientific writing and other workplace writing, summary writing, identifying and correcting common writing problems, completing governmental agency forms, and revising documents for maximum effectiveness. This course will also examine how audience influences a document's style, format, and content.

# Tools

Automotive Technology
Aviation Technology
Carpentry and Construction Technology
Diesel Technology
Computer Aided Manufacturing and Machine Tool Technology

# Tools

Tools are <u>*required*</u> by each student entering Automotive, Aviation Maintenance, Carpentry and Construction, Diesel, Computer Aided Manufacturing and Machine Tool, and Welding Technology programs. Except for students in Carpentry and Construction, students are also required to purchase school-approved coveralls and red rags for use in the shops and are responsible for the cleaning fee each semester.

## Ordering Procedure

Students do not purchase tools through the College. Tool vendors will be available at the College at the beginning of each semester for students who wish to place orders. These tools are sold by the vendors at an educational discount. **Tool costs vary depending on the vendor; approximates are average costs.** Tools may take several weeks to arrive, and vendors will not deliver without full payment. A commitment sheet in writing from your vendor on the latest possible delivery date is advised before ordering.

### Automotive Technology Tool Set
$1,500 - $2,800 (Approximately)

1. Tool Chest Roll Cabinet (with lock), 5 drawer minimum
2. 1/2 Drive Breaker bar
3. 1/4 Drive Metric Sockets, Shallow 4mm to 15 mm; 13 pc.
4. 1/2 Drive Metric Sockets, Shallow 12 mm to 24 mm
5. 3/8 Metric Sockets, Deep and Shallow  8 mm to 19 mm
6. 1/2 Drive Standard Sockets, Shallow 1/2 to 1-1/8
7. 1/4 Drive Standard Sockets, Deep and Shallow; 3/16 to 9/16 20 pc.
8. 3/8 Standard Sockets, Deep and Shallow 1/4 to 7/8 22 pc.
9. 5/8 and 13/16 Spark Plug Sockets
10. Torx Sockets T8 to T55 11 pc. set
11. 1/2 Drive Ratchet
12. 1/4 Drive Ratchet
13. 3/8 Flex Head Ratchet
14. 3/8 Ratchet
15. 1/2 Drive Extensions 5", 11"
16. 1/4 Drive Extensions 2", 4", 6"
17. 3/8 Drive Extensions 1", 3", 6", 11"
18. 1/4 Drive Screwdriver Style Handle
19. Adapters 3/8" to 1/4"; 3/8" to 1/2"; 1/2" to 3/8"
20. Universals 1/4", 3/8"
21. Standard Wrenches 3/8" to 1"
22. Metric Wrenches 8 mm to 19 mm
23. Standard Flare Nut Wrenches 1/4" to 13/16"
24. Metric Flare Nut Wrenches 8 mm to 21 mm
25. Standard Allen Wrenches
26. Metric Allen Wrenches
27. 12" Adjustable Wrench
28. 8 pc. Screwdriver Set
29. Ratchet Type Screwdriver
30. 6" Needle Nose pliers
31. 8" Needle Nose pliers
32. 7" Side Cutters
33. 7" Conventional Pliers [common]
34. Stiff Bladed Putty Knife
35. 10" Slip Joint Pliers [waterpump]
36. Battery Service Pliers
37. Side Post Battery Wrench and Wire Brush
38. Top Post Battery Brush
39. Reversible Snap Ring Pliers
40. 10" Vise Grip Type Pliers
41. Wire Stripper Cutters 10-20 ga. wire
42. 10 pc. Punch and Chisel set
43. 16 oz. Ball Peen Hammer
44. 32 oz. Ball Peen or Engineer Type Hammer
45. 16 oz. Dead Blow Soft Face Hammer
46. Hacksaw
47. Wire Brush
48. Flashlight
49. 12' Tape Measure
50. Circuit Tester
51. Radiator Hose Removal Tool
52. 4 pc. Seal Pick Set
53. 16" Rolling Head [Heel] Bar
54. Inspection Mirror
55. Magnetic Retrieval Tool
56. Carbon Gasket Scraper
57. Ignition Gauge Set [Short Blade .010 through .035]
58. Feeler Gauge Set .0015 through .025
59. Wire Gap Gauge .044 through .080
60. Spark Plug Gap Gauge [Taper]
61. Safety Goggles
62. Blow Gun
63. Fluorescent Tube Trouble Light with Accessory Plug, 25 ft. cord, minimum
64. 6" Precision Steel Rule with Metric Scales

### Aviation Maintenance Technology Tool Set
$800 (Approximately)

*The following are the **minimum** number of tools required for aviation maintenance students to complete **the first and second semester** shop and course work. These tools are not provided by the school.  Third and Fourth Semester tool list will be provided in the first year, approximately an additional $600 minimum.*

1. Safety Glasses
2. Safety Goggles
3. Hearing Protection (Muff type)
4. Mechanics Gloves
5. Flashlight
6. Inspection Mirror
7. Digital Multimeter universal adapter
8. Wire strippers
9. Wire crimpers
10. Screw Driver Set (Flat blade and Phillips Head)
11. 6" steel machinists rule
12. 10X Jewelers Loupe
13. Drawing Tools
    a. Drafting Compass
    b. French Curve Set
    c. 12" ruler
    d. ¼" Graph paper
    e. Mechanical Pencils
    f. Eraser
    g. Sharpie Markers
    h. Protractor
15. OSHA Approved Respirator w/Organic Vapor Cartridge
16. Side Cutters
17. Pliers set (needle nose, straight jaw, channel lock, duckbill)
18. Box end/open end wrench set 5/16" to 1" including 11/32"
19. 3/8" drive 6pt socket set with ratchet and extensions
20. 1/4" drive 12pt socket set with ratchet, extensions and
21. Standard Allen Wrench Set (Hex Key)
22. Tool box or tool bag (lockable)
23. Hacksaw with spare blades
24. Automatic Center Punch
25. 1/4" drive Speed Handle
26. 1/4" drive Bit Adapter
27. Screw driver bits with extra #2 Phillips bits

# Tools

## Carpentry and Construction Technology Tool Set
*Interior Design students not required to purchase tool set.*
$700 (Approximately)

1. Steel Tape, 1" x 25' (minimum size)
2. Steel Tape, 100'
3. Chalk Line Reel, 100'
4. Rafter Square (Optional)
5. Speed Square
6. Sliding T Bevel
7. Torpedo Level
8. 4' Level (Optional)
9. 4-in-hand file
10. Screwdriver (both Phillips and Straight)
11. Nail Claw, 10"
12. Ripping Bar
13. Utility Knife
14. Nail Sets, 1/32", 1/16", 3/32"
15. Wood Chisel Sets, 1/4", 1/2", 3/4" (Optional)
16. Adjustable Wrench, 8"
17. Nail Apron
18. Framing Hammer, 22 oz
19. Drill Set 1/16" to 1/2" (Optional)
20. Approved Safety Glasses
21. Approved Hard Hat and Liner
22. Wonder Bar (Optional)
23. Tin Snips (Optional)
24. Side-cutting Pliers
25. Approved Respirator

*Power Tools*

26. 7 1/4" Arbor Power Skill Saw
27. 3/8" Variable Speed Drill (Optional)
28. Carbide Blade (7 1/2" Saw Blade)
29. 50' Extension Cord (Optional)
30. Cordless Drill/Driver Kit (Optional)
31. Contractor's Calculator

## Diesel Technology Tool Set
$3,000 - $4,000 (Approximately)

1. Roll Cabinet Tool Box, 7 drawer minimum
2. 1/2 Drive Breaker bar
3. 1/4 Drive Metric Sockets, Shallow 4mm to 15 mm; 13 pc.
4. 3/8 Metric Sockets, Deep and Shallow 8 mm to 19 mm
5. 1/2 Drive Standard Sockets, Shallow 1/2 to 1-1/8
6. 1/4 Drive Standard Sockets, Deep and Shallow; 3/16 to 9/16 20 pc.
7. 3/8 Standard Sockets, Deep and Shallow 1/4 to 7/8 22 pc.
8. 5/8 and 13/16 Spark Plug Sockets
9. Torx Sockets T8 to T55 11 pc. set
10. 1/2 Drive Ratchet
11. 1/4 Drive Ratchet
12. 3/8 Flex Head Ratchet
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14. 1/2 Drive Extensions 5", 11"
15. 1/4 Drive Extensions 2", 4", 6"
16. 3/8 Drive Extensions 1", 3", 6", 11"
17. 1/4 Drive Screwdriver Style Handle
18. 1/2 Drive Standard Impact Shallow; 3/8 to 1"
19. 1/2 Drive Metric Impact Shallow; 10-24MM
20. 1/2 Drive Air Impact
21. 3/8 Drive Torque Wrench; 5-75 ft lbs
22. Adapters 3/8" to 1/4"; 3/8" to 1/2"; 1/2" to 3/8"
23. Universals 1/4", 3/8"
24. Standard Wrenches 3/8" to 1"
25. Metric Wrenches 10 mm to 19 mm
26. Standard Flare Nut Wrenches 1/4" to 13/16"
27. Standard Allen Wrenches
28. Metric Allen Wrenches
29. 12" Adjustable Wrench
30. 8 pc. Screwdriver Set
31. Ratchet Type Screwdriver
32. 6" Needle Nose pliers
33. 8" Needle Nose pliers
34. 7" Side Cutters
35. 7" Conventional Pliers [common]
36. Stiff Bladed Putty Knife
37. 10" Slip Joint Pliers [waterpump]
38. Battery Service Pliers
39. Side Post Battery Wrench and Wire Brush
40. Top Post Battery Brush
41. Reversible Snap Ring Pliers
42. 10" Vise Grip Type Pliers
43. Wire Stripper Cutters 10-20 ga. wire
44. 10 pc. Punch and Chisel set
45. 16 oz. Ball Peen Hammer
46. 16 oz. Dead Blow Soft Face Hammer
47. Hacksaw
48. Wire Brush
49. Flashlight
50. 12' Tape Measure
51. Circuit Tester
52. Radiator Hose Removal Tool
53. 48oz Stubby Sledge Hammer
54. 20" Bearing Race Punch
55. Florescent Drop Light; 25 ft minimum
56. 24" Screwdriver Style Prybar
57. 4 pc. Seal Pick Set
58. 16" Rolling Head [Heel] Bar
59. Inspection Mirror
60. Magnetic Retrieval Tool
61. Carbon Gasket Scraper
62. Ignition Gauge Set [Short Blade .010 through .035]
63. Feeler Gauge Set .0015 through .025
64. Wire Gap Gauge .044 through .080
65. Spark Plug Gap Gauge [Taper]
66. Safety Goggles
67. Blow Gun

# Tools

## Computer Aided Manufacturing and Machine Tool Technology Tool Set
### $1,200 (Approximately)

1. Allen Wrenches
2. Dead Blow Hammer – 1 pound
3. Center Punch Set
4. Transfer Punches
5. 4 pc. Combination Square
6. Double End Edge/Center Finder
7. Carbide Scribe
8. 6" Rigid Scale, 32nds and 64ths one side/100ths on flip side
9. 6" Flex Scale, 32nds and 64ths one side/100ths on flip side
10. Thread Wire Set
11. Pitch Gauges, Inch and Metric
12. Acme Thread Gauge
13. File Set with Handles
14. File Brush
15. Indicol Universal Indicator Holder and Test Dial Indicator
16. Tool bag from Lowes
17. Clamp Set for Mills

18. Drills, Fractional, Letters, Numbers
19. H.S.S. Drill Set – 1/16", 1/2", by 1/6"
20. 1" Indicator Dial
21. 2" Indicator Dial
22. Magnetic Base
23. Mighty Mag Base (Magnetic)
24. De-burring Tool
25. Pocket Flashlight
26. Screwdriver Set
27. Standard Set Combo Wrenches 3/8" – 1"
28. 16' Measuring Tape
29. 3-piece Snap Gauges
30. 1/4" Die Grinder
31. One set of Parallels
32. Carbide Insert Holders - RH Turning and Threading
33. Carbide Inserts - 1 Threading; 1 Turning; 1 Grooving

*OPTIONAL*
1. 12" Dial Calipers
2. 0" - 6" Micrometers
3. 0" - 6" Depth Micrometers
4. 2" - 12" Inside Micrometers
5. Sine Bar
6. Gauge Block Set

*Second Year (approximately an additional $500)*
1. Test Dial Indicator .0005 res
2. Set 1-2-3 Blocks
3. Set V-Blocks
4. 6" Calipers

## Welding Technology Tool Set
### $550 (Approximately)

**TOOLS:**
1. Welding Hood – Standard with 9-11 shade or Auto*
2. Cutting Goggles - #5 Shade*
3. Chipping Hammer*
4. Friction Light (striker)*
5. Tip Cleaner*
6. Wire Brush (stainless steel)*
7. 8" slip joint pliers*
8. MIG Pliers*
9. Cleaning Picks*
10. Phillips and Flathead Screwdrivers
11. Standard Allen Wrench Set
12. Roll of Electrical Tape
13. Small flashlight*

14. 10" crescent wrench*
15. 25' tape measure
16. Soap stone holder with soap stone
17. Scribe with magnet on end
18. Center Punch
19. Combination/Tri-square 12"
20. Construction Calculator
21. 4 1/2 inch grinder*
22. Ball Peen Hammer
23. Open End Wrench Set up to 3/4"
24. 10" Dividers
25. Small drafting kit complete with 60° and 45° triangles (the larger the better

*Please note: Most tools are available through the Helena College Parts Department located at the Airport Campus.*

*indicates tools needed immediately

**SAFETY EQUIPMENT (Required every day at the start of class):**
1. Carhartt pant/bibs/or coveralls
2. Welding shirt/jacket
3. Leather boots (steel toe)
4. Welding cap
5. Leather gloves
6. Safety glasses

# Montana University System

# Montana University System

| | |
|---|---|
| **The University of Montana - Missoula**<br>Dr. Royce Engstrom, President | **Montana State University-Bozeman**<br>Dr. Waded Cruzado, President |
| **Montana Tech**<br>Dr. Donald Blackketter, Chancellor | **Montana State University-Billings**<br>Dr. Rolf Groseth, Chancellor |
| **UM-Western**<br>Dr. Richard Storey, Chancellor | **Montana State University-Northern**<br>Dr. James Limbaugh, Chancellor |
| **UM-Missoula College of Technology**<br>Dr. Barry Good, Dean/CEO | **MSU-Billings College of Technology**<br>Dr. Marsha Riley, Dean |
| **Helena College University of Montana**<br>Dr. Daniel J. Bingham, Dean/CEO | **MSU College of Technology-Great Falls**<br>Dr. Susan Wolff, Dean/CEO |
| **Dawson Community College - Glendive** | **Flathead Valley Community College-Kalispell**<br>Dr. Jane Kara, President |

**Miles Community College - Miles City**

# Helena College Administrators, Faculty, Staff

Administrator Profiles
Faculty Profiles
Staff Profiles

# Helena College University of Montana

## Administrator Profiles

**Dr. Daniel J. Bingham, Dean/CEO**
Ph.D., The University of Texas; M.Ed., B.S., Northern Arizona University
Twenty years technical instruction and administrative leadership
At Helena College since July 2005


**Russell K. Fillner, Assistant Dean/Fiscal and Plant**
B.S., Montana State University, Certified Public Accountant,
Twenty-one years accounting experience; Five years administrative experience
At Helena College since August 2004


**Elizabeth Stearns Sims, Assistant Dean/Student Services**
B.A., Psychology and Sociology, Marlboro College
M.S., Education, University of Wyoming
Ed.D., Adult and Post-Secondary Education, University of Wyoming
At Helena College since June 2012


## Division Chair / Program Director Profiles

**Tia Kelley**
**Division Chair of General Education**
B.S., Northwest Missouri State University
M.B.A., Southeastern Oklahoma State University
At Helena College since January 2012


**Sandy Sacry**
**Nursing Program Director**
RN, Independence Sanitarium and Hospital
B.A., Graceland University
M.S.N., University of Phoenix
At Helena College since Summer 2008


**Mike Wiederhold**
**Interim Trades Division Chair**
A.A.S., University of Montana - Helena
At Helena College since Spring 2011

# Faculty Profiles

**Burke, Tammy**
*General Education - A&P/Nutrition*
B.S., University of Wyoming
M.S., University of Wyoming
At Helena College since Fall 2010

**Campana, Janet**
*Nursing*
B.S.N., Viterbo College
M.S.N., Syracuse University
At Helena College since Summer 2012

**Ceartin, Mike**
*Construction Technology*
At Helena College since Spring 2003

**Coon, Emmett**
*Electronics Technology*
A.S., Northern Montana College
A+, CCNA, CCAI
U.S. Air Force
Army National Guard
At Helena College since Fall 1996

**Cronin, Mike**
*General Education - Literature and Writing*
B.A., Carroll College
M.A., University of Montana
At Helena College since Fall 2000

**Dumas, Tod**
*Aviation Maintenance Technology*
Airframe and Powerplant License
At Helena College since Fall 2008

**Gibson, Rebecca**
*Nursing*
Practical Nursing Missoula Vo-Tech
B.A.N, Nursing Carroll College
At Helena College since Summer 2012

**Hartman, John**
*General Education - Chemistry*
B.S., Saint John's University
Ph.D., Montana State University
At Helena College since Fall 2009

**Harris, Tim**
*Metals - Welding Technology*
U.S. Navy
Journeyman Welding Certification
At Helena College since Fall 2002

**Haughee, Kim**
*General Education - Mathematics*
B.A., Central Washington University
M.S.T., Portland State University
At Helena College since Fall 2006

**Henderson, Karen**
*General Education - Developmental Writing Instructor*
B.A., Montana State University
M.A., Montana State University
At Helena College since Spring 2012

**Henry, Rick**
*General Education - Life Science Instructor*
M.S., University of Nebraska - Kearny
At Helena College since Fall of 2011

**Jones, Dave**
*Automotive Technology*
ASE Master Certified Technician
B.T., Northern Montana College
M.S., Montana State University - Northern
At Helena College since Fall 1994

**Kelly, Harold**
*Construction Technology*
B.S., Western Montana College
At Helena College since Fall 1998

**Kiesling, Robyn**
*Office Technology*
B.S., Montana State University - Billings
At Helena College since Spring 2012

**Kruger, Karl**
*Aviation Maintenance Technology*
A.A.S., Nashville State Community College
Airframe and Powerplant License with Inspection
Authorization
Private Pilot License
U.S. Army/Army National Guard
Montana Air National Guard
At Helena College since Fall 2007

**Leland, Mark**
*Construction Technology Instructor*
B.A., Montana State University
At Helena College since Spring 2012

**Lewis, Steve**
*General Education - Literature and Writing*
B.A., Bates College
M.A., Florida Atlantic University
At Helena College since Spring 2007

**Lovell, Elyse**
*General Education - Psychology Instructor*
B.A., University of Central Oklahoma
M.A., University of Central Oklahoma
Ed.D., Montana State University
At Helena College since Spring 2012

*\*Alumni*

# Faculty Profiles

**Martin, Marcy**
*General Education - Technical Math Instructor*
B.S., University of Arkansas Little Rock
M.S., University of Arkansas Little Rock
At Helena College since Fall 2009

**More, Jim**
*Construction Technology*
B.A., Montana State University
M.S., Montana State University - Northern
At Helena College since Fall 2011

**Moyer, Matthew**
*Machine Tool Instructor*
A.S. M. E. Tech; Penn State
At Helena College since Summer 2012

**Munn, Nathan**
*General Education - Psychology*
B.A., Seattle Pacific University
M.D., University of Washington
At Helena College since Fall 2004

**Purcell, Rick**
*Diesel Technology*
A.O.S., Universal Technical Institute
At Helena College since Fall 2008

**Raphael-Conley, Karen**
*Interior Space Planning and Design*
B.A., CSULB
M.A., CSULB
NCIDQ# 6808
At Helena College since Fall 2007

**Scott, Shaun**
*Computer Technology*
A.S., University of Montana - Western
B.S., University of Montana - Western
M.Ed, University of Montana
Ed.D., University of Montana
At Helena College since Fall 2009

**Shchuchinov, Viktor**
*General Education - Mathematics*
M.S., Moscow Institute of Physics and Technology
State University
Ph.D., Central Research Institute of Machine
Building Russian Space Agency
At Helena College since Fall 1997

**Slocum, Seth**
*Metals - Welding Technology*
At Helena College since Fall 2008

**Sonnenberg, George, CPA**
*Accounting and Business Technology*
B.B.A., Texas State University
Master of Tax, Baylor University
At Helena College since Fall 2007

**Steinwand, Bryon**
*Computer Technology*
B.S., Montana State University
At Helena College since Fall 2001

**Walborn, Joyce**
*General Education - Mathematics*
B.S., University of Washington
M.Ed., University of Montana
At Helena College since Fall 2005

**Warner, Arthur***
*Metals - Machine Tool Technology*
A.A.S., Helena College
At Helena College since Fall 1989

**Williams, Karmen**
*Nursing Program*
B.S.N., University of Wyoming
M.S.N., Walden University
At Helena College since Fall 2000

**Yahvah, Barbara**
*Accounting and Business Technology*
B.A., Carroll College
M.B.A., University of Montana
At Helena College since Fall 1994

**Zeigler, Glen***
*Metals - Welding Technology*
C.A.S, Helena College
At Helena College since Fall 2009

**Zimmerman, Joe**
*Instructor-Automotive*
A.A.S., Ferris State University
At Helena College since Fall 2011

*\*Alumni*

# Staff Profiles

**Adams, Julie**
*Administrative Associate - Continuing Education*
B.S., Utah State University
At Helena College since Spring 2012

**Bennett, Josh**
*Retail Services Manager*
At Helena College since Fall 2010

**Biller, Ernest**
*Director of Disability and Veterans Resources*
Ph.D, Southern Illinois University - Carbondale
M.S., Southern Illinois University - Carbondale
B.S., Southern Illinois University - Carbondale
At Helena College since Spring 2013

**Block, Jeff***
*Director of Information Technology*
A.A.S., Helena College
At Helena College since Fall 2000

**Bright, Tina***
*Business Office - Accounts Payable*
A.A.S., Helena College
At Helena College since Summer 1986

**Britt, Joe**
*Food Services*
At Helena College since Spring 2004

**Brown, Michael**
*Director of Institutional Research*
B.A., California State University - Fullerton
M.A., California State University - Fullerton
At Helena College since Summer 2006

**Caron, Richard**
*Academic Advisor*
B.A., University of Montana
M.Ed., Northern Arizona University
At Helena College since Fall 2012

**Clinard, Jan**
*Director, College Readiness Programs*
B.A., Montana State University
M.Ed., University of Montana
Ed.D, University of Montana
At Helena College since Fall 2011

**Conard, Wyatt***
*Maintenance*
A.A.S., Helena College
At Helena College since Fall 2008

**Cooley, Samantha**
*Administrative Assistant - Nursing*
At Helena College since Spring 2010

**Curtin, Valerie**
*Director of Financial Aid*
B.A., Carroll College
At Helena College since Summer 2008

**Dallas, Cindy**
*Administrative Associate - Airport Campus*
At Helena College since Spring 2013

**Dellwo, Sarah**
*Director of Admissions and Records*
B.S., Montana State University
At Helena College since Fall 2004

**Durrant, Dauneen***
*Program Assistant - TRiO Program*
A.A.S., Helena College
Certificate, Helena College
At Helena College since Spring 2011

**Dubbe, Della**
*Director of Library Services*
B.A., Ohio Wesleyan University
M.A., University of South Carolina
Montana State Library Certification in Administration
At Helena College since Summer 2012

**Engelking, Doug**
*Parts Manager*
At Helena College since Fall 1989

**Frankforter, Gary**
*Director of Facilities*
National Institute for the Uniform Licensing of
Power Engineers, Inc.
Third Class Power Engineer ESCO Institute, EPA
Certified Universal HVAC Technician
At Helena College since Spring 2010

**George, Mary Ann**
*Library Assistant*
BSEd., St. John's University - New York
MSEd., St. John's University - New York
At Helena College since Fall 2005

**Gifreda, Laura***
*Cashier*
A.A.S., Helena College
At Helena College since Summer 2005

**Haun, Terri**
*Academic Advisor - TRiO Program*
B.A., Montana State University
M.ACCT., University of Montana
At Helena College since Spring 2009

*\*Alumni*

# Staff Profiles

**Hern, Jennifer**
*Lead Barista*
At Helena College since Spring 2011

**Hunger, Suzanne**
*Director of Retention/Advising*
B.A., Beloit College
M.A., University of Delaware
At Helena College since Fall 2002

**Johnson, Joanne**
*Bookstore*
At Helena College since Spring 1991

**Kaiser, Shelly\***
*Information Technology*
A.A.S., Helena College
At Helena College since Summer 1998

**Karr, Elizabeth**
*Librarian*
B.A., Loyola Marymount University
M.A., San Jose State University
At Helena College since Summer 2012

**King, Brett**
*Registrar's Office*
B.A., University of Montana
At Helena College since Fall 2010

**Kirkland, Maren**
*Admissions Evaluator*
B.A., University of Montana - Western
At Helena College since Spring 2011

**Knapstad, Roger**
*Maintenance*
At Helena College since Fall 2001

**LaMere, Toby\***
*Custodian*
A.S., Industrial Electronics, Helena College
At Helena College since Fall 2012

**Lannert, Mary**
*Director of Continuing Education*
B.S., University of Wisconsin - Stout
At Helena College since Spring 2007

**Loomis, Ryan**
*Admissions Counselor*
B.S., University of Montana
At Helena College since Spring 2013

**Marston, Summer**
*Administrative Associate to the Dean/CEO*
A.A., Miles Community College
At Helena College since Spring 2013

**Martin, Leah**
*Interim Director of Human Resources*
B.S.L.S, Montana State University - Billings
At Helena College since Spring 2011

**Matson, Christopher**
*Water Resources and Geoscience Program Coordinator*
*Geology Instructor*
B.A., University of Montana
B.Sc., University of Montana
M.Sc., University of Calgary
At Helena College since Fall 2012

**May, Kendall**
*Director of TRiO Student Support Services*
B.A., University of Mississippi
M.P.A., University of Montana
At Helena College since Fall 2008

**McAlmond, Barb**
*Marketing and Communication Coordinator*
At Helena College since Fall 2008

**Miller, Candice J**
*Administrative Associate - ALCC*
At Helena College since Fall 2011

**Nason, Nick**
*Maintenance*
At Helena College since Spring 2000

**Novak, Renee**
*Scholarship and Work Study Coordinator*
B.S., Montana State University - Billings
At Helena College since Spring 2011

**Odermann, Rick\***
*Information Technology*
A.A.S., Helena College
At Helena College since Summer 2010

**Osborne, Valarie**
*Financial Aid*
At Helena College since Fall 2010

**Robson, Kelly\***
*Accounting Associate-Business Office*
A.A.S. Helena College
At Helena College since Spring 2011

**Rogers, Tony**
**Maintenance**
At Helena College since Spring 2012

*\*Alumni*

# Staff Profiles

**Rung, Randy**
*Custodian*
At Helena College since Spring 2010

**Sawatzki, Phillip**
*Lab Technician*
A.S., Kalamazoo Valley Community College
B.S., Western Michigan University
M.S., Western Michigan University
At Helena College since Summer of 2012

**Sayler, Amanda**
*Assistant Registrar*
B.A., University of Montana
At Helena College since Fall 2011

**Schade, Jennifer**
*Administrative Associate to the Academic Dean*
At Helena College since Spring 2009

**Siler, Judy**
*Director of Online Learning*
B.A., University of North Carolina at Pembroke
M.A., Nova Southeastern University - Fischler Graduate School
At Helena College since Spring 2013

**Steckler, Tammy**
*Veteran Services Program Coordinator*
B.A., Carroll College
At Helena College since Summer 2004

**Stergar, Christy**
*Program Coordinator - Continuing Education*
B.F.A., Montana State University
At Helena College since Fall 2009

**Straw, Danny***
*Information Technology*
A.A.S., Helena College
At Helena College since Fall 2007

**Thompson, Alan**
*Career Services*
B.A., University of Montana
M.A., University of Nebraska - Lincoln
At Helena College since Fall 2006

**Twardos, Mary**
*Administrative Associate - Enrollment Services*
At Helena College since Spring 2012

**Wunderwald, Tim***
*Information Technology*
A.A.S., Helena College
At Helena College since Fall 2011

**Young, Alice***
*Accounting Associate*
A.A.S., Helena College
At Helena College since Fall of 2009

*\*Alumni*

# Notice Concerning Materials In This Catalog

Helena College's budget is funded through appropriations from the Montana State Legislature and student tuition. It should be understood, therefore, that not all programs described in this catalog may be available because of funding variations. Representations are neither made nor implied that courses or programs available in any given semester will be continued or maintained in subsequent semesters.

While the College will make every effort to provide described courses and programs, the final decision as to their availability rests with the Board of Regents and will be determined by available funds and by the needs of the school.

All provisions within this catalog are subject to change without notice.

Pursuant to Title VI and VII of the Civil Rights Act, Title IX of the Education Amendments, Section 504 of the Rehabilitation Act, Executive Order 11246, the Vietnam Veteran's Readjustment Act, and the Montana State Human Rights Act, Helena College announces that it does not discriminate in admission, access to, or conduct of its education programs and activities, nor in its employment policies, on the basis of: race, sex, color, national origin, religion, age, marital or parental status, physical handicap, or mental handicap.

As required by Title IX and Section 504, Helena College shall afford any student, employee, or applicant for admission or employment, the right to file a grievance on grounds of discrimination.

Correspondence should be directed to Human Resource Department, 1115 N. Roberts Street, Helena, MT 59601. (406) 447-6900.


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