

# City College at Montana State University Billings

3803 Central Avenue  
Billings, Montana 59102  
(406) 247-3000

[www.citycollege.msubillings.edu](http://www.citycollege.msubillings.edu)

## 2016-2017 Catalog Table of Contents

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### Visiting City College

You are encouraged to visit City College at MSU Billings for a tour of individual programs of interest and of the College's facilities. Jacket Student Central is available to assist you with tours.

Arrangements can be made by calling (406) 247-3000.

### We are here to help and serve you

We look forward to helping you make those important decisions about your future career and the programs that will provide you with the best education for that career. Please feel free to call, stop by, or visit our website

[www.citycollege.msubillings.edu](http://www.citycollege.msubillings.edu)

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## Student Services and Facilities Frequently Used Phone Numbers

*All numbers area code 406*

	City College Campus	University Campus 1500 University Drive
Admissions.....	247-3012.....	657-2158
Academic Support Center .....	247-3022.....	657-1641
Advising.....	247-3019.....	657-2240
American Indian Outreach.....		657-2182
Diversity Center .....		896-5902
Athletics .....		657-2369
Jackets & Company West.....	247-3031.....	657-2121
Jacket Student Central.....	247-3000	
Campus Security .....		657-2147
Career Services .....	247-3006.....	657-2168
Cashier .....	247-3002.....	657-1709
Disability Support Services.....	247-3029.....	657-2283
Financial Aid.....		657-2188
Health Services .....	247-3027.....	657-2153
Housing and Residential Life.....		657-2333
Job Locator (Placement Services).....	247-3006.....	657-1618
Library/Testing .....	247-3025.....	657-2320
New Student & Retention Services.....	247-3007.....	657-2888
Office for Community Involvement .....		895-5820
Operator .....	247-3000.....	657-2011
Physical Education Building.....		657-2370
Prior Learning Assessment .....		657-1747
Recreational Activities.....		657-2881
Retention Office.....	247-3017	
Student Union & Activities.....		657-2387

# University Calendar

## Fall Semester 2016

Residence Halls Open.....	Sunday, September 4
Labor Day Offices Closed .....	Monday, September 5
Classes Begin.....	Wednesday, September 7
Late Registration Fee Applies (\$40.00).....	Friday, September 9

**Students who have not completed fee payment or signed a fee statement before Friday, September 9 may be disenrolled from classes and required to re-register.**

Last Day for Registering/Adding Classes.....	Thursday, September 15
Last Day for Withdrawing/Dropping Classes with a Partial Refund .....	Tuesday, September 27
Columbus Day CLASSES IN SESSION OFFICES OPEN (Exchanged for Friday, Nov 25).....	Monday, October 10
Last Day to Drop Classes Without Instructor Permission (No Refund) .....	Tuesday, October 25
Registration for Spring Semester 2017 Begins .....	Monday, November 7
Election Day NO CLASSES OFFICES CLOSED .....	Tuesday, November 8
Veterans Day NO CLASSES OFFICES CLOSED .....	Friday, November 11
Last Day to Apply to Graduate Spring Semester 2017 .....	Friday, November 18
Last Day to Apply to Graduate Summer Semester 2017 (attending ceremony) .....	Friday, November 18
Last Day to Drop a Class with Approval of Advisor and Course Instructor .....	Tuesday, November 22
Thanksgiving Holiday NO CLASSES (Offices Open Nov 23) ...	Wednesday, November 23 thru Sunday, November 27
Final Exam Week .....	Monday, December 12 thru Thursday, December 15
Final Day to Withdraw from Fall 2016 (all classes, no refund).....	Thursday, December 15
Semester Ends .....	Thursday, December 15
Residence Halls Close .....	Friday, December 16
Grades Due in the Registrar's Office.....	12 noon, Wednesday, December 21

## Spring Semester 2017

Residence Halls Open.....	Sunday, January 15
Martin Luther King Day NO CLASSES OFFICES CLOSED .....	Monday, January 16
Classes Begin.....	Wednesday, January 18
Late Registration Fee Applies (\$40.00).....	Friday, January 20

**Students who have not completed fee payment or signed a fee statement before Friday, January 20 may be disenrolled from classes and required to re-register.**

Last Day for Registering/Adding Classes.....	Thursday, January 26
Last Day for Withdrawing/Dropping Classes with a Partial Refund .....	Tuesday, February 7
Presidents' Day NO CLASSES OFFICES CLOSED.....	Monday, February 20
Registration for Summer Session 2017 Begins .....	Tuesday, February 21
Spring Break NO CLASSES OFFICES OPEN .....	Saturday, March 4 thru Sunday, March 12
Registration for Fall Semester 2017 Begins .....	Monday, March 13
Last Day to Drop Classes Without Instructor Permission (No Refund) .....	Wednesday, March 15
Last Day to Apply to Graduate Fall Semester 2017 .....	Friday, March 24
Last Day to Apply to Graduate Summer Semester 2017 (NOT attending ceremony) .....	Friday, March 24
Last Day to Drop a Class with Approval of Advisor and Course Instructor .....	Tuesday, April 11
Spring Mini Break NO CLASSES OFFICES OPEN .....	Thursday, April 13 thru Sunday, April 16
University Day NO CLASSES OFFICES OPEN.....	Friday, April 28
Final Exam Week .....	Monday, May 1 thru Thursday, May 4
Final Day to Withdraw from Spring 2017 (all classes, no refund) .....	Thursday, May 4
Semester Ends .....	Thursday, May 4
Residence Halls Close .....	12 noon, Friday, May 5
Commencement.....	Saturday, May 6
Grades Due in the Registrar's Office.....	12 noon, Wednesday, May 10

## **Summer Session 2017**

*Schedule to be announced.*

## **Fall Semester 2017**

*Schedule to be announced.*

## **Spring Semester 2018**

*Schedule to be announced.*

# ACCESSIBILITY DATA

## For Individual Buildings on Campus

Building	General Accessibility						Restroom Facilities			
	Entrance ramped on ground level	Automatic entrance doors	Number of accessible floors	Stairs non-skid	Interior ramps available	ELEVATORS P=Passenger; F=Freight; *=Braille labels	Restroom designed for wheelchair	Entrance door width = 32"	Wall accessories below 40"/A	Access to showers and tubs
Apsaruke	yes	yes	3	yes	yes/F	P*	yes	yes	yes	
Art Annex	yes	yes	1		no		yes	yes	yes	
Cisel Hall	yes	yes	4	yes	yes	P*	yes/B	yes	yes	
College of Business (McDonald Hall)	yes	yes	3		yes	P*	yes/F	yes	yes	
College of Education	yes	yes	4	yes	no	P*	yes	yes	yes	
City College Tech Building	yes	yes	2		yes	P*	yes	yes	yes	
City College Health Sciences Building	yes	yes	2	yes	no	P*	yes	yes	no	
Facilities Services	yes		1				yes	yes	yes	
Family Housing	yes	no	1				yes	yes	yes	yes
Liberal Arts	yes	yes	8	yes	no	P*	yes/C	yes	yes	
Library	yes	yes	3	no	yes/F	P*	yes/D	yes	yes	
McMullen Hall	yes	yes	4	yes	no	P*	yes	yes	yes	
Parking Garage	yes			yes	yes	P*				
Petro Hall	yes	yes	8	no	no	P*	yes/H	yes	yes	no
Physical Education	yes	yes	2	yes	yes	P*	yes	yes	yes	yes
Rimrock Hall	yes	yes	6	no	no	E/G,P*	yes	yes	yes	yes
Science	yes	yes	3	yes	no	P*	yes	no	yes	
Security	yes		1		yes		yes	yes	yes	
Student Union	yes	yes	2	no	no	P*	yes	yes	yes	

A: In most restrooms, the sinks but not the towels are below 40"

B: Off ramp between new and old building

C: 1<sup>st</sup> floor, between Liberal Arts Building and Library/2<sup>nd</sup> & 5<sup>th</sup> floor Liberal Arts Building

D: 2<sup>nd</sup> floor, between Library doors and stairs

E: Stairs to basement

F: Wheelchair lifts

G: Freight elevator does not have automatic doors

H: Lobby area

## Welcome from the Dean

It is my pleasure to welcome you to Montana State University Billings and to City College. I am delighted you have selected City College to further your education.

City College provides students with the academic background and skills needed for either an associate of science degree that will transfer towards a further bachelor degree program or an associate of applied science degree or certificate that will prepare you for immediate employment in your selected occupational area. The Associate of Applied Science degree also offers the opportunity for you to transfer towards a bachelor of applied science degree at MSU Billings. While a student at City College, you will receive a high-quality education in classroom settings, laboratories, and field-based experiences where industry standards are the norm. City College and MSU Billings sits in the heart of Billings, Montana where business and industry thrive. This allows City College to provide a great opportunity for students to experience learning and accessing the Billings community as their living and learning laboratory via internships, community outreach projects, practicums, and volunteerism, to name only a few of the options available.



City College faculty members are current and experienced in their respective fields. City College programs are directly tied with local business, industry, and prospective employers through advisory committees and the College's Advisory Board to assure the curriculum you study continues to meet or exceed current and changing industry standards. This helps ensure your preparation for immediate employment upon graduation.

I am excited to share with you our vision of enhancing the mission of City College to take on the role of a comprehensive community college. The College's primary focus is to provide two-year education in associate degrees, certificates and lifelong learning opportunities for the entire region. I am sure you will find City College to be an indispensable part of your life towards not only advancing your knowledge, skills, and experience towards your educational and career goals, but a full university experience with student life, residential housing, clubs/organizations, athletics, and being part of a college community. City College is one college of five within MSU Billings, so we provide you an opportunity to continue to advance your education and skills by further pursuing a four year bachelor's degree.

The purpose of this catalog is not only to assist you in planning your academic program, but also to provide you with additional information about Montana State University Billings and City College. If you have questions, please ask. All of us at Montana State University Billings are committed to serving you. We are very pleased and excited you have chosen City College as the next step in preparing for your future.

Sincerely,

Clifford Coppersmith, Ph.D.  
Dean  
City College at Montana State University Billings

# MONTANA STATE UNIVERSITY BILLINGS

**Core Purpose:** To assure that all members of the University community reach their individual potential.

**Mission:** Montana State University Billings provides a University experience characterized by:

- Excellent Teaching
- Support for Individual Learning
- Engagement in Civic Responsibility
- Intellectual, Cultural, Social and Economic Community Enhancement

**Vision:** Montana State University Billings will be recognized as a regional leader for:

- Teaching and Learning
- Translating Knowledge into Practice
- Researching for the Future
- Accepting Leadership for Intellectual, Cultural, Social and Economic Development Beyond University Boundaries

## Core Values

**Integrity:** MSU Billings' actions are ethical and principled to assure dignity and equity for all

**Educational Excellence:** MSU Billings provides distinctive programs and challenging educational experiences for a diverse university community

**Student Achievement:** MSU Billings provides academic support and administrative services to foster academic & professional achievement of the university community

**Community of Learners:** MSU Billings respects and nurtures variety in intellectual contribution and scholarship enriching both the University and its extended community

**Meaningful Engagement:** MSU Billings supports all members of the university community in their individual growth toward confidence, individual sense of purpose and acceptance of civic responsibilities

**Responsiveness:** MSU Billings meets the changing needs of our learners with informed action and innovation based on current standards of educational & technical excellence

## Important Notice to All Students

The City College at MSU Billings catalog is published annually by Montana State University Billings as a guide for students, faculty and others interested in the institution. Students are expected to be familiar with the University regulations and information which are set forth in this publication. Effective date of this catalog is August 2016.

The University is not responsible for cancellation of classes due to damage to campus facilities or unavailability of teaching personnel resulting from severe weather conditions, natural or man-made disasters, work stoppages, or emergency situations declared by the Governor.

Advisors assist students with selection of courses and other academically related issues, but the ultimate responsibility for meeting graduation requirements belongs to students.

City College at MSU Billings reserves the right to change the regulations and fees in this catalog at any time during the one-year period the publication is in effect. The institution, with the concurrence of the Board of Regents of Higher Education, also reserves the right to add or withdraw courses and degree programs at any time.

Effective dates of changes will be determined by the proper authorities and shall apply to prospective students and to those who are already enrolled.

For further information, write to Jacket Student Central, City College at Montana State University Billings, 3803 Central Avenue, Billings, Montana 59102.

## Urban University

MSU Billings is an urban university serving a diverse constituency with diverse needs and expectations. The greatest distinction and greatest opportunity for MSU Billings literally surrounds us: the city itself. Billings is the largest medical, financial, and retail hub between Spokane, Denver, and St. Paul, Minnesota, and as an urban university, this requires building strong partnerships that are efficient and effective. Urban adult learners—full-time and part-time—are well served by the University's commitment to alternative learning modes, online options, child care, tutoring, and other student services that help them juggle work, family, and educational responsibilities. City College at MSU Billings has specific programs with direct relationships to the community (oil refining, energy, health care) that reflect its urban mission.

## Student Learning Outcomes

MSU Billings understands that student success and student learning take place inside and outside the classroom. The ability to assess and measure that success is imperative. In response to the 1998 NWCCU accreditation review, MSU Billings began the process of reviewing and revising its assessment processes. This 10-year review has resulted in the revision of the general education program, as articulated in this catalog.

## Accreditation

Montana State University Billings is accredited by the Northwest Commission on Colleges and Universities. City College at MSU Billings has individual programs that are recognized and approved by the United States Office of Education, Bureau of Indian Affairs, Division of Vocational Rehabilitation, National Automotive Technicians Education Foundation (NATEF), Inter-Industry Conference on Auto Collision Repair (I-CAR), Committee on Accreditation of Allied Health Education Programs (CAAHEP), Committee on Accreditation of Educational Programs for the EMS Professions (CoAEMSP), and the Montana State Board of Nursing. All programs are approved for veterans.

## City College at MSU Billings: Your Comprehensive Two-Year Community College

City College at MSU Billings is committed to providing its students with *Access and Excellence*. As a comprehensive two-year college, the City College provides students with: 1) access to career and technical programs; 2) University transfer opportunities; 3) outreach and community development programs; 4) HiSET preparation through a partnership with Billings School District No. 2 Adult Basic Education; and 5) workforce training opportunities and partnerships.

Whether it is in the classroom, a special workshop, or in the day-to-day operation of the campus, City College is committed to providing an uncommonly high level of excellence in all programs and services.

The Institution provides *Access and Excellence* to students through instruction. The emphasis at City College is on helping students acquire skills to help them find meaningful employment upon completion of their academic program or transfer to the University to pursue a four-year degree. Our faculty are experienced in their fields and utilize innovative teaching methods to serve their students' needs.



Students experience *Access and Excellence* at City College through field-based experiences such as internships, laboratory work, clinical rotations for nursing and paramedic students, and tutoring opportunities.

Additionally, *Access and Excellence* is maintained in small classes which allow students to get to know their instructors and each other as well as experience hands-on educational opportunities.

## Mission

The mission of the City College at Montana State University Billings is to be the College of first choice, dedicated to the development of workforce capacity by providing top quality learning opportunities and services to meet a variety of career choices and customer needs by being responsive, flexible, and market-driven.

## History

In 1969, the Montana State Legislature created the Billings Vocational-Technical Education Center (BVTC) to serve the postsecondary technical training needs of adults. In 1987, by order of the Legislature, governance passed from the Billings School District to the Montana University System Board of Regents, making the BVTC one of five campuses of the Montana University System for postsecondary vocational-technical education. In 1994, the BVTC officially merged with Eastern Montana College to become the fifth College of Montana State University Billings, the College of Technology. The merger and subsequent sharing of resources brought about new and improved student services, such as cooperative education, health services, career services, fee payment options, and credit transferability. In June 2012, the Montana University System Board of Regents approved the name change to City College at Montana State University Billings.

## Advisory Boards

To achieve our vision of responsiveness, program advisory boards were created for all programs. These boards are made up of managers, business owners, technicians, supervisors of technicians, technical trainers, equipment vendors, and others concerned with the success of the respective programs they are advising. These boards help us respond to the changing needs of the workforce, maintain industry standards, and provide students with opportunities for internships in business and industry. A National Program Advisory Board was created, which is integral to the long-range development of City College at MSU Billings. To

achieve our vision of being market-driven, we continually upgrade existing programs and add new courses and programs to meet the needs of employers throughout the greater Billings region. We offer students an education targeted toward career preparation and access to networks for rapid employment.

## Partnerships and Collaborative Relationships

City College at MSU Billings enjoys partnerships with key organizations in the greater Billings region including: Billings Clinic, St. Vincent Healthcare, Billings Fire Department, Optimum, Underriner Motors, The Billings Gazette, and the Montana Contractor's Association to name a few. In addition, the College offers occupationally specific and related instructional opportunities on campus as well as through distance learning to prepare or retrain individuals to meet the demands of present and future technology. The College continues to develop collaborative relationships and articulation agreements with other institutions of higher education where appropriate. Since fall 2003, City College at MSU Billings has been a training site for the University of Montana's Surgical Technology Associate of Applied Science degree. Students in the Billings area are now able to complete all of the training locally instead of having to relocate to the Missoula area.

## Faculty

City College at MSU Billings is proud of its outstanding faculty and of their expertise in the specific areas in which they teach. Faculty are highly qualified with expertise in their specialty and current work experience in their field. A list of faculty members and their degrees and certifications are listed in the back of this catalog.

## Diversity

MSU Billings supports all members of the University community in their individual growth toward confidence, individual sense of purpose, and acceptance of civic responsibilities. MSU Billings' actions are ethical and principled to assure dignity and equity for all. MSU Billings seeks to increase staff, faculty and student awareness, understanding, and involvement in the international community. MSU Billings is committed to providing an intellectual and social environment that supports and nurtures diversity awareness and cultural consciousness.

## Location and Campus

City College at MSU Billings is located at 3803 Central Avenue, seven miles from the MSU Billings University campus in the fast-growing west-Billings “Shiloh Corridor Complex,” near the intersection of Central Avenue and Shiloh Road. The campus consists of two buildings: the Tech building and Health Sciences building. The MSU Billings soccer field, used by both the women’s and men’s soccer teams for practice and games, is located on the City College campus.

## Academic Calendar

The academic year consists of Fall and Spring semesters. The summer term has its own calendar. Classes are also available between the fall and spring semesters in an Intersession format.

## Campus Visits

### Jacket Student Central, (406) 247-3007

Campus tours are available through Jacket Student Central. For information, call (406) 247-3007; or write Jacket Student Central; City College at Montana State University Billings; 3803 Central Avenue; Billings, MT 59102; or visit our web site at [www.citycollege.msubillings.edu](http://www.citycollege.msubillings.edu). To ensure the availability of staff, please contact this office to set up a campus visit.

## University Policies

### Policy on Discrimination, Harassment, Sexual Misconduct, Dating Violence, Domestic Violence, Stalking, and Retaliation

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 as amended by 11375, and the Montana State Human Rights Act, Montana State University Billings has a policy of non-discrimination in employment practices and in admission, access to, and conduct of educational programs. Montana State University’s campuses are committed to providing an environment that emphasizes the dignity and worth of every member of its community and that is free from harassment and discrimination based upon race, color, religion, national origin, creed, service in the uniformed services (as defined in state and federal law), veteran’s status, sex, age, political ideas, marital or family status, pregnancy, physical or mental disability, genetic information, gender identity, gender expression, or sexual orientation. Such an environment is necessary to a healthy learning, working, and living atmosphere

because discrimination and harassment undermine human dignity and the positive connection among all people at our University. Acts of discrimination, harassment, sexual misconduct, dating violence, domestic violence, stalking, and retaliation will be addressed consistent with the reference Discrimination Policy: [www.montana.edu/policy/discrimination](http://www.montana.edu/policy/discrimination)

Montana State University Billings affords any student, employee, or applicant for admission or employment the opportunity to file a discrimination grievance. Inquiries or grievances should be directed to the Human Resources EEO-AA/Title IX Coordinator Office, McMullen Hall 310, phone (406) 657-2278. Grievance Procedure: [www.montana.edu/policy/discrimination/procedures](http://www.montana.edu/policy/discrimination/procedures)

### Title IX Sexual Assault/Harassment

Title IX of the Education Amendments of 1972 is a federal law that prohibits sex discrimination in education and its implementing regulation, at 34 C.F.R. § 106.31 (a), which provide that no person shall, on the basis of sex, be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any academic, extracurricular, research, occupational training, or other education program or activity operated by the university.

Sexual harassment is a form of sex discrimination prohibited by Title IX. Sexual Harassment includes: unwelcome sexual advances, requests for sexual favors, or other verbal or physical conduct of a sexual nature, including sexual misconduct. Sexual harassment, including sexual misconduct, can involve persons of the same or opposite sex. Sexual harassment occurs when the terms or conditions of employment, educational benefits, academic grades or opportunities, living environment or participation in a University program is conditioned upon, either explicitly or implicitly, submission to or rejection of unwelcome sexual advances or requests for sexual favors, or such submission or rejection is a factor in decisions affecting that individual’s employment, education, living environment, or participation in a University program.

Sexual Harassment also includes hostile environment harassment based on sex which is severe, pervasive, or persistent and interferes with academic performance. Anyone with questions or concerns about sex discrimination or harassment or who believes they have been a victim can use the link below to contact.

**Title IX Coordinator and review policy & procedures**

[www.montana.edu/policy/discrimination](http://www.montana.edu/policy/discrimination)

[www.montana.edu/policy/discrimination/procedures](http://www.montana.edu/policy/discrimination/procedures)

**Mandatory Employee Reporting**

To enable the University to respond effectively and to stop instances of sexual harassment and sexual misconduct involving students at the University proactively, all University employees must promptly (normally within 24 hours) report information they have about alleged or possible sexual harassment and sexual misconduct involving students to the Title IX Coordinator. Employees, such as licensed health-care professionals and victim advocates who have a statutory privilege under Montana law, are exempt from these reporting requirements.

Upon receiving a report of alleged or possible sexual harassment, or sexual misconduct, the Title IX Coordinator will evaluate the information and determine what further action should be taken, following the procedures described in the Discrimination Grievance Procedures. The Coordinator will take steps, either directly or through a reporting employee, to provide information about the University's Discrimination Grievance Procedures, as well as available health and advocacy resources, and options for criminal reporting.

**Title IX Coordinator**

Janet Simon  
Director, Human Resources/Title IX Coordinator  
McMullen Hall 310  
406-657-2221  
[discrimination@msubillings.edu](mailto:discrimination@msubillings.edu)

or

Jody Stahl  
Assistant Director, Human Resources/Deputy Title IX Coordinator  
McMullen Hall 310  
406-657-2117  
[discrimination@msubillings.edu](mailto:discrimination@msubillings.edu)

The Director of Human Resources is responsible for Title IX compliance for matters involving faculty and staff, including training, education, communication, and administration of the grievance procedure for all complaints against faculty, staff and visitors, including those complaints filed by students.

If you have a complaint against an MSUB faculty, staff member, student or visitor for sexual harassment, sex discrimination, or sexual assault, you should contact one of the individuals listed above.

**For students:**

Kathy Kotecki  
Interim Dean of Student Life and Auxiliaries  
657-1696  
[Kkotecki@msubillings.edu](mailto:Kkotecki@msubillings.edu)

or

Dr. Joe Oravec  
Vice Chancellor for Student Affairs/Deputy Title IX Coordinator  
McMullen Hall 201  
406-657-2307  
[joe.oravec@msubillings.edu](mailto:joe.oravec@msubillings.edu)

The Vice Chancellor for Student Affairs is responsible for Title IX compliance for matters involving students, including training, education, communication, and administration of the grievance procedure for all complaints against MSUB students.

**Gender Equity in Athletics**

If you have a complaint about gender equity in MSUB athletics programs, contact the Athletics Director, Krista Montague, who is responsible for Title IX Compliance in matters related to gender equity in MSUB athletics programs.

**Additional Resources****Sexual Assault / Harassment**

To file a complaint of sexual misconduct or any form of discrimination that may also be a crime, you may contact the Title IX coordinator whose information is listed above. The entire discrimination grievance procedure for allegations of violations of the discrimination, harassment, sexual misconduct, dating violence, domestic violence, stalking, and retaliation policy can be viewed at:  
[www.montana.edu/policy/discrimination/procedures](http://www.montana.edu/policy/discrimination/procedures)

**University Police**

Located in the southwest corner of the parking garage.  
406-657-2147 (non-emergency)  
406-657-2222 (emergency)  
911 (emergency)

For immediate danger or need urgent medical or psychiatric care, call 911.

**If you have been sexually assaulted**

For sexual assault medical services, visit the emergency department at:

Billings Clinic  
801 North 29th Street  
Billings, MT 59101  
406-238-2500

Student Health Services  
2nd Floor, Petro Hall  
657-2153 Monday through Friday 8:00 – 5:00.

**The Phoenix Center 24 Hour Help Line**

Call 406-794-3829

You can also contact a 24-hour confidential MSU Billings Peer Advocate who can discuss your options for reporting and/or seeking medical or counseling help and may be able to accompany you to on- and off-campus resources.

**If you are male, female, or transgender, in a relationship that is abusive, you can contact:**

YWCA  
909 Wyoming Avenue  
Billings, MT 59101  
24-hour crisis line: 406-259-8100

**Personal Safety**

If you are being stalked, threatened, or have concerns about your personal safety, you can contact the MSUB University Police Department by dialing 2222 from any campus phone, or by calling 406-657-2222.

**Consensual Relationship**

A consensual romantic relationship in which one party is in a position to evaluate the work of the other is a potential conflict of interest. When such a potential conflict of interest results between employees or an employee and a student, the employee shall promptly disclose the potential conflict of interest to his or her supervisor. The supervisor and the employee shall take steps to ensure that there is no conflict of interest.

The employee's failure to promptly disclose such a potential conflict of interest may require appropriate resolution, including disciplinary action.

**MSU Billings****Conflict of Interest Policy**

This policy is adopted pursuant to Board of Regents Policy 770, Conflict of Interest, and applies to all 0.5 FTE or greater employees (hereafter, employees) at Montana State University Billings and Montana law,

Standards of Conduct Code of Ethics, Title 2, Chapter 2, Part 1, MCA. Procedures for Conflict of Interest can be found at [www.msubillings.edu/humres/policies](http://www.msubillings.edu/humres/policies).

**Campus Security and Crime****The University Police Department**

Under Montana Code Annotated 20-25-321, the Board of Regents has empowered the MSU Billings Chancellor to establish a Police Department for MSU Billings.

The MSU Billings Chief of Police/Safety Director is responsible for the management of the University Police Department (UPD) and reports directly to the Vice Chancellor for Administrative Services. However, all public safety services are closely coordinated with other key University administrators as well as local officials.

The Department consists of eight sworn officers, one dispatcher, two office assistants, one Risk Manager & Safety Coordinator, and a revolving number of student workers (ticket writers). University Police Officers have received and maintain their Police Officer Standards and Training (POST) certification through the Montana Law Enforcement Academy. The UPD has primary responsibility for law enforcement on University properties. In addition, the department provides other services to the University community, which include fire safety, parking enforcement, emergency management, fire code inspections, building safety, security and workplace safety.

University Police officers also provide safety and security education through numerous presentations to on-campus groups and other presentations upon request.

**Annual Security Report**

The safety and security of the entire campus community is extremely important to Montana State University Billings. The Annual Security Report (ASR) publication represents the University's information and data in compliance with the provisions of the Crime Awareness and Campus Security Act of 1990 and the Jeanne Clery Act of 1998.

Federal law mandates that this report include statistics for the previous three years concerning reported crimes that occurred on campus or on property owned or controlled by MSUB and on public property within, or immediately adjacent to and accessible from, the campus.

The ASR is available online at:  
[www.msubillings.edu/police](http://www.msubillings.edu/police)  
and at the University Police Department – (406) 657-2147.

## **Americans with Disabilities Act of 1990 and ADA Amendment Act of 2008**

Montana State University Billings affirms its commitment to nondiscrimination on the basis of disability and its intention to comply with all laws prohibiting such discrimination including Section 504 of the Rehabilitation Act of 1973, the Americans with Disabilities Act, and the ADA Amendments Act of 2008.

In order to ensure nondiscrimination on the basis of disability, the University will provide appropriate and reasonable accommodation for members of the public, employees and students with disabilities, as defined by these laws.

All University administrators, faculty, staff and students have a responsibility to adhere to the philosophy of equal access and opportunity which is the basis for this nondiscrimination commitment.

An individual may be required to provide relevant, written documentation in order to establish that he/she is a person with a disability and entitled to a reasonable accommodation under the law.

The University's ADA coordinators are the Director of Human Resources and the Director of Disability Support Services.

Any employee or applicant with disabilities concerned about accessibility and/or accommodation issues should contact the Human Resources, McMullen Hall 310, (406) 657-2278 (Voice/TTY).

## **Students**

Any student with disabilities concerned about accessibility and/or accommodation issues should contact Disability Support Services, COE 135, (406) 657-2283 (Voice/TTY).

Disability Support Services reviews complaints by students regarding discrimination and/or harassment on the basis of physical or mental disability relating to disability accommodations in the classroom and physical access to facilities. The full grievance policy is on the DSS website at [www.msubillings.edu/dss](http://www.msubillings.edu/dss).

# Degrees, Options, and Programs List

Programs marked with a ∇ are also offered in an online format.

## Associate of Science Degree (AS)

### Programs of Study in:

Business Administration ∇  
Criminal Justice  
~~Drafting & Design (Program placed on moratorium)~~  
Fire Science  
General Studies (Self-designed) ∇  
Human Resources - General Applied Emphasis ∇  
Human Resources - College of Business Articulated  
Emphasis ∇  
Networking Technology

## Associate of Science in Nursing (ASN)

## Associate of Applied Science (AAS)

Accounting Technology ∇  
~~Administrative Assistant (Program placed on moratorium)~~  
Automobile Collision Repair and Refinishing  
Automotive Technology  
Computer Desktop/Network Support  
Computer Programming & Application Development  
Computer Systems Technology  
Construction Technology-Carpentry  
Diesel Technology  
~~Drafting & Design Technology (Program placed on moratorium)~~  
Medical Administrative Assistant  
Paramedic  
Power Plant Technology  
Process Plant Technology  
Radiologic Technology  
Surgical Technology (from the Missoula College  
University of Montana)  
Sustainable Energy Technician  
Welding and Metal Fabrication

## Certificate of Applied Science Programs

Accounting Assistant ∇  
~~Assistant Drafter (Program placed on moratorium)~~  
Automobile Collision Repair  
Automobile Refinishing  
Automotive Technology  
Construction Technology-Carpentry  
Diesel Technology  
Human Resource Management ∇  
Medical Coding and Insurance Billing ∇  
Networking Technology  
~~Office Assistant (Program placed on moratorium)~~  
Pharmacy Technician  
Practical Nurse  
Energy Technician  
Welding & Metal Fabrication Technology  
Welding for Energy Technology

## Certificate of Technical Study programs

Craft Brewing and Fermentation  
Energy Technician  
Medical  
Trauma  
Welding and Fabrication 1

**Moratorium = City College is not currently taking students into the program.**

## Adult Learners

MSU Billings has many options to support busy adults who wish to return to college. We are pleased to be able to offer an opportunity to take college courses via the internet as a way of overcoming barriers of time and place. Our students have told us they need the ability to reach their academic goals in an environment that affords them freedom and flexibility, comfort and convenience, and more time for work and family. By combining our commitment to Access and Excellence with the technology that allows students to “Learn Online... Anywhere... Anytime,” this program ensures that students can achieve personal, professional, and academic goals without sacrificing the other things that are important in life. MSU Billings also offers adult learner scholarships.

Through the MSU Billings Online University, students can complete General Education requirements as well as the following certificates and degrees listed below. We are continuously reviewing our programs to determine what we can offer in an online format. To get a current list of degrees and classes offered online, please check the online website [www.msubonline.org](http://www.msubonline.org).

### Online Programs Currently Offered through City College at MSU Billings:

#### Associate Degree Programs

- A.A.S. Accounting Technology ▼
- A.S. Business Administration ▼
- A.A. General Studies (Self-Designed) ▼
- A.S. General Studies (Self-Designed) ▼
- A.S. Human Resources-Applied Emphasis ▼
- A.S. Human Resources-College of Business  
Articulated Emphasis ▼

#### Certificates of Applied Science

- Accounting Assistant ▼
- Human Resources Management ▼
- Medical Coding & Insurance Billing ▼

Please refer to the program requirements for these academic programs listed alphabetically in this catalog.

Students can also take individual online courses for professional development, to transfer to another institution, to apply toward another MSU Billings degree program, or to supplement on-campus course schedules with an online learning experience. Students are encouraged to work with an advisor when pursuing any of these degree programs to ensure that courses selected will successfully meet all degree requirements and also fulfill the student's academic

interests and goals. For academic advising and course selection assistance, please contact the MSU Billings Online University Advisor at [inquiry@msubonline.org](mailto:inquiry@msubonline.org).

### Evening Programs

Students can begin their degree program with general education courses offered in the evening. There are also various non-credit courses offered in the evening.

#### City College at MSU Billings programs currently offered in Coordinated Evening/Online Studies mode:

##### AS Degrees

- Human Resources-General Applied Emphasis
- Human Resources-College of Business  
Articulated Emphasis
- Business Administration

##### Certificate of Applied Science

- Human Resource Management

### Partnership with School District #2 Adult Basic Education Program

City College at MSU Billings partners with Adult Basic Education to assist students needing college preparation. Services provided include basic literacy skills for math and English and HiSET Preparation. Classes are self-paced with individualized instruction and flexible scheduling. Call 406-281-5001 for more information.

Adult Basic Education  
415 N 30<sup>th</sup> St  
Billings, MT 59101

## First Time Student Checklist

- ☐ Complete the Application for Admission and submit it to Jacket Student Central as early as possible prior to the term you wish to attend.
- ☐ If born after December 31, 1956, provide 2 proofs of immunization against measles and rubella that were administered on or after your first birthday and after December 31, 1967.
- ☐ Submit final high school transcript to Jacket Student Central after graduation
- ☐ If interested in securing financial aid, apply for financial aid by submitting the Free Application For Federal Student Aid (FAFSA) online at [www.fafsa.gov](http://www.fafsa.gov) by the priority date of March 1.
- ☐ To apply for scholarships, submit the online Scholarship Application. Scholarships are awarded on an on-going basis. The priority deadline is February 1st.
- ☐ Read and follow the directions outlined in the Housing and Orientation guides to reserve housing and get signed up for Orientation.
- ☐ Attend new student registration and orientation sessions prior to the term you wish to attend. Contact Jacket Student Central at (406) 247-3007 for dates and times.
- ☐ Complete housing form and submit by priority deadline of May 1.
- ☐ Complete registration for classes. (Register any time up to the start of classes.)
- ☐ Pay fees.
- ☐ Start classes.
- ☐ Participate in student organizations.

## Checklist for Students Returning After An Absence

- ☐ Complete the Application for Re-admission and return it to Jacket Student Central as early as possible before the term you will enter. Also provide transcripts from any college you have attended since leaving MSU Billings or City College at MSU Billings.
- ☐ If born after December 31, 1956, provide proof of 2 immunizations against measles and rubella that were administered on or after your first birthday and after December 31, 1967.
- ☐ Submit the Free Application for Federal Student Aid (FAFSA) online at [www.fafsa.gov](http://www.fafsa.gov) by the priority date of March 1, if you plan to enter City College at MSU Billings the following Fall term. For other terms, submit the financial aid application as early as possible before the term you will enter.
- ☐ Apply for scholarships by completing the online Scholarship Application for Current and Returning Students by the priority deadline of February 1st.
- ☐ Call the advising office to schedule a visit with an advisor (City College Tech Building, Jacket Student Central, First Floor, 406-247-3019) to discuss your plans and register for classes.
- ☐ Pay fees.
- ☐ Start classes.
- ☐ Participate in student organizations.



# Admissions and Registration

City College Tech Building, Jacket Student Central, First Floor  
(406) 247-3000 or 1-800-565-MSUB ext.3000  
[www.citycollege.msubillings.edu](http://www.citycollege.msubillings.edu)

City College at Montana State University Billings believes that every student who is academically capable of successfully completing a course of study available through City College should be given the opportunity of enrolling in the University without regard to age, creed, handicap, national origin, race or sex.

City College at Montana State University Billings reaches out to encourage minority students to attend the institution. Staff representatives of the Office of New Student and Retention Services make frequent visits to middle schools, high schools, community colleges, and tribal colleges to provide guidance to students as they consider and explore their educational future.

## Admissions

### New Students: How to Apply

**NOTE: Students making application to attend City College at Montana State University Billings should be aware that the Admission Requirements may have changed since the publication of this document. Please contact the Office of Admissions and Records (406) 247-3000, 1-800-565-MSUB; or write to the Office of Admissions and Records, City College at Montana State University Billings, 3803 Central Avenue, Billings, MT 59102.**

1. Complete and submit an application for admission. Applications may be obtained from Montana high school counselors or from Jacket Student Central, City College at Montana State University Billings, 3803 Central Avenue, Billings, MT 59102. Call (406) 247-3000 or apply online at [www.citycollege.msubillings.edu](http://www.citycollege.msubillings.edu). Applications will be processed only for the term that the applicant indicates on the application.
2. Submit a \$30.00 nonrefundable application fee (check or money order) with the application for admission.
3. If you have not previously attended an accredited college or university, request an official transcript from your high school that includes the graduation date, final class rank, and grade point average and have it sent to Jacket Student Central, City College at Montana State University Billings, 3803 Central Avenue, Billings, MT 59102.

4. Any student born after December 31, 1956, must show proof of immunization that was administered after December 31, 1967. The immunization dates must also be after your first birthday. Requirements include proof of two (2) doses of immunization against measles (Rubella) given at least 30 days apart and two (2) proofs of Rubella immunization. Include mo/day/yr. Any immunizations administered after June 11, 1993, must be an MMR. The record must be signed by a physician, health agency or school official.

### When to Apply

Students wishing to attend City College at Montana State University Billings should apply for admission as early as possible prior to the term in which enrollment is desired.

### New First-Time Students: Admission Requirements

City College at MSU Billings requires first-time students to have earned either a high school diploma from an accredited institution, a GED, or HiSET. In an effort to meet individual needs, City College has established special admission procedures for students seeking admission to certain programs. Contact City College at MSU Billings for this information at (406) 247-3000. The Admission application fee is \$30.00.

### Transfer Students

#### How to Apply

**NOTE: Students making application to attend City College at Montana State University Billings should be aware that Admission Requirements may have changed since the publication of this document. Please contact Jacket Student Central (406) 247-3000 or 1-800-565-MSUB ext. 3000; or write to Jacket Student Central, City College at Montana State University Billings, 3803 Central Avenue, Billings, MT 59102.**

Applicants who have attempted 12 or more GPA credits at another accredited college or university are considered transfer students. To be admitted to City College at Montana State University Billings, transfer students must do the following:

1. Complete and submit an application for admission. Applications for admission may be obtained from college counselors or from Jacket Student Central, City College at Montana State University Billings, 3803 Central Avenue, Billings, MT 59102. You may call (406) 247-3000 or 1-800-565-MSUB, ext. 3000 to have this material sent to you or apply online at [www.citycollege.msubillings.edu](http://www.citycollege.msubillings.edu). Applications will be processed only for the term the applicant indicates on the application.
2. Submit a \$30.00 nonrefundable application fee (check or money order) with the application for admission.
3. Transfer students must request official and complete transcripts from each college attended or a transcript which indicates that a baccalaureate degree has been earned and transcripts from any colleges attended after the degree was earned. Transcripts must be sent directly to Jacket Student Central at City College at Montana State University Billings.
4. Any student born after December 31, 1956, must show proof of immunization that was administered after December 31, 1967. The immunization dates must also be after your first birthday. Requirements include proof of two (2) doses of immunization against measles (Rubella) given at least 30 days apart and two (2) proofs of Rubella immunization. Include mo/day/yr. Any immunizations administered after June 11, 1993, must be an MMR. The record must be signed by a physician, health agency or school official.

**Montana Resident Transfer Students** will be admitted upon receipt of an official and complete transcript from each college or university attended. A resident transfer student applicant must meet the criteria for "good academic standing" as defined by City College at Montana State University Billings.

**Non-Montana Resident Transfer Students** must meet the in-state student requirements and must also have a 2.00 cumulative grade point average for all college level work before his/her admission is approved.

### When to Apply

Transfer applicants should apply for admission as early as possible prior to the term in which enrollment is desired.

## Transfer of College-Level Credits

### Transfers from Montana University System Units, Montana Community Colleges and Montana Tribal Colleges

By Board of Regents policy, Montana State University Billings is committed to facilitating undergraduate transfer for students transferring from units of the Montana University System and the three publicly supported community colleges and the seven tribal colleges in Montana.

### Block Transfer

Undergraduate students who have completed, with a cumulative grade-point average of 2.0 (C) on a four-point scale, an approved general education program at one of the institutions noted above, will be deemed to have met the lower division General Education requirements of Montana State University Billings.

Special attention should be paid to Board of Regents Policy 301.5.3 on Minimum Course Grades which also applies to acceptance of transfer credit. Before Montana State University Billings will accept the courses as applicable for meeting General Education, a student will have to earn a grade of "C-" or better in each of the classes.

Depending on the major program the student selects, there may be additional lower division courses required to meet published major program prerequisites. A student may be required to take additional coursework at the upper division level that is part of the approved General Education program at Montana State University Billings.

### Associate of Arts and Associate of Science Degrees

A student who has completed an Associate of Arts or an Associate of Science degree with an approved general education component package at another unit of the Montana University System has satisfied the requirements of this policy.

**NOTE:** Students should be aware that Associate of Arts or Associate of Science degrees ordinarily do not have a designated field of study in their title.

Special attention should be paid to Board of Regents Policy 301.5.3 on Minimum Course Grades which also applies to acceptance of transfer credit. Before Montana State University Billings will accept the

courses as applicable for meeting General Education, a student will have to earn a grade of “C-” or better in each of the classes.

## Montana University System (MUS) Core Curriculum

The Montana Transferable Core Curriculum represents an agreement among community, tribal, and publicly funded colleges and universities in the State of Montana. It ensures the transfer of up to 30 semester credits for those students enrolled in courses prescribed within each of six discipline areas at a participating host institution. The six discipline areas are:

Natural Sciences (at least one with a laboratory experience) .....	6 semester credits
Social Sciences/History .....	6 semester credits
Mathematics .....	3 semester credits
Communication - written & oral.....	6 semester credits
Humanities/Fine Arts.....	6 semester credits
Cultural Diversity .....	3 semester credits
<b>Total Semester credits .....</b>	<b>30</b>

Transfer students and student advisors should also be familiar with the additional guidelines that have been adopted by the Montana Board of Regents for students who use the Montana University System Core to satisfy their lower division general education requirement. Those guidelines are entitled Operational Rules for the Montana University System Core, and can be found at [www.mus.montana.edu/transfer](http://www.mus.montana.edu/transfer). They include the following:

- In order to satisfy the MUS core, students must successfully complete at least one course that includes significant content related to the cultural heritage of American Indians. (See an academic advisor for assistance in determining which transfer courses satisfy this requirement.)
- Students must earn the minimum number of credits in each of the six (6) categories of coursework. Students can only use credit-bearing competency tests or coursework to satisfy the MUS core.
- Coursework can only be used once to satisfy the requirements of the MUS Core. It cannot be “double counted” to satisfy the requirements of more than one category.
- In order to satisfy the requirements of the Communications area, students must successfully complete a combination of courses that includes significant content in both written and oral communications.

- Students must satisfy the “minimum grade” requirements established by Board of Regents’ Policy 301.5.3, along with any exceptions to that policy that may have been established by their program of study.

The Montana University System is committed to facilitating the ease of undergraduate student transfer to its campuses. Therefore, all campuses of the Montana University System will recognize the integrity of general education programs offered by units of the Montana University System and the three publicly supported community colleges and the seven tribal colleges in Montana.

An undergraduate student who has completed courses identified as part of the Montana University System (MUS) Core courses will have general education coursework reviewed for transferability to Montana State University Billings as follows:

1. If a student has completed less than 20 general education credits, that student will be required to complete the approved General Education program at Montana State University Billings. All general education transfer credits that are part of the MUS Core will be reviewed for possible application in the approved General Education program.
2. If a student has completed 20 or more MUS core credits, but does not satisfy the block transfer policy described in the preceding section, that student may choose to complete either the MUS core or the approved General Education program at Montana State University Billings. The student should make that decision in consultation with an advisor.
3. An undergraduate student who completes postsecondary coursework in the Montana University System that does not fall within the MUS Core will have his/her classes analyzed on a course-by-course basis to determine how those classes might satisfy the General Education program requirements at Montana State University Billings.

## Course by Course Evaluation

Students who have not completed an approved general education program will have their transcript evaluated for transfer purposes using the Statewide Core Curriculum and Community College Transfer Guide.

**Note: College-level courses shall be defined as those that are applicable to an associate of arts, associate of science or baccalaureate degree.** In advance of a student’s enrollment, Montana State University Billings will determine which courses within an associate of applied science degree program will be credited toward

a given associates or baccalaureate degree. In all cases, such courses shall not include remedial or developmental courses.

Depending upon the major program the student selects, there may still be additional lower division courses required to meet published major program prerequisites.

### Minimum Course Grades

Effective Fall Semester 2005, Board of Regents policy 301.5.3 on minimum grades will apply to all students who enter or are re-admitted to the Montana University System or the three (3) community colleges that semester or subsequent semesters.

All students in the Montana University System and the three (3) community colleges must earn the following minimum grades in order to demonstrate their competency and preparation:

1. a "D-" or better in all classes that are used to satisfy so-called free or elective credits in an associate or baccalaureate degree program;
2. a "C-" or better in all classes that are used to satisfy a general education program;
3. a "C-" or better in all classes that are used to satisfy the pre-requisites or required courses in a major, minor, option or certificate.

Individual programs may establish grade standards that are higher than the minimums set out in paragraph A above, for some or all of the courses that are used to satisfy the pre-requisites or requirements for a major, minor, option, certificate or general education. Students will be notified of that expectation. Please refer to page 51 of this catalog for details on grade requirements for AAS, CAS, and ASN degrees.

### All Transfers

**NOTE: By action of the Academic Senate of MSU Billings, City College at MSU Billings will accept transfer students with completed AA or AS degrees from other regionally accredited institutions as having fulfilled their City College at MSU Billings General Education requirements if the general education package is comparable in total credits and content. (10/7/04 memo #446 p. 1654)**

All college-level courses from regionally accredited institutions of higher education will be received and applied towards the free elective requirements of associate or baccalaureate degrees as applicable.

The Advising Center (McMullen First Floor, 406-657-2240/City College, 406-247-3019) will do an

evaluation of transcripts upon receiving all transcripts for the student. The student will be informed as to what transfer courses can be accepted toward the major and what courses must yet be completed for the degree. This evaluation will be processed only after an application, the admission fee, and official college transcripts are on file with the Office of Admissions and Records.

Students who transfer credit from foreign institutions or from institutions that do not have regional accreditation will have their courses evaluated on an individual basis. Policy and procedure information may be obtained in the Office of Admissions and Records.

Students transferring from institutions with candidacy status in a regional accrediting association must earn at least 20 credits at MSU Billings with a minimum 2.00 GPA before their credits from the former institution will be considered for acceptance.

Students transferring from community colleges or other two-year colleges may not use the credit transferred in lieu of upper division credits required for graduation at Montana State University Billings.

Students transferring to Montana State University Billings who have previously earned a Bachelor of Arts or Bachelor of Science degree from a regionally accredited institution of higher education are considered to have their General Education requirements completed. Only information pertaining to the degree, date, and institution conferring will be noted on the transcript, individual coursework is not transcribed.

Acceptance of credits from other institutions of higher learning does not preclude the necessity of meeting all curricular requirements of a specific program. Students transferring to MSU Billings may have their credits evaluated on the basis of the current catalog at the time when they first entered Montana State University Billings, or they may elect to enter under the catalog for the year in which they entered any accredited institution of higher education in the United States provided they have maintained continuous, full-time enrollment (excluding summers) in good standing.

Transfer students will begin a new grade point average at MSU Billings, but for graduation with honors all previous transfer work will be calculated into GPA.

### Course Equivalency Guides

Annually, Montana State University Billings updates equivalency agreements with regional community colleges in Wyoming, North Dakota, and Montana;

Montana's tribally controlled colleges; and Montana's four-year (public and private) institutions. The individual Colleges at MSU Billings also prepare program-specific transfer agreements; for instance, the College of Education has a listing of courses that students at Northwest College in Wyoming can take that will transfer directly into elementary education. Beginning with 1992, MSU Billings' equivalency agreements also highlight the Montana University System Core Curriculum. Students who attend any of these colleges and who plan to transfer to MSU Billings are encouraged to visit the MSUB website ([www.msubillings.edu](http://www.msubillings.edu)). This information will assist students in understanding how specific courses will transfer to MSU Billings and what courses individual degree programs require.

MSU Billings has Course Equivalent Guides on the MSUB website ([www.msubillings.edu](http://www.msubillings.edu)) to the following colleges:

Blackfeet Community College  
 Casper College  
 Carroll College  
 Central Wyoming College  
 Chief Dull Knife College  
 Dawson Community College  
 Dickinson State University  
 Flathead Valley Community College  
 Aaniiih Nakoda College  
 Fort Peck Community College  
 Gillette Campus of Northern Wyoming Community College District  
 Great Falls College  
 Helena College  
 Little Big Horn College  
 Miles Community College  
 Montana State University-Bozeman  
 Montana State University-Northern  
 Montana Tech  
 Northwest College  
 Rocky Mountain College  
 Salish Kootenai College  
 Sheridan College of Northern Wyoming Community College District  
 Stone Child College  
 University of Great Falls  
 University of Montana Western  
 University of Montana Missoula  
 University of Wyoming  
 Williston State College  
 Northern Wyoming Community College District

## Former MSU Billings Student Re-Admission

A former student of Montana State University Billings or City College at Montana State University Billings who is in good standing and who was not in attendance the preceding term will be eligible for registration after completing the following:

1. Complete and file a former student application with the Office of Admissions and Records, or re-admit online at [www.msubillings.edu](http://www.msubillings.edu) or via [myinfo/myMSUB](http://myinfo/myMSUB). A \$40 non-refundable fee is assessed to new graduate students.
2. Request that transcripts from institutions attended, if any, since last attending Montana State University Billings be sent to the Office of Admissions and Records.

## When to Apply

Returning students should apply for re-admission as early as possible prior to the semester in which enrollment is desired.

## Special Admission Procedures

In an effort to meet individual needs, City College at MSU Billings has established special admission procedures for undergraduate students which pertain to non-high school graduates, home-schooled students, high school students, and non-degree applicants.

**NOTE: Students making application to attend City College at Montana State University Billings should be aware that Admission Requirements may change at any time. Please contact the Office of Admissions and Records (406) 247-3000; or write to the Office of Admissions and Records, City College at Montana State University Billings, 3803 Central Avenue Billings, MT 59102.**

Students in these categories would also complete the process of application outlined in the "All New Students: How to Apply" section as it is appropriate to their circumstances. However, the following information also applies:

## Non-High School Graduates

Non-high school graduates may be admitted on the basis of the General Educational Development (GED) test, HiSET, or COMPASS. Various boards establish minimum scores for these tests or groups and students can visit with the Advising Center (406-657-2240/406-247-3019) for current minimums.

Students in this group who wish to enroll part-time may do so without restriction.

## High School Students – Early College

Approved high school students may take college courses while enrolled in high school. The signature of the high school counselor or principal certifies that student can do University level work and must accompany the application. Financial aid is not available to students in this category. Tuition for courses taken by high school students under this program is approximately \$51/credit.

## Non-Degree Applicants

An applicant who wishes to pursue studies for personal growth and who does not wish to work toward a formal degree at City College at Montana State University Billings may apply as an undergraduate non-degree student. Acceptance into this category does not constitute acceptance into a degree-granting program. All applicants should have sufficient educational background to qualify for the course or courses in which enrollment is sought and must certify on the application form that they have graduated from high school or appropriate Ability-to-Benefit test. A maximum of 32 semester hour credits earned as a non-degree student may be applied to an undergraduate degree at City College at Montana State University Billings if the applicant applies and is accepted into a degree program. Financial aid is not available to students in this category, nor may they qualify for the WUE (Western Undergraduate Exchange) program.

This category is not open to students currently on academic suspension from City College at Montana State University Billings or on academic suspension from any other college or university.

No academic credentials or transcripts are required in support of the application; however, non-degree students who later wish to change to a degree program must furnish required supporting credentials and must meet all the regular admission requirements. Financial aid is not available to students in this category.

## International Students

International applicants must meet the out-of-state admission requirements in addition to the following:

1. Certified copies of all certificates, degrees and diplomas with a certified translation of the records.

If you have any post-secondary level course(s) completed outside of the U.S. or in non-English-speaking Canada to transfer to Montana State

University Billings, we need a **course-by-course evaluation** completed by one of the two services highlighted below:

- AACRAO
- ECE

2. Completed MSU Billings Financial Statement and must present evidence of sufficient funds to cover the estimated cost of tuition and fees as well as living expenses for one academic year at MSU Billings from a reliable financial institution, bank, or U.S. citizen who will accept responsibility for the student's financial obligations.
3. Students from non-English speaking countries must provide evidence of proficiency in English. Students can do this several ways:
  - a. Students may take the Test of English as a Foreign Language (TOEFL) and have official results sent with their applications to the Office of International Studies. TOEFL information can be accessed on the web at [www.toefl.org](http://www.toefl.org) or by calling 609-921-9000. The Montana State University Billings Institutional Code for the TOEFL and the GRE is 4298. Students scoring higher than 515 on the paper-based (pBT) TOEFL, higher than 68 on internet-based (iBT) TOEFL, or higher than a 5.5 on IELTS are assured undergraduate admission if all other requirements are met; those scoring less will be reviewed on a case-by-case basis. Prospective graduate students need a 565 (pBT) paper-based TOEFL score, a 84 internet-based (iBT) TOEFL score, or a 6.5 IELTS score.
  - b. Students Full Admission to an academic program is contingent upon successful completion of the IELP offered at MSU Billings. For more information, please visit [www.msubitllings.edu/internationalstudies/IELP-Home.htm](http://www.msubitllings.edu/internationalstudies/IELP-Home.htm)
  - c. In addition, a score of 33 on the American Writing Compass is required.
4. Appropriate immunization records. These records must be submitted with an English translation.
5. Proof of health insurance is required each semester. Student health insurance is available for purchase through the University. Health insurance charges will be automatically assessed to the student account if proof of personal health insurance is not provided.
6. When transferring an I-20 to MSU Billings, an I-20 Transfer Form must be completed by the student as well as the current international academic advisor.

**When to Apply****Application Deadlines:**

Fall Semester: June 1  
 Spring Semester: October 1  
 Summer Semester: February 1

**Deferral Deadlines:**

Fall Semester: July 15  
 Spring Semester: November 15  
 Summer Semester: March 15

For more information on international student admission call the International Studies Office at (406) 657-1705 or email [internationaladmissions@msubillings.edu](mailto:internationaladmissions@msubillings.edu)

**International Students Enrollment and Academic Progress**

International students must maintain academic status according to US immigration law and MSUB policies.

- A. To maintain an F1 visa, a student must make normal academic progress as well as abide by state and federal laws. Normal academic progress is defined as enrolling in and passing a minimum of 12 credits and achieving a minimum semester GPA of 2.0.
- B. An Incomplete or Withdraw will not count towards credits passed within a semester.
- C. It is the student's responsibility to manage his/her enrollment and abide by the rules of his/her visa. This includes updating personal information records via the myInfo, completing the MSUB Immigration Registration Form each semester, registering for classes in a timely manner, and adhering to all deadlines on the Academic Calendar (in particular late registration, withdrawal from classes, payment of fees, and monitoring academic standing).
- D. Students who are deemed "out of status" for the second semester or for failure to attend class will have their I-20 form terminated immediately and must either request reinstatement with a different university or leave the United States. There is no grace period.
- E. Being dropped for non-payment of tuition and fees is a violation of student visa status and may result in cancellation of a student's I-20.

**Western Undergraduate Exchange (WUE)**

City College at Montana State University Billings participates in the Western Undergraduate Exchange (WUE), a program of the Western Interstate Commission for Higher Education and other western states. Through WUE, undergraduate students who are not residents of Montana may enroll at City College at Montana State University Billings and pay reduced nonresident tuition and fees. This WUE tuition rate is in-state tuition plus 50 percent of that amount. Because City College at Montana State University Billings participates, residents of Montana may enroll under the same terms in designated institutions and programs in other participating states.

Resident students from the following may participate if they meet eligibility requirements: Alaska, Arizona, Montana, California, Oregon, Colorado, Nevada, South Dakota, Hawaii, New Mexico, Utah, Idaho, North Dakota, Washington, Wyoming, and the Commonwealth of the Northern Mariana Islands (CNMI).

All degrees and programs are offered to undergraduates in WUE. This program may be subject to enrollment limits established by the Montana Board of Regents. Application forms for WUE are available at the Office of Admission and Records (406) 657-2158 or 1-800-565-MSUB.

**Veterans' Affairs Office****McMullen Hall First Floor, (406) 657-2158**

Veterans are advised to check with the Veterans' Affairs coordinator 30-45 days prior to registration. A veteran must notify this office whenever there is a change in address, enrollment, or additional dependents.

**Falsification of Information**

Each student is responsible for knowing and for complying with all regulations regarding the admission procedures. Failure to be informed or to comply does not excuse a student from responsibility or from any penalty or difficulty which may be encountered. Misrepresentation or falsification of a student's enrollment status or application for admission will be sufficient grounds to cancel a student's current registration and to suspend the student for two semesters. It is the student's responsibility to know his/her enrollment status at his/ her former institution(s).

## Denial of Admission

Under Board of Regents' policy (301), MSU Billings "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 (a) to violence and destructive tendencies, (b) to behavior on other educational institutions, and (c) to any rehabilitative therapy the individual may have undergone."

Based on this policy and completion of the application for admission and other application materials (which may include but not be limited to the Safety Questionnaire, counselor input, advising or other student affairs interview and input), a student may be denied admission or may be given provisional admission at part-time or full-time status under the guidance of an advisor.

Reasons for denial shall be communicated to the individual in writing. Applicants may appeal their denial to the Vice Chancellor for Student Affairs.

## Registration

### First-Time Students

1. All first-time students at City College at MSU Billings need to apply to the College and be accepted before they can register
2. After being admitted, students should check for the beginning dates for registration (see the University Calendar on page 3), after which students may register at any time.
3. Attend a New Student Registration and an Orientation Session prior to the term of desired attendance. **Attendance at the Registration and Orientation Sessions is expected.** Placement testing, course registration, processing of student identification cards, and other information necessary for a successful first semester at City College at MSU Billings is accomplished through these sessions.
4. First-time students at City College at MSU Billings are required to visit with an academic advisor prior to registering for classes. Academic advising is provided as part of the Registration Session. A student's course schedule must be approved by an academic advisor before actual registration can take

place. The Advising Center, within Jacket Student Central, is located on first floor of the Tech Building at the City College Campus, (406) 247-3019 and McMullen Hall First Floor, (406) 657-2240 on the University campus.

5. As students are expected to complete 60-72 credits over a four-semester period of time to graduate in two years, a minimum of 15 or more credits must be taken each semester. To encourage students to take a full load of 15 or more credits, a "Flat Spot" in the tuition has been created allowing students to register for 12 or more credits for the same tuition as 12 credits. Thus, whether one registers for 12, 15 or 18 credits, the same tuition applies. It is clearly to students' advantage to register for 15 credits or more a semester.
6. Once the course schedule has been approved, the student should follow registration instructions found on the web at [www.msubillings.edu](http://www.msubillings.edu) or from the advising office.
7. Some classes may be restricted or closed and need departmental approval. Student should see the department or Jacket Student Central for assistance in registering for these courses.
8. Students may add courses during the first seven instructional days of the semester before permission of the instructor or department chairperson is required. Dropping a course with a partial refund is permissible through the 15th instructional day, and a course may be dropped without a grade penalty up through the 13th week of the semester. With instructor and advisor approval, a course may be dropped up until 10 class days (not including finals) from semester's end. Once a course grade is submitted, the course may no longer be dropped without instructor and advisor approval.
9. Students who have not paid their bills by the close of business on the 3<sup>rd</sup> day of classes will be dropped from their classes.
10. If a student registers after the third day of the semester, a late fee will be added to the registration charge.

## Registration Regulations

### Late Registration

Students are expected to complete registration within the dates stated. For any delay beyond that period, unless such delay is caused by University officials, a



late registration fee will be charged. Students permitted to register late must pay the full fees. Students who fail to pay or do not have their fees arranged before the final fee payment day will have their classes deleted for that semester.

### **Transcript(s) from Former School(s) and College(s)**

All official records (transcripts) of former college study must be filed in the Jacket Student Central by new students (and by former students if they have attended other colleges since last attending MSU Billings) before their registration is considered complete. (See Non-Degree Policy and Procedures under Admissions Section.) Failure to file transcripts with Jacket Student Central within a reasonable time will result in the cancellation of a student's registration. Responsibility for securing transcripts rests with the student.

### **Adding Courses**

Students may add courses during the first seven instructional days of each semester. Students may add courses after the seventh instructional day and through the 15th instructional day only with the instructor's and department chairperson's approvals.

### **Repeated Courses**

When a course which a student has previously attempted is repeated, only the most recent course credit and grade is calculated into the student's grade point average, even if the most recent grade is lower. (Note: the original course and the grade remain on the official transcript in addition to the more recent course and grade). In order to inform the Office of Admissions and Records of a repeated course, the student must file with the Office of Admissions and Records a Repeat Form that identifies the proper course numbers.

No prerequisite course may be repeated if the more advanced course has been completed with a grade of "C" or better. Exception may be considered upon appeal to the chairperson of the department in which the course is offered.

### **Veterans' Credits (Credit for Military Service)**

Credit may be granted for military service and for completed military service schools based upon the recommendations of "A Guide to the Evaluation of Educational Experiences in the Armed Forces." Application for such credits should be made at the Office of Admissions and Records. The University accepts many forms of Professional Military Education (non-academic experience and training) that have been

evaluated by the American Council on Education (ACE) as academic credit. Veterans are encouraged to get transcripts to the Registrar's office for evaluation. Please refer to the following website for directions on requesting military transcripts:  
[www.msubillings.edu/reg/MilitaryTranscripts.htm](http://www.msubillings.edu/reg/MilitaryTranscripts.htm)

### **Credit Recommended by the National Guide to Education Credit for Training Programs**

Credit may be granted to students based on the recommendation of the *National Guide to Education Credit for Training Programs* and the National Program on Collegiate Sponsored Instruction.

## **Academic Regulations**

### **Flat Spot**

**As students are expected to complete 60-72 credits over a four-semester period of time to graduate in two years, a minimum of 15 or more credits must be taken each semester. To encourage students to take a full load of 15 or more credits, a "Flat Spot" in the tuition has been created allowing students to register for 12 or more credits for the same tuition as 12 credits. Thus, whether one registers for 12, 15 or 18 credits, the same tuition applies. It is clearly to students' advantage to register for 15 credits or more a semester.**

### **Credit Overload**

Any student not on probation may register for up to 18 credits per term. However, individual students who have a 3.00 grade point average (GPA) may register for up to 20 credits per semester without consent. Students who wish to register for a credit load in excess of 18 hours, but who have less than a 3.00 GPA must have approval of the chairperson of the department in which they are majoring. Students who have a 3.00 GPA and wish to register for a credit load in excess of 20 credits per semester must have the approval of the chairperson of the department in which they are majoring, complete a Request for Overload form, and return the form to the Advising Office.

### **Change of Major**

A student who considers such a change is warned that the requirements of the new curriculum may make necessary the completion of additional credits if the student is to fulfill requirements for graduation. Students need to visit the Advising Center within Jacket

Student Central (City College Tech Building First Floor/McMullen Hall First Floor) to obtain assistance with a change of major.

## Final Examinations

Final examinations are scheduled during the last week of each semester. A final examination schedule is available at Jacket Student Central and on the web at [www.msubillings.edu](http://www.msubillings.edu).

## Accelerated Coursework

Students are encouraged to decrease the time required to complete a degree by gaining credit for knowledge they have obtained which duplicates that which is taught in specific courses. Students should initiate requests for such academic credit by consulting first with their advisor or department chairperson. The following provisions indicate ways accelerated credit may be awarded.

Applicants who have taken **Advanced Placement (AP) Exams, C/T Start** and/or **International Baccalaureate (IB) Exams** should request that the official scores be sent directly to the Office of Admissions and Records. AP scores of 3 or higher and IB Exams with scores of 4 or higher will be granted college credit with a Pass (P) grade for the equivalent courses. After students successfully complete a semester at MSU Billings, the credits will be placed on their college transcripts with the indication of AP for Advanced Placement, IB for International Baccalaureate, or C/T for Career/Technical Statewide Articulations (C/T Start).

## Course Substitution

Students may request a substitution for any stated course if they have previously completed a college course in which the subject matter closely parallels that of the course for which they request the substitution. All substitutions must be approved by the academic department chairperson. In no instance will a reduction be made in the number of credits required for any academic program.

## Challenging Courses

Each department or unit determines the courses which may be challenged. A course may not be challenged when the course is a prerequisite to a more advanced course already completed. Students are advised to check with individual departments for detailed procedures to be followed.

### Procedure for Challenging a Course

The student should obtain a recommendation from the instructor of the course being challenged and the approval of the chairperson of the department in which

the course is listed. The following conditions apply to the challenging of courses for college credit:

1. The student must be currently enrolled in City College at MSU Billings.
2. Approval of the challenge request must be made by the chairperson of the department in which the course is listed, who will decide whether the challenge shall be by a comprehensive examination and/or by some other evidence of competence in the subject matter of the course.
3. Challenge credit may be granted only if the grade received is "C" or higher.
4. A course previously taken as an audit course or as a credit course may not be challenged for credit.
5. By action of the University's Academic Senate, AP, CLEP and DANTES credits are awarded with a "P" grade. Departmental challenges may carry a letter or "P" grade.

The Board of Regents has authorized the [American Council on Education's Guide to Educational Credit by Examination](#) and [National CCRS \(National College Credit Recommendation Service\)](#) for use to establish minimum scores and credit.

6. Currently enrolled students may receive credit on their transcript for successfully completed Advanced Placement (AP) exams, DANTES exams, College Level Examination Program (CLEP) exams or challenge exams prepared by the Academic Department. For the credit to be applied to an City College at MSU Billings transcript, the following procedure must be followed:  
Students or departments must turn in challenge documentation to the Jacket Student Central Office after the successful challenge has been completed. Admissions and Records will enroll students for the course during a semester when they are planning to enroll in 12 or more credits. Additional tuition and mandatory fees are not charged for credits taken in the tuition "flat spot" 12 credits and up. AP and CLEP credits are added to student transcripts after the 15th class day each term.

## Independent Study

Well-qualified students may undertake academic work in the form of independent study. The number of credits will be determined by the instructor and

approved by the department chairperson. Courses listed in the Catalog as regularly offered courses may not be taken under the designation of Independent Study.

### Advanced Placement

Advanced placement in certain academic areas with sequential or prerequisite courses is available to students with a high degree of competency. Normally, advanced placement is made on the basis of standardized tests and other evidence of competency in the area. Should students demonstrate sufficient competency as determined by the appropriate department, they are placed at a level in the course sequence commensurate with their abilities. Satisfactory results of the advanced placement procedure are reported to the Office of Admissions and Records by the responsible department with a grade report. AP for High School Students and College Level Examination (CLEP) are two types of Advance Placement examinations that the college accepts. For more information please refer to the MSU Billings General Bulletin, contact the Admissions and Records Office at (406) 657-2158.

### Prior Learning Assessment Policies and Procedures

At City College at Montana State University Billings, students may earn credit through a variety of methods including work experience and challenge tests. The University will work with the student to determine which type of experience can be translated into credit.

Note: Prior Learning Assessment guidelines and policies are currently under review with the Montana Board of Regents and are subject to change.

Several options are as follows:

1. Challenge tests, such as CLEP and DANTES, allow the student to study for and test out of equivalent college-level courses. Tests can be scheduled at the City College Testing Center (406-247-3025).
2. Students may have already earned credit through work-site training or government-sponsored workshops or military experience. If students have certificates or documentation which state that the American Council on Education (ACE) or the National CCRS (National College Credit Recommendation Service) assesses that training, credit may be available for coursework for which there are equivalencies in MSU Billings' curriculum. Military credit is assessed from the DD214, DD295, or military transcript. Questions about this type of training or military credit may be

directed to the University campus Advising Center at (406) 657-2240.

3. In addition to the methods listed above, the University also offers students the opportunity to earn credit through Prior Learning Assessment. This assessment will take into account work experience or other learning experiences, which do not fall into the categories described above, but which can be assessed through the development of a portfolio. Up to 15 credits can be earned through Prior Learning Assessment, and this type of credit will be graded with "P" if credit is earned. The University offers individual instruction for students throughout the process of preparing this portfolio. For more information on Prior Learning Assessment, please call Admissions and Records at (406) 657-2158.
4. Implementation of these policies needs to be consistent with existing departmental policies and consistent with accreditation policies and practices already in place in the various colleges (NCATE, AACSB, etc.).

### Prior Learning Assessment Guidelines

- A. Prior to enrolling in this course, students must have successfully completed 12 credits of college-level coursework with a 2.50 GPA from an accredited institution within the past five years. Prior credit must also include completion of WRIT 101 or its equivalent.
- B. The student will first select the MSU Billings course the student wishes to complete through Prior Learning Assessment. Second, the student will contact the on-campus instructor for that course to determine whether the student can meet the course objectives through this method of assessment. If the student receives a positive recommendation from the instructor or department chair or dean, the student may proceed with the portfolio process for that course; however, a positive recommendation does not guarantee the award of credit.
- C. The student's completed portfolio is examined first by the Admissions and Records Office for approval or returned to the student for additional documentation. If approved, the portfolio is forwarded to the chair of the department in which the student seeks to receive credit and to faculty member from whom the student received the recommendation. If approved by both the chair and the faculty member of record, the portfolio goes to the Academic Standards and Scholastic Standing Committee. Final action on the awarding of credit

takes place in this committee. Credit awarded may not be the same as the number of credits requested by the student's portfolio.

- D. Credit recommendation and documentation for the coursework is forwarded to the Registrar if the assessment is successful. Coursework is posted on student's transcript using the course equivalent assigned by the portfolio assessment process.
- E. Up to 15 credits may be earned through this procedure and coursework will be graded Pass/ No Pass. Students may submit subsequent requests to earn credit through prior learning assessment after initial completion of the seminar course. Registration and program guidelines shall be those in force at the time of the subsequent request.

## **Auditing Coursework**

### **(No credit awarded)**

Any person enrolled for audit will be certified as such by the Office of Admissions and Records and will not receive credit for the course nor be required to take examinations. An audit must be declared during the first seven instructional days of a semester. A student who registers to audit a class will not be permitted in any City College at MSU Billings class which requires any laboratory or clinical work. Any exceptions to this policy must be approved by the appropriate department chair and dean.

Currently enrolled students who elect to audit a class pay the normal credit hour fee as outlined in the student fee schedule. Any person not otherwise enrolled or registered in a course for college credit may, with instructor approval, audit the course at the cost of \$5 per credit hour. These fees are nonrefundable.

An audit is at the discretion of the course instructor. In order to audit, the student must obtain instructor's permission and instructor's signature on an audit card. This card is available from Jacket Student Central (Tech Building First Floor). When the student has completed the audit card with the faculty signature and cashier payment, the card is returned to New Student and Retention Services.

A student may not later establish credit in a course that was taken under the audit option by taking a special examination. In all cases, students who register for regular credit and pay regular fees will have priority for enrollment in a class over those students who audit the class.

## **Class Attendance and Student Absences**

Members of the faculty determine the attendance policy for their classes. Absences for official University activities are permissible providing the instructor is notified in advance of such an absence. An official University activity is an activity where a student officially represents the University through an academic department, sponsored University program, or an officially registered student organization. In all absences, the student is responsible for all requirements of the course.

Requests for absence for special events shall be submitted to the Vice Chancellor for Student Affairs on the Student Travel Authorization form. This form should be obtained from the Office of the Vice Chancellor, room 201, McMullen Hall, at least one week in advance of the expected absence. This procedure will ensure students the opportunity to make up examinations given when official University activities are scheduled.

### **Class Enrollment Lists**

Faculty may obtain class lists each term online. Only students who are regularly registered for a course may attend class. No grade or credit will be given to students for any course in which they are not properly registered.

### **Extent of Official Absence**

When issued, an official absence is an excuse for time only and does not mean that a student is excused from the study assignment for that period. Each student is responsible for making up all work missed, as required by the instructor.

## **Drops and Withdrawals**

### **Dropping a Course**

Dropping a course is permitted through the seventh week, 35th day of the semester. There is no penalty for failing work through the drop period. Dropping a course is also permitted through the 13th week and up until 10 class days from the official end of the semester (not including final) with the approval of the student's academic advisor and course instructor. Once a course grade is submitted, the course may no longer be dropped without instructor and advisor approval. After the 13th week, students may not drop courses, and the instructor will assign a letter grade. The mark "W" is assigned to any course dropped after the 15th day of class.

After the 15th class day and before the 13th week, all drops must be formal and must be recorded by the student with the Office of Admissions and Records

In all courses in which a student fails to complete all requirements and for which no formal withdrawal has been filed in the Office of Admissions and Records, the final grade for the course shall be an "F."

### **Withdrawal from College**

Students who withdraw from City College at MSU Billings during a semester are required to fill out a withdrawal form and complete an exit interview with an advisor in the Advising Center located in Jacket Student Central on the first floor of City College Tech Building.

Students who officially withdraw during the first fifteen days of an academic term will not have the coursework reflected on the transcript. Students who withdraw after the third week will receive a grade of "W" (Withdraw) in all classes.

**Students who do not officially withdraw from classes will receive a letter grade (i.e., other than a "W" grade) to be determined by the instructor of each class.**

## Student Tuition and Fees

*The student fee information provided in this Catalog is based upon policies of the Board of Regents of Higher Education in effect at the date of publication. **The Board of Regents of Higher Education reserves the right to change the fees at any time without notice.** Additional information concerning fees may be obtained by contacting the Business Office, City College Tech Building, 3803 Central Avenue, Billings, MT 59102 (406) 247-3002 or McMullen Hall ground floor west, Montana State University Billings, 1500 University Drive, Billings, Montana 59101-0298, (406) 657-2140. Check us out at [www.msubillings.edu/boffice](http://www.msubillings.edu/boffice) then select Student Account Information.*

Students are encouraged to have adequate funds on deposit in a local bank in order to be able to write checks for the payment of tuition, room and board, books, supplies and other fees. Foreign checks are not accepted. Student enrollment is not complete until all fees have been paid, or satisfactory arrangements have been made with the business office.

All undergraduate and graduate students enrolling at City College at Montana State University Billings must pay the required fees in the fee schedule for each semester.

### Semester Tuition and Fee Schedule Effective Fall Semester, 2016

**Tuition and fees are subject to change by authorization of the Board of Regents of Higher Education.** Questions on the current fees should be directed to the City College at MSU Billings Business Office at (406) 247-3002 or in City College Tech building First floor. Comprehensive fee and extra fee tables are available through the MSU Billings website at [www.msubillings.edu/boffice](http://www.msubillings.edu/boffice) under Student Account Information.

A student paying for 12 credits in a semester may take any additional credits for no additional tuition. This is referred to as the “flat spot” in the Tuition and Fee Schedule.

Tuition and fees for graduate studies, extended studies, summer session, workshops, and conferences may be in addition to or in lieu of the required fees. Please consult the publications pertaining to the special session, course, workshop or conference to determine those fees.

### Fee Schedule Required Tuition and Fees Per Semester

#### Registration Fee

A \$30.00 nonrefundable fee is assessed each enrolled student per semester.

#### Tuition Fee

Students are charged tuition each semester to pay for the delivery of the education they are receiving. Resident students are subsidized by the State of Montana and pay a reduced tuition rate.

#### Associated Students Activity Fee & Recreational Activity Fee

Students enrolled for seven credit hours or more each semester are required to pay for activities sponsored by the Associated Students of Montana State University Billings. Students enrolled for less than six credit hours pay a reduced activities fee each semester. **Online only students do not pay these fees.**

#### Academic Building Fee

The Academic Building fee varies based on the number of credit hours taken. The funds generated from this fee are used to pay a portion of the costs of repair, maintenance, and operation of the state owned buildings on campus.

#### Resident and Nonresident Building Renewal and Replacement Fee

All students are charged a building fee for the building and replacement of campus structures. A reduced rate is charged to students taking less than 7 credits. In addition, a nonresident building fee is collected from all students who are not residents of the State of Montana.

#### Equipment Renewal and Replacement Fee

Enrolled students are assessed an Equipment Renewal and Replacement Fee each semester. This fee is used to replace obsolete equipment with new equipment and cover costs of equipment repairs.

**Student Union Fee**

Each semester students are assessed a fee pledged for the operation of the Student Union. Students enrolled for less than four credit hours pay a reduced fee.

**Computer Fee**

Students are assessed a computer fee to cover the expense of student used computer equipment and labs.

**Athletic Fee**

Students enrolled at City College at MSU Billings are assessed a fee to subsidize the University's athletic department and associated activities. Students enrolled for seven credits or less pay a reduced athletic fee.

**Online only students do not pay this fee.**

**Library/Assessment Fee**

All students are assessed a Library/Assessment fee. Funds generated from this fee are used for the purchase of new and replacement books, periodicals, and assessment tools.

**Technology Replacement Fee**

All students are assessed a tech replacement fee. This fee is used to support the information technology infrastructure. All students accessing email or the web are utilizing and benefiting from the tech replacement fee.

**Comprehensive Health Plan**

Student health coverage consists of two parts:

**Health Service**

All students are entitled to services provided by the Student Health Center. Students enrolled in 7 or more credits are charged a mandatory fee. Students enrolled for six credit hours or less may have the benefits of the Health Center services by electing coverage and paying the semester fee. **Online only students do not pay this fee.**

**Health Insurance**

All students enrolled in 7 or more credit hours will be automatically enrolled in the health insurance plan and assessed the health insurance premium. *Any student covered by another health plan must access the insurance waiver form via the student secure website prior to the 15th class day and the account will be adjusted.* Students who enroll for four to six credit hours may participate in the health insurance plan upon request by enrolling in the plan, paying the insurance premium and the Health Service fee. Students taking less than four credits may petition to enroll in the health insurance plan.

**Additional Information Regarding Fees****Withdrawing from All Classes and Refunds**

The following refund schedule applies to the standard semester format. For courses taught in nonstandard format such as Intercession, and special workshops, there are no refunds after the first day the class meets. See the Summer Session catalog for information regarding the refund policy during summer.

1. Registration fee is nonrefundable.
2. 90 percent of all remaining mandatory fees will be refunded to the end of the fifth classroom day.
3. 75 percent of all remaining mandatory fees will be refunded to the end of the 10th classroom day.
4. 50 percent of all remaining mandatory fees will be refunded to the end of the 15th classroom day.
5. Refunds will not be made after the 15th day of classes. Exceptions to this may occur in the case of financial aid students subject to the federal pro rata refund policy.
6. Refunds are determined as of the day the student officially withdraws from college and not from the date of last class attendance.
7. Classroom days are determined by the college calendar—not by the student's class schedule.

City College at MSU Billings students receiving Title IV funds and who officially or unofficially withdraw or are expelled, up to the 60% point of the semester, may be required to return federal funds. Students may also be entitled to a post withdrawal refund up to the 60% point of the semester. Copies of the Federal Title IV policy may be obtained at the MSU Billings Financial Aid Office.

Financial aid recipients will not receive refunds until their financial aid is repaid (Pell Grant, SEOG Grant, SSIG Grant, Perkins Loan, FFEL Loans, fee waivers, and some scholarships). If the refund is insufficient to repay the financial aid programs, students will be billed for the over-awards.

Students who owe over-award repayments to any federal aid programs cannot receive future financial aid until repayment is made in full.

**Changes in Credit Load after Payment of Fees**

Students adding classes after payment of fees are required to pay additional fees created by the change in credit load. Payment for these charges is due immediately.

Students dropping classes (but not withdrawing) will receive a 100 percent refund on classes dropped before the end of the 15th classroom day. Refunds will not be made after the 15th classroom day. Students will be assessed a \$5.00 drop fee for each class dropped.

## Payment of Fees

Financial Aid students must pay for fees prior to the first day of classes. The student's financial aid will be applied to the student's account with any refund being direct deposited or mailed to the student prior to the first day of classes. Call the Business Office at (406) 247-3002 for details, or visit us at [www.msubillings.edu/boffice](http://www.msubillings.edu/boffice).

Payment may be made by credit card (VISA, MasterCard, and Discover) in person, by mail, or via the internet by accessing the student secure website and selecting the student online payment option.

Fees may be paid after courses are selected. To avoid a \$40.00 late registration charge, fees must be paid by the date posted for each semester as indicated in the calendar. Fees may be paid online or by mail. To request that a fee statement be mailed to you, call (406) 247-3002.

Students may elect to pay their fees in installments. The installment payment method requires approximately 1/4 down, 1/4 within 30 days, 1/4 within 60 days, and 1/4 within 90 days. A \$30.00 administrative charge is assessed to students using the installment method. Students not paying in accordance with the terms of the deferred fee contract will be charged a \$15.00 late payment fee per installment, and may have their enrollment canceled.

If the student withdraws from the University and the installment contract is not paid in full, any refund due the student is applied first to the unpaid balance of the contract. Withdrawal from the University does not void the contract and the University refund policy will be followed.

## Non-Payment of Fees

No person who owes Montana State University Billings any fees, fines or other charges will be permitted to (1) receive academic credit or grades; (2) register; (3) secure a transcript, diploma, or other record; or, (4) access any MSU Billings facilities or services, regardless of the relationship thereof to the amount owed, until the full amount due has been paid or satisfactorily adjusted with Business Services. Any attorney's fees or other costs or charges necessary for the collection of the amount owed may be added to the

balance due, including collection agency fees. MSU Billings shall have the right to apply any portion of any amount it may owe such individual for any reason, including wages, to payment of the balance owed MSU Billings.

## Other Fees

### Late Registration Fee

A nonrefundable fee of \$40.00 is payable by all students who do not pay during the designated fee payment period unless their late payment was due to the fault of Montana State University Billings. If a bank declines payment on a check and returns it to Montana State University Billings, a late registration fee shall be charged to the student offering the check in payment of fees. The late registration fee applies to students enrolled for six credit hours or less beginning the second week of classes.

### Audit Fee

Students who elect to audit a course must pay the normal per credit hour fee as outlined in the student fee schedule.

### Listening Fee

Any person not otherwise enrolled, and who does not want to register in a course for college credit, may with instructor approval enroll upon payment of a \$5.00 per credit hour fee. Listening fees are nonrefundable.

### Application Fee

A \$30.00 nonrefundable application fee is assessed to each person applying for admission for the first time as an undergraduate student. Normally, this fee applies only to the period for which the person is making initial application at the undergraduate level. If the applicant is accepted and does not register, admission to City College is cancelled. The applicant has one calendar year from the semester of initial application to apply for readmission without paying an additional application fee. After one year, the \$30.00 application fee is assessed again.

## Course-Related Fees

Several City College at Montana State University Billings courses require additional fees. Examples of these are art classes, science labs, or field trips. Some practicum and internship classes require an extra fee for professional liability insurance. A complete schedule of course related fees are available from the Business Office web site: [www.msubillings.edu/boffice](http://www.msubillings.edu/boffice)



**Electronically Mediated Course Fees**

Interactive television courses and online courses are assessed additional fees per credit hour. Electronic mediated fees are non-returnable after the 5th classroom day.

**Graduation Fee**

A nonrefundable fee is assessed per degree for each application to graduate. Please call Admissions and Records (406-247-3000) for details.

**Transcript Fee**

Students may receive one free official transcript. Each official transcript thereafter costs a minimal fee. Call Admissions and Records (406-247-3000).

**Parking Fees****Parking**

**Campus Police, (406) 697-1403/657-2147**

**[www.msubillings.edu/security](http://www.msubillings.edu/security)**

City College at MSU Billings provides parking for students for a fee. All vehicles parked on University property must display a current MSU Billings parking permit on weekdays when the University is in session during the hours specified in the "MSU Billings Traffic and Parking Regulations" brochure. Students may purchase parking permits online and have the permit mailed to them or they can go to the Campus Police Office on the University campus, which is located on the southwest side of the ground floor of the parking garage, to purchase and pick up the parking permits. Campus Police is open Monday through Friday, 7:30 a.m. to 5:00 p.m.

**Residence Halls Meal Plan**

All students living on campus are required to purchase a meal plan each semester. Check online at [www.msubillings.edu/dining/](http://www.msubillings.edu/dining/) for meal plans, benefits of the plan, and services.

**Western Undergraduate Exchange (WUE)**

City College at Montana State University Billings participates in the Western Undergraduate Exchange (WUE), a program of the Western Interstate Commission for Higher Education and other western states. Through WUE, students from Alaska, Oregon, California, Colorado, Nevada, South Dakota, Hawaii, New Mexico, Utah, Idaho, North Dakota, Washington, and Wyoming may enroll in degree programs paying resident tuition plus 50 percent of that amount (plus other fees that are paid by all students). Students should be aware that the Montana Board of Regents may change regulations concerning Montana's

participation in the WUE Program. Students may contact the Office of Admissions and Records at City College at MSU Billings, (406) 247-3000 or 1-800-565-MSUB for more information.

**Determination of Resident Fee Status**

The Montana University System classifies all applicants for admission and students as either in-state or out-of-state. The basic rules for making the classification are found in Board of Regent's policy. It is each student's responsibility to secure and review a copy of the policy. Failure to be aware of the rules will not be cause for granting exceptions to them. A copy of the policy is available from the Office of Admissions and Records at City College at Montana State University Billings. Each residency determination is based on the unique set of facts found in each individual's case. If students have questions regarding their case, they should contact the Office of Admissions and Records.

**Dishonored Check Policy**

An administrative service charge of \$15.00 is assessed each time a check is returned by a bank. Any check tendered in payment of fees and returned by a bank may result in the postponement of a student's registration and/or the assessment of the late registration fee.

# Financial Aid and Scholarships

City College Tech Building, Jacket Student Central, First Floor  
McMullen First Floor, (406) 657-2188  
[finaid@msubillings.edu](mailto:finaid@msubillings.edu)

The Office of Financial Aid and Scholarships at Montana State University Billings provides advice and financial assistance to students. Although families and students are expected to make a maximum effort to meet the costs of education, financial aid is available to fill the gap between family resources and educational expenses.

Financial aid consists of grants, scholarships, loans, and employment opportunities. Individual awards are based on the calculated financial need of the student and the availability of funds. The estimated financial need is the difference between the cost of attending MSU Billings and the ability of the student and/or family to contribute to those education costs as determined by the results of the Free Application for Federal Student Aid (FAFSA).

All students are encouraged to complete the Free Application for Federal Student Aid (FAFSA). This form can be completed on the web at [www.fafsa.gov](http://www.fafsa.gov). Early application is essential as some funds are limited and awarded on a first come, first serve basis until the funding has been exhausted. Priority awarding will be given to those students who have a complete FAFSA and have submitted the required documentation to our office by December 1st. Students should allow up to two weeks for our office to receive the FAFSA. We will then begin communications with the student regarding any additional information that needs to be submitted before we can evaluate aid eligibility. After all requested documentation has been submitted, it can take four to six weeks before an award offer is generated. The FAFSA must be filed annually, and becomes available for the upcoming academic year (Fall/Spring) on October 1st of every year.

## What Does College Cost?

To help students make an evaluation of their financial needs, each year the Office of Financial Aid & Scholarships develops a financial aid budget, called the Cost of Attendance (COA). The COA is the **ESTIMATED** cost of completing a full year at MSU Billings. It is important to note that the COA is a tool used by the Office of Financial Aid & Scholarships to determine student eligibility for financial aid and does

not reflect the actual bill that will be paid to MSU Billings. To review the COA, visit:  
[msubillings.edu/finaid/CostOfAttendance.htm](http://msubillings.edu/finaid/CostOfAttendance.htm)

## General Eligibility Requirements

All financial aid recipients must meet the following eligibility requirements:

- Be enrolled/accepted for enrollment in a degree or certificate program.
- Cannot be enrolled in an elementary or secondary school.
- Have a high school diploma, GED, or HiSET.
- Be a citizen or eligible non-citizen.
- Maintain satisfactory academic progress (see section below).
- Cannot be in default on Federal Perkins Loans, Federal Direct Loans, or Federal PLUS Loans (parent or graduate) at any institution.
- Cannot owe an overpayment of Federal Pell or Federal Supplemental Education Opportunity Grant (FSEOG).
- If required, must register with the Selective Service.
- Cannot have borrowed in excess of loan limits.
- Have need, as defined by individual program requirements (except for unsubsidized Stafford Loans and PLUS Loans).
- Meet any other program-specific criteria.

## Aid Types

Students who apply for financial aid are considered for all aid programs for which they are eligible. The most common types of financial aid are listed below.

### Grants

#### Federal Pell Grant

Federal Pell Grants are awarded to undergraduate students who have not earned their first bachelor's degree and have not reached the Pell Grant Lifetime Eligibility limit. Pell eligibility is determined by a formula developed by the U.S. Congress and is applied consistently to all applicants using the information reported in the FAFSA.

### **Federal Supplemental Education Opportunity Grant (FSEOG)**

This grant is awarded to undergraduate students who have not earned their first bachelor's degree and have financial need. Priority is given to students with an Estimated Family Contribution (EFC) number of "0" and who receive Federal Pell Grants.

### **State & Institutional Grants**

To qualify for one of the state or institutional grants, a student must be a Montana resident, be eligible for financial aid, and be enrolled or accepted for enrollment as an undergraduate student who has not earned his or her first bachelor's degree.

### **Scholarships**

Montana State University Billings has many scholarships available to students. Any prospective or currently enrolled student may apply for a scholarship by completing a General Scholarship Application Form available online at [www.msubillings.edu/scholarships](http://www.msubillings.edu/scholarships). Since the requirements and criteria are different for each scholarship, it is advisable for students to use the general application to be considered for all scholarships. **The Scholarship Application priority is February 1.**

### **Employment**

#### **Federal, State, and Institutional Work-Study Programs**

The federal and state work-study programs at MSU Billings are need-based and funded with federal and state dollars to provide students with part-time employment on and off campus. Institutional work-study is non-need-based and can be requested in writing to the Financial Aid Office. However, the request must be reviewed and there is no guarantee the request will be approved. Off campus work-study jobs are limited to community service employment. Hourly rates of pay comply with minimum wage laws and vary with the type of work and the student's experience and responsibilities. Student employees are paid every other week, according to State of Montana payroll schedules. To access a list of job opportunities, visit the "Work-Study Jobs" link at [msubillings.edu/finaid/](http://msubillings.edu/finaid/)

#### **Student Employment**

The Job Locator and Developer (JLD) assists MSU Billings students in obtaining part-time employment in the community. Area businesses list job opportunities with the Job Locator. The Job Locator Service is free to all MSU Billings students and is not based on financial need. Students who are interested in obtaining

employment should refer to the Career Link ([www.msubillings.edu/careers](http://www.msubillings.edu/careers)) for available job listings.

### **Loans**

Loans are a major source of aid for students. Student loans must be repaid after the student graduates, withdraws from school, or drops below six credits. Interest rates, grace periods, and repayment requirements vary depending on the type of loan. For more information visit: [www.msubillings.edu/finaid/Loans.htm](http://www.msubillings.edu/finaid/Loans.htm)

### **Tuition Waivers**

MSU Billings has tuition waivers for veterans, senior citizens, American Indians, faculty and staff, advanced honor students, athletes, graduate students, war orphans, dependents of firemen and policemen killed in the line of duty, and students with certain majors. Eligibility and selection criteria vary. Certain waivers require a separate application form and in some cases additional documentation in order to qualify. To be eligible for Department waivers students must complete the General Scholarship Application by the February 1 priority date. Inquire at the Office of Financial Aid and Scholarships for specific information regarding tuition waivers.

### **Other Programs Available**

#### **State Vocational Rehabilitation Service**

Students with disabilities may qualify for educational assistance through the Montana Department of Social and Rehabilitation Service. In Billings they can be contacted at 406-248-4801.

#### **Veterans' Benefits**

Students may apply for veterans' educational benefits through the Veterans Administration. Information can be obtained from the campus Office of Admissions and Records or the student's local office of the Veterans Administration.

#### **Tribal Grants**

Assistance is available to many American Indian students through Tribal Higher Education Offices. The award limits are based on the student's need and the availability of funds. Further information may be obtained by contacting the student's tribe or the tribal higher education office.

## More Financial Aid Information

### Financial Aid Satisfactory Academic Progress Standards

Students are expected to maintain certain academic standards and make satisfactory progress toward a degree in order to receive federal and state financial aid. In accordance with Federal and State laws and regulations, MSU Billings has established a policy to define and administer standards of academic progress for all students. Detailed information explaining the financial aid satisfactory progress standards, including the appeal and reinstatement process, is available on line at [www.msubillings.edu/finaid/SAP.htm](http://www.msubillings.edu/finaid/SAP.htm).

### Verification Process

Some students' FAFSA information will be selected by the Department of Education for verification. As a result, Financial Aid and Scholarships will request additional documentation to verify the information provided on the FAFSA is accurate and to resolve discrepant information. By signing the FAFSA, students and parents give the University permission to ask for all verification documentation. After these documents have been reviewed and the student has been determined to be eligible, a financial aid package will be offered.

### Refund Policy

The institution's refund policy for students who withdraw from college ranges from a 90 percent refund for class days one through five; 75 percent for class days six through 10; 50 percent refund for class days 11 through 15; there are no refunds after the 15th day of classes. Students with financial aid may have to return some or all of the financial aid they received if they withdraw or if they do not begin attending classes.

### Financial Aid – Summer Session

Summer financial aid is based on the FAFSA information used to determine eligibility for the previous fall and spring semesters. Those students who are Pell eligible should also complete the upcoming FAFSA to ensure they receive their maximum Pell grant eligibility. To determine aid eligibility for summer, students must complete and submit the Summer Award Acceptance form to the Office of Financial Aid and Scholarships. For specific information please visit: [www.msubillings.edu/finaid/SummerFinAid.htm](http://www.msubillings.edu/finaid/SummerFinAid.htm)

## Financial Aid - Study Abroad

The Financial Aid Director will review requests for funding "Study Abroad" coursework after receiving the following information and documentation:

1. Document acceptance into the study abroad program.;
2. A copy of the course approval form;
3. A list of all necessary direct education expenses such as: tuition & fees, books, class supplies, room and board
4. A copy of the airline ticket or a letter from a travel agency listing the cost if the student is to incur airfare or travel expenses

The above information must be submitted to the Financial Aid Office **at least six weeks prior to departure**. Any adjustments to a student's award will be based upon eligibility and available funds. Most grant and loan programs have yearly limits which cannot be exceeded. These limits could affect a student's funding level, even if allowable expenses are documented.

## Consumer Information

In accordance with federal regulations set forth by the Higher Education Act of 1965, as amended, a summary of consumer information must be made available to all current and prospective students of Montana State University Billings. The information that must be disclosed can be obtained at: [www.msubillings.edu/finaid/Consumer\\_Information.htm](http://www.msubillings.edu/finaid/Consumer_Information.htm)

## Questions? Contact Us

Visit the Financial Aid Office on the University Campus (located on the 1<sup>st</sup> floor of McMullen Hall), or during our scheduled hours at City College Jacket Student Central, or by calling (406) 657-2188, sending an email to [finaid@msubillings.edu](mailto:finaid@msubillings.edu) or visiting [www.msubillings.edu/finaid](http://www.msubillings.edu/finaid)

## Student Affairs & Student Support Services

City College at Montana State University Billings provides academic and student support programs and extracurricular activities that enhance and enrich the total student life of the University. A wide range of services, challenges, and opportunities are available for every student including programs delivered through the Division of Student Affairs and other activities that affect student life from admission through graduation.

City College at Montana State University Billings also provides a number of support facilities and services on campus to help students succeed in your academic efforts. Facilities include such obvious ones as the library and computers.

### MSU Billings Division of Student Affairs Mission Statement

The Division of Student Affairs provides exceptional service and cultivates an inclusive social and educational environment that enhances active student learning, engagement, development and success.

### Student Rights, Responsibilities and Conduct

Montana State University Billings statement regarding students' rights and responsibilities is as follows:

"Montana State University Billings is a community of scholars and members of such University communities have traditionally recognized their individual responsibilities in the development of a mature and sophisticated society. By enrolling in the University, the student neither loses the rights nor escapes the duties of a citizen. Each student should conduct his/her personal life in the context of mutual regard for the rights, property, and privileges of others. Therefore, it is expected that students will demonstrate respect for the law and for the necessity of orderly conduct in the affairs of the local and campus community. In certain circumstances where this preferred conduct fails, the University will rely upon the rules and procedures described in its **Code of Student Conduct** to hold students accountable for maintaining the responsibilities that follow.

#### Student Rights

One of the concerns of Montana State University Billings is to provide each student the opportunity to learn. Therefore, some personal freedoms and rights of students include, but are not limited to:

1. Freedom of inquiry, speech, and assembly.

2. Freedom from threats.
3. Freedom from acts of violence.
4. Freedom from unfair or obscene treatment from others.
5. Freedom from interference from others in an unreasonable and unauthorized manner while in class, activities, and public events.
6. Freedom from theft and willful destruction of personal property.
7. Right to study and learn in an atmosphere of academic freedom.
8. Right to procedural due process in University misconduct action.
9. Right to be governed by justifiable academic regulations.
10. To be informed in writing of the academic requirements determined by individual instructors.
11. Right to be informed of the regulations for academic and social conduct, and graduation requirements of the University.
12. Right to petition for redress of grievances, academic and non-academic

#### Student Responsibilities

Each student has the responsibility:

1. To respect the rights and property of others.
2. To be fully acquainted and comply with the published rules and regulations of the University.
3. To comply with all local, state, and federal laws.
4. To recognize that student activities reflect upon the individuals involved as well as upon the entire University community.
5. To recognize the University's obligation to provide a safe environment conducive for learning and academic inquiry.
6. To adhere to the academic requirements determined by individual instructors.
7. To abide by the reasonable direction of a University official acting within the legitimate scope of his or her duties."

### University Campus Student Affairs & Related Phone Numbers

Academic Support Center .....	657-1641
Admissions and	
Records/Registrar/Transcripts .....	657-2158
Advising Center .....	657-2240
American Indian Outreach Office .....	657-2182
Associated Students of MSUB .....	657-2365
Athletics/Yellowjacket Sports.....	657-2369
Business Services / Cashier .....	657-2301
Campus Police/Parking .....	657-2147

Career Services & Cooperative Education .....	657-2240
Childcare & Enrichment Center .....	896-5820
City College Student Services (Jacket Student Central) .....	247-3007
D2L Support (Online Learning) .....	247-5755
Disability Support Services .....	657-2283
Diversity Center.....	896-5902
Educational Talent Search .....	657-2116
Facilities Service.....	657-2306
Financial Aid and Scholarship.....	657-2188
Housing and Residential Life .....	657-2333
Information Technology (Help Desk).....	247-5755
Jackets & Company (Bookstore) .....	657-2121
New Student and Retention Services/Orientation .....	657-2888
Office for Community Involvement .....	896-5815
ROTC/Military Science .....	247-5733
Student Health Services.....	657-2153
Student Support Services.....	657-2162
Student Union & Activities .....	657-2387
U-Card/ID Cards.....	657-2023
Upward Bound.....	657-2180
Vice Chancellor for Student Affairs .....	657-2307

## Academic Advising

**City College Tech Building, Jacket Student Central, First Floor, (406) 247-3019**

**McMullen First Floor, (406) 657-2240**

**[www.msubillings.edu/citycollege/Advising.htm](http://www.msubillings.edu/citycollege/Advising.htm)**

The Advising Center offers advising services to all new admitted, transfer and re-admit students for the first few semesters. The Advising Center assists students with understanding the coursework and requirements for their major, registration, and academic planning. Upon completion of the first few semester(s) in good academic standing, the student is transferred to a faculty advisor in his or her major. Students should call this office for an appointment to begin the process of choosing coursework and determining an academic plan of study.

## Mandatory Advising

All first-time freshmen students entering City College at MSU Billings are required to see an academic advisor before registering for classes. During the initial advising session, students will receive information regarding requirements and worksheets for their academic program.

Advisors assist students with selection of courses and academically-related issues, but the ultimate responsibility for meeting graduation requirements belongs to the student.

## General Studies Students

Students who have not selected a major are registered as General Studies majors. In an effort to assist students in completing degree requirements as efficiently as possible, General Studies students are encouraged to focus on General Education requirements their first semester. Students are also encouraged to visit the Office of Career Services to explore career interests and to clarify how their academic program may support their career goals.

## Transfer Students

Students transferring to City College at MSU Billings are required to submit an admissions application to the University prior to arranging a visit with an advisor in the Advising Center to complete a transcript evaluation and begin developing a plan of study. In order to give an accurate transcript evaluation, transfer students should provide copies of transcripts of all previous college level work. Although we maintain course equivalency guides for all Montana colleges and universities, it is helpful if transfer students can provide catalogs with course descriptions for coursework completed at out-of-state institutions.

## Declaring a Major

Students are encouraged to select and declare a major during their freshman year. Upon declaring a major through the Advising Center, the student's advising file will be updated with academic program worksheets for the major, and a long range plan of study will be developed. Students who have declared a major will be assigned a faculty advisor from their major department for the remainder of their academic career.

## Changing a Major

Students who change their major are encouraged to visit with an advisor in the Advising Center. The academic advisor will clarify new program requirements, update the student's advising file with new program worksheets, and forward the student's advising file to the new faculty advisor. The changing of an academic major may have significant impact on a student's long-range academic plan. All students are encouraged to keep in close contact with their advisor through the process of changing majors.

## Assessment Testing

All entering students and transfer students who have not completed their general education requirements in English or mathematics must take the COMPASS Placement test. Results of the COMPASS Placement tests along with ACT/SAT scores are used to advise students into the most appropriate math and English courses. The COMPASS Placement tests are

administered prior to student registration sessions or Orientation. For further information, contact the Advising Center (406-247-3019 or 406-657-2240 or [ccadvising@msubillings.edu](mailto:ccadvising@msubillings.edu)).

## **Academic Support Center**

**City College Learning Commons, Tech Building**

**First Floor, A017, (406) 247-3022**

**University Campus: (406) 657-1641**

**[www.msubillings.edu/asc](http://www.msubillings.edu/asc)**

The Academic Support Center provides individual tutoring support in order to promote the academic success of students at City College at MSU Billings. Tutoring assistance is available for all areas of study at all levels of scholarship, from developmental math, reading, and English to graduate thesis projects. Tutors are available in person from 8:00 a.m. until 8:00 p.m. most evenings as well as online as late as 11:00 p.m. weekdays.

In addition, computer work stations and areas for small group study sessions are available to students throughout the day and into the evening. Specific instruction, including math, reading, English, computer applications, anatomy and physiology, and other specialty areas are available as needed or upon request. The Center also provides support materials such as handouts and texts for students' academic use. Special educational delivery requirements that need to be addressed by persons with disabilities should be directed to Disability Support Services.

## **Associated Students of Montana State University Billings**

**SUB 213, (406) 657-2365**

**[www.msubillings.edu/asmsub](http://www.msubillings.edu/asmsub)**

The Associated Students of Montana State University Billings (ASMSU Billings) are governed by a Student Senate, the functions of which are to administer and to distribute student activity fees, to act as liaison among students, faculty, and administration, to protect the privileges and the rights of students, and to act as a central agent for student opinion.

## **Legal Services**

The Associated Students of MSU Billings maintain an attorney on staff to assist students with legal problems. While there is no charge to see the attorney, there may be a nominal fee charged for certain types of legal services such as divorce, wills and name change.

## **Intercollegiate Athletics**

**Physical Education Building, (406) 657-2369**

**[www.msubillings.edu/athletics](http://www.msubillings.edu/athletics)**

Athletics is an integral part of the college life at MSU Billings for both men and women. All teams are members of NCAA Division II and the Great Northwest Athletic Conference. Men's and women's teams compete on a varsity level in basketball, cross country, golf, soccer, indoor track and field, and outdoor track and field; additionally, women compete in volleyball and softball, and men compete in baseball. MSU Billings Athletics also sponsors a coed varsity cheer team. All MSU Billings students are admitted free to Yellowjacket Athletics events with a valid student ID. Schedules, news, and stats are available on the Yellowjacket Athletics website at [www.msubsports.com](http://www.msubsports.com).

## **Jackets and Company at City College**

**City College Tech Building, First Floor, A038, (406) 247-3031**

**Student Union Building, (406) 657-2121**

**[www.jacketsandcompany.com](http://www.jacketsandcompany.com)**

Jackets and Co., the City College at MSU Billings branch of the University's campus store, provides the campus community with textbooks, supplies, and supplemental learning tools required in academic courses and operates stores at two locations across the campuses. Jackets and Company also carries a wide selection of school and office supplies, imprinted apparel, computers, software, electronics, gifts, greeting cards, and sundries at competitive prices. The Campus Store also features a convenience store along with soda fountain and a custom print shop.

## **Career Services & Cooperative Education**

**City College Tech Building, Jacket Student Central, First Floor, (406) 247-3006**

**Library 100, (406) 657-2168**

**[www.msubillings.edu/careers](http://www.msubillings.edu/careers)**

A full range of career services is available to help students gain experience and skills that will clarify career goals and facilitate entry into the job market. Services include Career Workshops, career counseling and assessment, credential file service, career resource library, campus interviewing, part-time and workstudy jobs in CareerLink, and career/job fairs. See [www.msubillings.edu/careers](http://www.msubillings.edu/careers) for additional information.

**Cooperative Education**

**City College Tech Building, Jacket Student Central,  
First Floor, (406) 247-3006**

**Library 100, (406) 657-1717**

Cooperative Education (Co-Op) internships create educational partnerships among City College at Montana State University Billings, the business community, and students. This unique academic experience allows students to earn academic credit while combining classroom learning with practical work experience. Learn more at [www.msubillings.edu/careers/cooped/students.htm](http://www.msubillings.edu/careers/cooped/students.htm)

**Career Services/Job Locator**

**City College Tech Building, Jacket Student Central,  
First Floor, (406) 247-3006**

**Library 100, (406) 657-1618**

The Job Locator coordinates part-time positions for currently enrolled students. Available jobs can be accessed in CareerLink, ranging from the service industry to technical positions, and are designed to accommodate students' academic schedules.

Financial aid-eligible work study students can access Community Service positions where students work in non-profit agencies in the local area as well as on campus work study positions.

**Carl Perkins Funding**

City College at MSU Billings receives funding from a grant provided by the Carl Perkins Act of 1998. The Perkins Act is designed to improve educational programs leading to academic and occupational skill competencies needed by all segments of the population to work in a technologically advanced society. Emphasis is placed on improving vocational education services for individuals who are disabled, academically or economically disadvantaged, preparing for nontraditional training and employment, or who are otherwise at an educational disadvantage, such as single parents, displaced homemakers, or those with limited English proficiency. In order to receive continued funding under the Perkins Act, institutions are expected to show constant improvement in its students' rates of academic attainment, degree completion, job placement and retention, and participation and success in nontraditional fields.

**William R. Lowe Child Care and Enrichment Center**

**2630 Normal Avenue**

**(Across from the Liberal Arts Building)**

**(406) 896-5820**

**[www.msubillings.edu/childcare](http://www.msubillings.edu/childcare)**

The Center provides child care services for children of MSU Billings students on campus, and it is designed to accommodate children ages 0-5 on a full-time or part-time basis that will best fit the schedule of the student/parents. The Center is open Monday through Friday from 6:45 a.m. to 6:00 p.m. MSU Billings students who are interested in touring the Center, finding out more about the services and the facilities, and/or submitting an application to enroll their child/ren are encouraged to contact the Director of the Child Care and Enrichment Center at (406) 896-5820.

**Dining Services**

**City College Tech Building, First Floor (406) 657-2381**

**[www.msubillings.edu/dining](http://www.msubillings.edu/dining)**

Montana State University Billings Dining Services offers a dining program for students, faculty, and staff. Students living in the residence halls participate in the campus dining program by purchasing one of six meal plans consisting of dining dollars and board meals. Board meals are used for an all-you-care-to-eat meals in Rimrock Café. Dining dollars can be used in any of the dining venues including Rimrock Café, Stingers Bistro, Jazzman's, SUB Connection, and City College Café.

City College at MSU Billings has a café available for student, faculty, and staff dining. City College Café provides a variety of choices including grill, subs on fresh baked bread, pizza, housemade soup, fresh salad bar, assorted beverages including Starbucks coffee and snack items. A Seattle's Best coffee vending machine is located on the first floor of the Health Sciences building as well as a food vending machine on the second floor to serve students. Café purchases can be made with the U-Card, cash, or credit/debit card. Residence hall students can use their meal plans at City College Café for breakfast and lunch.

**Disability Support Services**

**City College Tech Building, First Floor, A008**

**(406) 247-3029, (406) 545-1026 (VP)**

**COE 135, (406) 545-2518 (VP)**

**[www.msubillings.edu/dss](http://www.msubillings.edu/dss)**

Disability Support Services (DSS) provides direct assistance to students with documented disabilities by encouraging their independence, creating and maintaining an accessible physical and program



environment, providing a supportive emotional atmosphere, and serving as a liaison and advocate.

Students with disabilities have the responsibility to identify themselves and request appropriate accommodations. Students are encouraged to contact the DSS office in the City College Tech Building or University Campus College of Education, or visit our website at [www.msubillings.edu/dss](http://www.msubillings.edu/dss), or call the numbers listed above.

## **Housing and Residential Life**

**SUB 225, (406) 657-2333**

**[www.msubillings.edu/reslife](http://www.msubillings.edu/reslife)**

### **Residence Halls**

Montana State University Billings provides on-campus living facilities for students. The residence halls offer an environment which is desirable for those who are seriously seeking a well-rounded education. Participation in hall programming and group processes is part of the complete experience the residence hall provides.

Students living in the residence halls may select from a variety of living options. The residence halls offer a safe and fun-filled environment where students can live well, work well, and be well during their college experience. The residence hall experience includes some amazing benefits like wireless technology throughout the halls, in room sink, cable television in the floor lobby areas, laundry services, and more. Visit our webpage at [www.msubillings.edu/reslife](http://www.msubillings.edu/reslife) for more information about the residence hall experience.

Students with disabilities are encouraged to make arrangements for any specific needs with the Office of Housing and Residential Life and Disability Support Services prior to moving on campus.

Residence hall living is available during Fall, Spring, and Summer sessions and during break periods to those students meeting the necessary requirements.

To apply for residence hall living, contact our office at (406) 657-2333 or visit our website at [www.msubillings.edu/reslife](http://www.msubillings.edu/reslife) to apply for housing.

### **Family Housing**

MSU Billings offers 10 family housing apartments for students currently enrolled in 12 or more credits.

Family housing eligibility includes: married students, single parent with children, or married students with children. Family housing apartments include 6 three-bedroom apartments and 4 two-bedroom apartments.

There is an application and \$25.00 application fee to place your name on the waiting list for an available apartment.

To obtain more information about family housing apartments, contact the housing office at (406) 657-2333 or visit our website, [www.msubillings.edu/reslife](http://www.msubillings.edu/reslife).

## **Office of Information Technology**

**City College Tech Building, First Floor, (406) 247-3037**

**COE 401, (406) 247-5755**

The Office of Information Technology provides computing and multi-media technology services to students, faculty, and staff. The office supports over 800 student computers across 3 campuses. Students may go to City College Tech Building, First Floor or College of Education 401 to receive assistance with using computing applications, questions accessing their student login accounts and developing special multi-media technology projects. Assistance is also available by calling (406) 247-5755.

## **Student Computing Resources**

### **City College Information Commons**

**Location: City College Commons and Health Sciences Building**

Computer access is available with standard campus software, the Internet, email, and the Library's online catalog as well as other web-based Library resources to all current MSU Billings students during City College at MSU Billings campus hours.

### **Wireless Internet Access**

The campus has wireless access available to students in common study areas and dining facilities. This access is available in the Student Union, Library, Liberal Arts, College of Education, City College Tech and Health Sciences Buildings, Academic Support Center, and McDonald Hall. Students should bring their computers to the Information Technology office in College of Education room 401 or to the Information Technology staff at City College at MSU Billings to setup their MSUB wireless access. This provides a secure connection to the student campus resources.

## **City College at MSU Billings Library/Testing Center**

**City College Tech Building, First Floor, A017  
(406) 247-3025**

### **Library Hours**

Monday – Friday .....8:00 a.m. - 5:00 p.m.

### **Testing Center Hours**

Monday – Friday .....8:00 a.m. - 4:00 p.m.

The City College at MSU Billings Library is a branch of the MSU Billings Library, and is located in the Tech Building at City College. The collection supports the wide variety of programs at City College, providing books, journals, and digital resources.

City College at MSU Billings Library resources are searchable through the MSU Billings Library website at [www.msubillings.edu/library](http://www.msubillings.edu/library). The library website includes links to research databases, a plethora of digital resources, and the library catalog.

Study areas and computers are available for student use in the Library. Library resources can be obtained from the University campus Library or from other libraries listed in the library's catalog or through InterLibrary Loan. InterLibrary Loan services are free for all currently enrolled University students.

The Library and Testing Center at City College provides a wide range of academic and professional exams to students and the public. Testing registration and requirements vary by type of test. All testing is by appointment only. Proctor fees vary based on type of exam.

Students are encouraged to utilize the Community Library, a joint venture of the Billings Public Library and MSU Billings, located in the Tech Building at City College. Students can obtain a public library card to check out books and DVDs. Students can place holds on public library materials for pickup at City College. There is a book drop located in front of the Tech building for returning public library materials.

Students are welcome to use the University Library housed on the University campus, which has extended weekday and weekend hours. For more information, please call (406) 657-1662 or visit the library website at [www.msubillings.edu/library](http://www.msubillings.edu/library). The University Library has materials and resources to support programs of study for MSU Billings, quiet study rooms, group study rooms with technology hookups, and an Information Commons with computers and printers.

## **Copyright Warning**

The copyright law of the United States (Title 17, United States Code) governs the making of photocopies or other reproductions of copyrighted material. Under certain conditions specified in the law, libraries and archives are authorized to furnish a photocopy or reproduction. One of these conditions is that the photocopy or reproduction is not to be "used for any purpose other than private study, scholarship or research." If a user exceeds "fair use," that user may be liable for copyright infringement.

Software licensing agreements are very specific, and may prohibit making copies for use by those who have not purchased the software.

City College at Montana State University Billings reserves the right to refuse to accept a copying request, if, in its judgment, fulfillment of the request would involve violation of copyright law, licensing agreements or fair use.

## **American Indian Outreach**

**LA 210, (406) 657-2144, (406) 657-2182  
(406) 896-5902**

**[www.msubillings.edu/americanindian](http://www.msubillings.edu/americanindian)**

The American Indian Outreach office assists American Indian students in making academic, cultural and social adjustments to Montana State University Billings. Activities include an American Indian peer mentoring program, a professional network called Intertribal Clan Mothers, a drum group for Indian men, and individualized assistance in creating internships for all majors that are relevant to the American Indian community.

This campus recognizes and has a commitment to cultural diversity that is demonstrated by the American Indian Outreach office and the Diversity Center. The staff of both offices join forces to provide advocacy for students, referral to other Student Affairs and MSU Billings programs including Native American Studies, and serve as a liaison with tribal educational representatives and other community organizations. The annual celebration of the Billings American Indian Heritage Day exemplifies the collaboration between MSUB and the local and regional communities in providing cultural experiences for students, Kindergarten through college. The American Indian Outreach Office also collaborates with the Montana Indian Athletics Hall of Fame and the School District #2 Indian Education Office.

## Diversity Center

**SUB 212 (406) 657-2387**

**[www.msubillings.edu/diversity](http://www.msubillings.edu/diversity)**

The Diversity Center is committed to providing a welcoming campus environment for all students, faculty, staff, and guests. The Diversity Center fosters social and professional opportunities, as well as advocacy for all diverse students. The mission of this office is to ensure we are meeting the various needs of diversity and diverse population through fair and equal representation as well as increased opportunity for learning and understanding about diverse issues.

The Diversity Center offers leadership opportunities for students through clubs or organized meeting groups such as Intertribal Indian Club, Black Student Union, OUT at MSU Billings, and Hispanic Club. Each group is student focused and student driven with opportunities to engage in campus and community programs, events and socials. For more information or to inquire about starting a new Diversity Center Student club, please contact the office number above.

## New Student Registration and Orientation Sessions

**City College Tech Building, Jacket Student Central, First Floor, (406) 247-3007**

Call New Student Services for new student orientation sessions, which are scheduled each academic term.

## Placement Testing

**City College Tech Building, Jacket Student Central, First Floor, (406) 247-3019**

ACT COMPASS tests for reading level and for English and math placement are offered one time at no cost for students who will be attending City College at MSU Billings. Students who will not be attending City College at MSU Billings or students who wish to retest may take the COMPASS exam for a \$15.00 fee. New students will have the opportunity to take the placement exams at a group compass session or at another designated time. For questions about available testing times, please contact Jacket Student Central at (406) 247-3019.

City College is in the process of researching a new placement tool that will be implemented during Fall 2016.

## Retention Counselor

**City College Tech building, Jacket Student Central, First Floor, (406) 247-3017**

A retention counselor is available to offer extra support for student success. The retention counselor offers

information and coordinates workshops on topics such as test taking skills, effective time management skills, note-taking skills, advising, financial aid, and more. In addition, students who would like extra assistance can work with the retention counselor individually to develop an individual success plan or to seek information about all of the student support services available to City College at MSU Billings students.

## Parking

**Campus Police, (406) 697-1403 / 657-2147**

**[www.msubillings.edu/security](http://www.msubillings.edu/security)**

City College at MSU Billings provides parking for students for a fee. All vehicles parked on University property must display a current MSU Billings parking permit on weekdays when the University is in session during the hours specified in the "MSU Billings Traffic and Parking Regulations" brochure. Students may purchase parking permits online and have the permit mailed to them or purchase them in person from the City College Business Office from 8:00 a.m. to 5:00 p.m., Monday through Friday and have campus police mail the parking permits to them. Students can also go to the Campus Police Office on the University campus, which is located on the southwest side of the ground floor of the parking garage, to purchase and pick up the parking permits. Campus Police is open Monday through Friday, 7:30 a.m. to 5:00 p.m.

## Physical Education Building

The Physical Education Building, located on the University campus, includes two gymnasiums, a fitness center, swimming pool, climbing wall, racquetball courts, a running track and other recreational and health facilities. During set hours each semester, the facilities may be used by students and their families for swimming, workouts, etc. Student use is paid for with tuition fees while family members pay a nominal charge for access.

## Recreational Activities

**PE 016, (406) 657-2881**

**[www.msubillings.edu/recactivities](http://www.msubillings.edu/recactivities)**

The Recreational Activities Program offers a wide range of activities. It provides all students, faculty, and staff with recreational opportunities in competitive and noncompetitive events as well as organized and informal activities as regularly as their time and interest permit. Activities include but are not limited to: fitness center, intramural sports (flag football, basketball, softball, volleyball), swimming, racquetball, indoor jogging, and tennis.

## Student Health Services

**City College Tech B002, (406) 247-3027**

**Petro Hall, (406) 657-2153**

**[www.msubillings.edu/StudentHealth](http://www.msubillings.edu/StudentHealth)**

The Student Health Services provides health care for all students enrolled at City College at Montana State University Billings. For those students taking less than seven credits, the Health Service fee is optional and may be paid at any time during the semester. Student Health Services is staffed by registered nurses, advanced practice professionals, mental health counselors, and a health educator. Massage therapy and the Phoenix Center for sexual assault advocacy services are also available.

The Student Health Services is located on the 2<sup>nd</sup> floor of the Tech Building, B002, and is open Monday and Wednesday 9:00 a.m. to 12:00 p.m. and Tuesday and Thursday 11:00 a.m. to 2:00 p.m. It is also available eight hours a day Monday through Friday on the University campus.

In the event of a medical emergency after Student Health Services hours, the student is advised to seek care at either hospitals' emergency room or walk in clinics. The cost of medical care received outside the Student Health Services is borne by the student.

Billings Clinic Hospital  
2800 10th Avenue North

St. Vincent Healthcare  
1233 North 30th Street

## Student Health Insurance

**All City College at MSU Billings students enrolled in six or more credits are required to have some form of health insurance. A student health insurance policy is available to City College at MSU Billings students through Blue Cross/Blue Shield of Montana, and the premium for this policy is automatically assessed to students enrolled in six or more credits. The premiums are paid on a semester basis along with tuition and fees. Those students taking the insurance for Spring Semester will automatically be covered for Summer Semester, even if they are not enrolled for classes in Summer Semester.**

**Students that have other health insurance may waive the Blue Cross/Blue Shield of Montana insurance by signing the appropriate waiver form at the time of payment of fees, or by completing the waiver process that is available through the student's web login account.**

Students may enroll through the first fifteen (15) school days of each semester. Policy brochures are available at fee payment and at the Student Health Services Office on the 2nd floor of Petro Hall or Tech Building B002.

Full information about the Student Health Insurance program provided by Blue Cross Blue Shield of Montana is available at the following web site:  
[www.university.bcbsmt.com](http://www.university.bcbsmt.com)

## Student Union and Events Office

**SUB 219, (406) 657-2387**

**[www.msubillings.edu/sub](http://www.msubillings.edu/sub)**

## Student Activities, Student Organizations, Leadership Development

The Student Union and Activities Office coordinates and supervises the registration of over 60 student organizations. The office provides organizations with support, consultation services, resources, and leadership development and recognition programs. The Office is also the University contact for students seeking assistance to charter and organize new student organizations on campus.

The University encourages a variety of student activities and organizations, insofar as they promote both positive activity and the objectives of the University. The nonacademic aspects of student life can prove to be immensely valuable in the balanced development of the human personality. Many co-curricular activities are related to coursework and thus provide opportunities for applying knowledge and skills learned in the college classroom, in the studio, or in the laboratory.

## Office for Community Involvement (OCI)

**SUB 222, (406) 896-5815**

**[www.msubillings.edu/community](http://www.msubillings.edu/community)**

The Office for Community Involvement (OCI) at MSU Billings strives to connect students to the community through meaningful service and educational opportunities. We believe community involvement strengthens a sense of responsibility and productive citizenship, which creates a lifelong commitment to service and leadership.

The OCI will assist students in connecting to volunteer opportunities both on campus and in the community. Students can utilize volunteerism to enhance their academic experience, to help in meeting other students, to get involved as a student, and to help prepare to

become a civic leader within the community following graduation. The OCI coordinates monthly Service Saturday projects, MSUB Night on the Van in partnership with the Salvation Army, Student United Way (a student organization centered on volunteerism and advocacy), an MSU Billings Relay for Life team and many more opportunities. Students can also utilize the OCI to connect to volunteer opportunities.

## **Student Activities Board**

**SUB 212, (406) 657-2257**

The Student Activities Board coordinates a balanced program of cultural, social and entertainment events appropriate to the educational goals and needs of the campus community. The Board consists of 13 selected student members and two advisors. Selection of board members occurs during fall and spring.

## **Veterans' Affairs Office**

**McMullen First Floor, (406) 657-2158**

Veterans are advised to check with the Veterans' Affairs coordinator, McMullen first floor, (406) 657-2158, 30 to 45 days before registering. A veteran must notify this office whenever there is a change in address, enrollment, or additional dependents.

## **Veterans' Upward Bound**

**Cisel 109, (406) 657-2075**

**[www.vubmt](http://www.vubmt)**

The Veterans' Upward Bound Program of Montana State University-Northern maintains a program at MSU Billings to assist veterans to learn the skills that will enable them to be successful in college. Both day and evening courses are offered in areas such as English, math and computers. Call (406) 657-2075 or toll free at 877-356-8387 for assistance.

## **Office of Alumni Relations**

**Alumni House (2712 Normal Avenue)**

**(406) 247-5781**

**[www.msubillings.edu/alumni](http://www.msubillings.edu/alumni)**

The Office of Alumni Relations is the University department that connects with the Alumni Association and the MSU Billings Foundation on matters regarding alumni affairs, event planning, and fundraising. The mission of this office is to find meaningful ways for the alumni of MSU Billings to develop life-long relationships with their alma mater through strategic initiatives aimed at event planning and communication.

# Academic Affairs

## Scholastic Requirements

### Grading System

- A - Excellent.
- B - Good.
- C - Average.
- D - Minimally Passing.
- I - Incomplete Work (not included in GPA). Work must be completed within one calendar year or the "I" grade will be converted to an "F" grade. The faculty who awards the "I" will assign all necessary academic work to convert the "I" to a letter grade. The student does NOT re-register and pay for the class.
- F - Failure, grade below passing (included in GPA).
- W - Withdrawal from class without penalty (not included in GPA).
- N - No credit/Audit.
- P - Passing (not included in GPA but credits count toward graduation).
- X - No Pass

### Incomplete "I" Grade

An Incomplete is given only when a student has been in attendance for at least three-fourths of the semester but has been prevented by circumstances beyond his/her control from completing all of the requirements of the course. A student must provide adequate evidence to the instructor as to the reason why he/she was unable to complete the requirements for the course. If a grade of "I" Incomplete has been given, the instructor shall advise the Office of Admissions and Records in writing what the student must do to remove the deficiency.

An Incomplete must be made up within one calendar year. An "I" grade is not included in the computation of the GPA. An "I" grade not made up in the prescribed length of time automatically becomes an "F" grade. Once the "I" grade has been converted to an "F" grade, the course must be repeated in order for the grade to be changed.

### Change of Grade

A change of grade may be made for error only. A change of grade may not be made to allow additional time or for additional work once the semester is completed. A change of grade is not meant to substitute for an Incomplete grade when an Incomplete cannot be justified. No grade may be changed after one full year unless approved by the instructor's Academic Dean and the Academic Standards and Scholastic

Standing Committee. Once a grade has been submitted to the Admissions and Records Office, it may not be changed to a lower grade without the written approval of the Dean of the respective college.

### Pass/No Pass Grading Mode

Pass/No Pass is offered as an opportunity for undergraduate students to explore courses outside their major, minor, or option curricula and outside the Professional Core Requirements for Teacher Education or Pre-Admission Requirements for Business.

Under the grading mode, the grade of "P" is given if the students' work is judged to be the equivalent of "A," "B," or "C." The grade of "No Pass" (symbolized by "X") is awarded if the work is equivalent to "D" or "F." The students' Pass/No Pass grades do not affect overall GPA. However, "P" grades may be counted as credits earned toward a degree. Other policies concerning Pass/No Pass are as follows:

1. Courses designated by the departments are available Pass/No Pass. Certain courses are taught only with this grading mode; other courses may be excluded from Pass/No Pass grading. Therefore, students should check with their advisor for details.
2. Students may enroll in courses as Pass/No Pass up to a limit of 20 semester credit hours to be counted towards graduation. Credits earned by challenge, experiential learning assessment such as military credits, student teaching, cooperative education, or internships do not count toward this 20-credit limit.
3. Students declare this grading mode at the time of registration. Students may change their grading mode to Pass/No Pass up through the last day to add at the beginning of each semester or term. After the last day to add, any request to change grading mode (Pass/No Pass to letter grade or vice versa) must be petitioned by the student to the Academic Standards and Scholastic Standing Committee.
4. Courses taken under Pass/No Pass may be repeated for a letter grade. A course taken for a letter grade may not be repeated as Pass/No Pass.

### Grade Points (Grade Point Average)

All classes required for Certificates of Applied Science and AAS degrees must be completed with a grade of "C" or better for the class to satisfy the requirement for the awarding of a degree or certificate. All required

courses in which a student received a “C-”, “D” or “F” must be retaken. (Please review program summaries and plans of study for any additional grade requirements.)

**A grade of “C” or better in core program courses for defined plans of study in Associate of Science and Associate of Arts degrees is required. To review grade requirements for AA or AS degrees please refer to page 52.**

Repeated classes earn the second or subsequent grade and credit replacing the former course grade and credit in the calculation of the cumulative grade point average; however, all courses taken and grades received remain listed on the transcript, which is a complete and unabridged permanent school record. **The student must file a repeat card with the Office of Admissions and Records in order for the process to proceed. Students may wish to visit with an academic advisor in Student Services for assistance.**

## Grade Reports

Students’ grades are available on the web at [www.msubillings.edu](http://www.msubillings.edu). Students who wish to have their grades mailed must leave a self-addressed stamped envelope at the Office of Admissions and Records.

## Mid-term Grade Reports

Mid-term grades will be issued to all freshmen students. Instructors of classes with freshmen will be required to notify each freshman student, in writing, of the student’s mid-term grade before the official last day to drop classes (7th week, 35th class day).

## How to Calculate the Grade Point Average

Each grade is worth a predetermined number of grade points as indicated below. Total grade points are established by multiplying the number of credits of a course times the number of grade points of the grade received.

The grade point average is determined by dividing the number of grade points earned by the number of course credits attempted. In computing the number of grade points earned, each letter grade is assigned a certain grade point value per credit hour as follows:

Each credit hour of A ..... 4 points  
 Each credit hour of B ..... 3 points  
 Each credit hour of C ..... 2 points  
 Each credit hour of D ..... 1 point  
 Each credit hour of F ..... 0 points

Effective Fall 2005 for transfer and re-admitted students, in accordance with Board of Regents policy, all campuses of the Montana University System will use the following values when determining grade point averages.

A .....	4.0
A- .....	3.7
B+ .....	3.3
B .....	3.0
B- .....	2.7
C+ .....	2.3
C .....	2.0
C- .....	1.7
D+ .....	1.3
D .....	1.0
D- .....	0.7
F .....	0.0

Grade point averages calculated before Fall Semester 2005, using the values noted above, will not be recalculated, using the new weights or values.

The new values should not be applied retroactively to grade point averages already calculated for students in the Montana University System. Decisions about those students’ academic performance, including satisfactory progress, admission to limited enrollment programs, graduation and financial aid eligibility, have been made, using the grading scale in place at the time of those decisions. The decisions should not be invalidated because of a subsequent change in grade point average calculations.

## Examples

WRIT 122 is a 3 credit course. If a grade of “B” was received, multiply 3 credits times 3 grade points for a total of 9 grade points (3 credits x 3 grade points = 9 grade points).

COMX 106 is a 3 credit course. If a grade of “C” was received, it would produce an additional 6 grade points (3 credits x 2 grade points = 6 grade points).

Add the 9 grade points from WRIT 122 and the 6 grade points from COMX 106 for a total of 15 grade points. Then, divide the total grade points (15) by the total number of credits (6) to determine the grade point average for the two courses. In this case, the grade point average is 2.50 ( $15/6 = 2.50$ ). Remember, the total grade points divided by the total credits attempted equals the grade point average (GPA).

## Academic Honors

In recognition of scholastic achievement, the University makes public at the close of each semester an honor roll

of undergraduate students who earn 12 or more credits which are not of a Pass/No Pass nature and who earn a grade point average of 3.50 or better.

### **Minimal Academic Progress**

Students are in good standing at City College at Montana State University Billings as long as they have a 2.00 grade point average (GPA) although additional requirements may have to be met in specific fields.

### **Academic Probation**

#### **Full-Time Students (12 or more credits attempted)**

Students are placed on academic probation the first time their cumulative institutional GPA falls below the required 2.00. If they later meet the required 2.00 cumulative institutional GPA, they are removed from academic probation. Students who are on academic probation and fail to earn at least a 2.00 GPA during the next semester or have a 2.00 cumulative institutional GPA are suspended for one semester, excluding the Summer Session. However, students on academic probation or continued probation who do not meet the required 2.00 cumulative institutional GPA are allowed to continue in college as long as they have a 2.00 GPA for each succeeding semester. Students on probation should not carry more than 16 credits in the probationary period. All students on academic probation should meet with their academic advisors to review their respective course schedules.

#### **Part-Time Students (Less than 12 credits attempted)**

Part-time students are placed on academic probation whenever they have attempted a total of 10 overall (transfer and institutional) cumulative semester credits and do not have a 2.00 cumulative institutional GPA or a 2.0 institutional term GPA. Part-time students are suspended whenever they have attempted a total of 30 overall (transfer and institutional) cumulative semester credits and do not have a 2.00 cumulative institutional GPA or a 2.00 institutional term GPA. Part-time students on academic probation are allowed to continue in college as long as they earn a 2.00 GPA in each succeeding semester.

### **Veterans Receiving Educational Benefits**

Veterans or other individuals who receive educational benefits from the Veterans' Administration remain eligible for those benefits as long as they remain in good academic standing at City College at Montana State University Billings and are permitted to continue

in college. All veterans eligible to receive benefits should report to the coordinator of Veterans' Affairs upon arrival on campus.

### **Academic Suspension**

Any full-time student who has been on academic probation one semester and who did not make a 2.00 GPA during the last semester is suspended for one semester, excluding the Summer Session. A student who is suspended may, however, attend Montana State University Billings during the Summer Session by meeting the requirements stated below.

Students suspended from Montana State University Billings may register for no more than a total of 16 semester credits during the Summer Session without reinstatement. Students must register for a minimum of nine semester credits after consultation with their advisors, for either one or all three Summer Sessions. Students who at the end of Summer Session have earned at least a 2.00 GPA in nine or more semester credits are re-admitted Fall Semester on continued probation. However, students who attend the Summer Session and fail to earn the 2.00 GPA will be suspended for an additional two semesters.

Students who are reinstated after a period of suspension must submit an application for re-admission to Admissions and Records. Upon re-admission, students are placed on continued probation and must maintain a 2.00 GPA for each successive semester of work and meet any other pertinent conditions imposed by the Academic and Scholastic Standing Committee. Students who do not meet the stipulations set by the Committee incur automatic suspension. Upon action by the Administration, a student may also be suspended for nonacademic reasons. Such a notation will be placed in the student's file.

A student who has been suspended from Montana State University Billings may apply for re-admission after one semester has elapsed. A student who has two or more suspensions is suspended for two semesters excluding summer term. The student may, however, petition the Academic Standards and Scholastic Standing Committee for reinstatement after one semester.

Exceptions to this regulation may be made for students who provide evidence to the Academic Standards and Scholastic Standing Committee that their reinstatement can be justified. Only extreme cases of extenuating circumstances may be considered by the Committee for re-admitting a student who has been suspended, or if there is evidence that the student has taken some



reasonable action to correct the cause(s) for suspension. The student must have approval from his/her major department chairperson before the Academic Standards and Scholastic Committee will consider the student for reinstatement.

## **Academic Dishonesty**

Students at City College at Montana State University Billings are expected to do their own work in their own words and with their own ideas. If they quote or paraphrase the words of others, they are expected to indicate whom it is they are quoting or paraphrasing. An instructor who believes that a student has claimed the work of someone else as his or her own may take what steps he or she wishes up to failing the student and referring the student to others on campus for further discipline. The online Student Handbook contains more detailed information about the policy on Academic Dishonesty, available on the web: [www.msubillings.edu/studenthandbook](http://www.msubillings.edu/studenthandbook).

## **Fresh Start Option (Academic Bankruptcy)**

The Fresh Start option is available to undergraduate students. It is a one-time opportunity for MSU Billings students and those who transfer to MSU Billings.

Students may bankrupt up to two consecutive semesters of previous coursework in which they received poor grades. Students must not have been enrolled in any institution for a minimum of three calendar years. To be eligible for the Fresh Start option students must have completed 15 semester credits (30 semester credits for students seeking a bachelor's degree) in residence since entering or returning to MSU Billings earning a 2.65 grade point average (GPA) or higher. The bankrupted coursework will remain on the student's academic record. The student has the option to save "A" and "B" grades or bankrupt all courses. Bankrupted credits and grades will not be carried forward into the student's cumulative GPA.

## **Eligibility for Intercollegiate Athletics and Other Activities**

To be eligible for intercollegiate athletics, students must meet the specific requirements of the N.C.A.A. Division II. Students should consult with the Athletic Administrator regarding these requirements. Students are eligible during a semester to represent MSU Billings in an University sponsored activity off-campus or to participate in co-curricular activities as long as the students are officially enrolled (this applies only to the activities that are not sanctioned by the N.C.A.A.

Division II). Certain activities may have additional eligibility requirements that students must meet.

## **Student Records**

### **Academic Records**

Official academic records of each student's scholastic achievement are kept on file in the Office of Admissions and Records, and include the following:

1. A signed "Official Class Roll and Final Grade Report" from the instructor of each class in which the student is enrolled each semester.
2. An "Official Academic Record" for each student officially enrolled.
3. Directory information of a student currently enrolled. (See the Family Educational Rights and Privacy Act Revised.)

### **Transcripts**

A transcript is a copy of the complete, unabridged educational record of a student who has been or is currently enrolled. It is issued only to the student upon the student's written request. An official transcript is distinguished from an unofficial copy of the student's record in that the official transcript carries the signature of the Registrar and bears the seal of Montana State University Billings.

As often as possible, transcripts are issued within five days following receipt of the transcript request and payment of the fee. During periods of registration, changes in registration, grading periods, and Commencement, the Office of Admissions and Records staff has to devote full time to such activities. The records are necessarily incomplete, and the status of students is pending; consequently, a longer time than usual is required for the issuance of transcripts.

All current and former City College at MSU Billings students are entitled to one free official transcript; thereafter, each official transcript request is processed only upon the receipt of the transcript fee. The student's signature and/or personal request is required for the release of any transcript except when the transcript is released to those individuals who are considered to have a legitimate educational reason to have access to the student's transcript.

## **Misuse of Electronic Devices**

Cellular phones, pagers, and other electronic devices shall not be used in a manner that causes disruption in the classroom, library, or within any college-owned or college-operated facility. Abuse of cellular devices with photographic capabilities, use of devices for purposes of photographing test questions or other notes

and materials is prohibited. Photographing individuals in secured areas such as bathrooms, locker rooms, or other areas where there is a reasonable expectation of privacy, and/or taking photographs of any person without expressed permission is strictly prohibited.

## **Appeals and Petitions for Exceptions to University Regulations**

### **Appeal by a Student on Academic Matters**

The student should confer with the faculty member against whom the alleged problem exists. The student must confer with the department chairperson or, in the event the problem involves a department chairperson, with the appropriate dean before resorting to the formal grievance process. The student should consult the Student Resolution Officer for proper procedures.

### **Petition for Exception to University Regulations**

Certain problems encountered by a student may result in a request to have an exception considered to an academic standard or to an academic regulation of the University. A student may request an exception to an City College at MSU Billings regulation by filing a special petition with the Academic Standards and Scholastic Standing Committee. The petition form may be obtained from the Office of Admissions and Records and it is to be returned there after the student has completed the form. The Office of Admissions and Records will present the petition to the committee. The student is encouraged to appear before the committee to respond to questions about the student's petition. The student will be notified in writing of the decision as soon as it is determined.

### **Grade Appeal Procedure**

City College at Montana State University Billings has a set of procedures for contesting a grade which must be followed for appropriate resolution. The student must understand that they cannot appeal a grade after sixty (60) days from the official release date of those grades. All documentation must be in writing and submitted to the instructor and Student Resolution Officer (SRO). Please refer to the Student Handbook for a complete explanation of this process (available on the web: [www.msubillings.edu/studenthandbook/](http://www.msubillings.edu/studenthandbook/)).

**Step I** You must meet with or attempt to make appropriate contact (email, phone, office hours, etc.) with your instructor to discuss your reasons for the

grade appeal within sixty (60) days from the official start date of the next term. Documentation supporting your claim should be made available at this meeting. The University would like to have both you and the instructor discuss the details, in a reasonable, open manner, and formulate an agreeable resolution.

**Step II** If the initial meeting (or attempt to meet) with your instructor did not provide an agreeable resolution, you must then contact the ASMSU Billings Student Resolution Officer and schedule a time for you and the SRO to meet and discuss the reasons for the appeal. The SRO can then help schedule a meeting between you and the instructor of the course you are contesting or, if Step I was not successful, can help move the appeal to Step III. You must submit any documentation supporting your claim and a copy of the course syllabus to the SRO. This information should be presented at the meeting with the instructor. The instructor will submit a formal decision to the student, in writing, within fifteen (15) University business days. A copy of the letter must be sent to the SRO.

**Step III** If no resolution is achieved at Step I or II, the dispute may be brought to the Department Chair of the relevant department (if the dispute is with the Department Chair, then refer to Step IV). All documentation and a letter of appeal must be submitted to the Department Chair within ten (10) University business days after receipt of the formal decision by the instructor. The SRO can assist with this process. A meeting will then be scheduled between you and the Department Chair. The Chair will submit a formal decision to the student, in writing, within fifteen (15) University business days. A copy of the letter must be sent to the SRO.

**Step IV** If no resolution is achieved at Step III, the dispute may be brought to the Dean of the relevant College. All documentation and a letter of appeal must be submitted to the Dean within ten (10) University business days after receipt of the formal decision by the Chair. The SRO can assist with this process. A meeting will then be scheduled between you and the Dean with the SRO present. The Dean, as the representative of the relevant College, has the authority to review all documentation, discuss the matter with the instructor and Department Chair, and formulate a resolution. The Dean will submit a formal decision to the student, in writing, within fifteen (15) University business days. A copy of the letter must be sent to the SRO.

**Step V** If no resolution is achieved at Step IV and the student wish to appeal further, the dispute may be brought before the Vice Provost for Academic Affairs.

All documentation and a letter of appeal must be submitted to the Vice Provost for Academic Affairs within ten (10) University business days after receipt of the formal decision by the Dean. The SRO can assist with this process. The Vice Provost for Academic Affairs will review all grade appeal materials, and determine if the appeal needs to be heard by a Campus Hearing Committee. The Campus Hearing Committee is comprised of a maximum of three students, chosen by the Associated Students of Montana State University Billings (ASMSUB); three faculty members, chosen by the Vice Provost for Academic Affairs from a pool of faculty members who serve on the Academic Senate Academic Standards Committee; and the Vice Provost for Academic Affairs, who shall serve as the Hearing Officer. The Hearing Officer will not vote during the proceedings except in the case of a tie vote. The Campus Hearing Committee will follow prescribed hearing procedures and make a recommendation directly to the Chancellor, who makes the final decision. The Chancellor will then have fifteen (15) University business days to send a formal and final decision to the student.

## City College Graduation Requirements

### Catalog Time Limit

Students have four years to fulfill the curricular requirements stated in the catalog in effect when they enter. If students do not complete the requirements in four years, they must select a subsequent catalog. If students have a break in enrollment of a semester or more, they must switch to the catalog in effect at the time of re-admission.

Students can request an exception to this policy under extenuating circumstances. Requests for extensions of time must be approved in writing by the appropriate Director, Department Chair, and Dean. If not approved, students may appeal to the Academic Standards and Scholastic Standing Committee.

### Degree Offerings

#### Certificate of Technical Study

- Requires 16 to 29 credits
- Certifies the holder in a specific knowledge or talent
- Requires no general education credits

#### Certificate of Applied Science (CAS)

- Requires 30 to 45 credits
- Can be completed in one year as a full-time student

- Requires 12 credits of general education (see page 51)

#### Associate of Applied Science (AAS)

- Requires 30 to 45 credits
- Requires 60 to 72 credits
- Can be completed in two years as a full-time student
- Requires 12 credits of general education (see page 51)

#### Associate of Science or Associate of Arts (AS or AA)

- Can be completed in two years as a full-time student
- Requires 31 credits of general education (see page 55)

#### Bachelor of Science or Bachelor of Arts (BS or BA)

- Can be completed in four years as a full-time student
- Requires 31 credits of general education (see page 55)

## Associate of Applied Science and Certificate of Applied Science Requirements

Students who have earned a “C” (2.0) or better in all required courses and electives for an AAS degree or Certificate of Applied Science program of study in which they are enrolled are eligible for graduation. Fifty-one percent of core program requirements must be completed at City College at MSU Billings in order to graduate from MSU Billings. **Associate of Science in Nursing students are required to complete at least 21 credits of core program requirements at City College to graduate from MSU Billings and must also earn a “C” or better in all courses.**

**Please note that a single course may not be used to meet more than one certificate or degree requirement.** Petitions for exceptions to this policy should be addressed to the Registrar to be reviewed by an academic review board.

### Related Instruction Requirements for Associate of Applied Science Degrees and Certificates of Applied Science

Related instruction credits are required to graduate with an Associate of Applied Science (AAS) degree or Certificate of Applied Science (CAS). According to the Northwest Commission on Colleges and Universities (NWCCU), related instruction is a body of knowledge which supports programs of study for which applied or specialized associate degrees are granted or programs

for which certificates are granted. This body of knowledge must contain instruction in program-related areas of communication, computation, and human relations.

The objectives of related instruction include the following:

- Apply writing strategies to produce original work.
- Analyze workplace situations and select appropriate communication strategies.
- Demonstrate professional verbal and nonverbal communication skills.
- Solve problems quantitatively in specific disciplines.

**Please note that the Certificate of Applied Science in Practical Nursing follows an approved statewide plan that differs from the traditional related instruction menu. Please also note that some related instruction courses are also part of the General Education coursework.**

The following list outlines the courses that fulfill related instruction requirements for CAS and AAS degrees:

**Human Relations** **3 credits**  
COMX 106 Communicating in a Dynamic Workplace  
COMX 111 Introduction to Public Speaking

**Writing** **3 credits**  
\*WRIT 104 Workplace Communications  
WRIT 121 Introduction to Technical Writing  
WRIT 122 Introduction to Business Writing

**Computation** **3 credits**  
\*M 108 Business Mathematics  
M 105 Contemporary Mathematics  
\*M 111 Technical Mathematics  
M 114 Extended Technical Mathematics  
M 121 College Algebra  
M 143 Finite Mathematics

**Technology** **3 credits**  
CAPP 120 Introduction to Computers

CAS and AAS students must see an advisor to determine which related instruction courses are required for graduation in their program. Students planning to earn a bachelor's degree should immediately consult their academic advisor to develop a plan of study.

Some related instruction courses also fulfill general education requirements. Some, but not all, related instruction courses for the AAS degrees and CAS programs will transfer to other colleges or universities.

\* Courses marked with an asterisk are math and writing courses that fulfill requirements for CAS programs and may be prerequisites for AAS or AS coursework.

## Second Associate of Applied Science Degree

Students may earn a second AAS degree at City College by taking a minimum of 15 additional credits beyond the total required for the first AAS degree. Once the first AAS degree is awarded, students must earn 15 additional credits regardless of the number of credits earned for the first degree. Students must meet all other requirements for the second degree. For AAS degrees that require electives, degree requirements from one degree may not be used to satisfy electives for the other degree. Electives from one degree may not be used to satisfy electives for the second degree.

## Certificate of Applied Science and Associate of Applied Science Degree in the Same Subject

Students may earn a certificate and an AAS degree in the same subject. However, a certificate and an AAS degree in the same subject cannot be earned concurrently. Students may complete a certificate and an AAS degree in the same subject provided the application for graduation for the CAS is a minimum of one semester prior to the completion of the AAS degree. A certificate can be an exit point and is not required to earn an AAS degree.

## Associate of Arts or Associate of Science Degree Requirements

In addition to AAS degrees, City College also awards Associate of Arts (AA) and Associate of Science (AS) degrees.

AA and AS degrees can have a special focus or no particular disciplinary affiliation. These degrees require that students meet general education requirements as specified below. Students earning an associate degree with no disciplinary affiliation should work with their advisor on a plan of study but are not subject to any additional requirements other than those listed next.

1. Students must earn a minimum of 60 semester credits must be earned with a minimum grade point average of 2.00 for all coursework.
2. Students must earn a minimum of 20 semester credits with 40 grade points (2.0 grade point average) must be earned at Montana State University Billings. (see page 47)

3. Students must earn a minimum grade point average of 2.00 in (a) all college work to be applied toward the degree for which credits and grades have been received, and in (b) all courses completed with credits and grades at Montana State University Billings and applied toward the degree.
4. Students may elect a maximum of 16 semester credits on the Pass/No Pass option in lieu of regular course grades.
5. Students seeking an associate degree must satisfy the following general education requirements:

<b>General Education Category</b>	<b>Credits</b>
I. Global Academic Skills	
A. Mathematics .....	3
B. English .....	3
C. Communication & Information Literacy .....	3
II. Natural Sciences (7 credits total)	
A. Life Sciences .....	3-4
B. Physical Sciences .....	3-4
III. Social Sciences and History	
A. Social Sciences .....	3
B. History .....	3
IV. Cultural Diversity .....	3
V. Arts & Humanities	
A. Fine Arts .....	3
B. Humanities .....	3
<b>Total .....</b>	<b>31</b>

#### **Electives**

Selected in consultation with advisor ..... 29

**Total minimum credits required ..... 60**

### **Early College (Dual Enrollment) Student Graduation**

In accordance with Board of Regents Admission Policy 301, students must have graduated from a high school accredited by the state accrediting agency, or have a high school equivalency completion assessment designated by the Montana Board of Public Education, to be admitted to any campus of the Montana University System. Early college/dual enrollment students to MSU Billings and City College at MSU Billings are not fully admitted in accordance with this policy until these credentials are presented.

Students who are earning credits while still in high school are encouraged to submit a graduation application and participate in ceremonies if they have earned enough college level credits to do so. However, conferral of a certificate of technical studies, certificate of applied science, associate of applied science,

associate, or bachelor's degree(s) will only be posted to a student's transcript after receipt of these official credentials required for full admission.

### **Graduating with Honors**

The designation of honors and high honors is awarded to associate degree or certificate recipients. Honors recognizes students with a total academic grade point average of 3.50 to 3.74; high honors recognizes students with a total academic grade point average of 3.75 to 4.00. Again, this designation is for associate degree or certificate recipients and based on their total cumulative grade point average which includes transfer work as well as academic work done at MSU Billings.

Graduation with honors will apply to students who earn their first and/or second bachelor's degree at MSU Billings. Students who earn a second bachelor's degree at MSU Billings will have all of the grades earned in their first degree included in the determination of the recognition of academic honors. In all cases and for all degrees or certificates, transfer credits earned elsewhere to this University must be calculated with the credits earned at MSU Billings in order to qualify for academic honors.

### **Commencement**

Commencement is held once each year at the end of the Spring term. All diplomas are officially awarded at the end of each term. The date of graduation and the degree a student is to receive will be posted on the student's Official Academic Record at the end of the semester in which the student meets all requirements. Students should acquaint themselves with their specific majors' academic requirements. An advisor is assigned to every student; however, it is the student's responsibility to know and meet the requirements for graduation.

A student who intends to graduate with a master's degree, bachelor's degree, associate degree or certificate will be permitted to participate in the Spring Semester Commencement Ceremony only if the student complies with the following procedure:

Students are to file their Application for Graduation the semester before the semester of graduation.

Application forms are available from Jacket Student Central, City College Tech Building, first floor or online. All applications for graduation must be on file with the Registrar no later than the end of the 10<sup>th</sup> week of the semester **PRIOR** to the semester of completion. The fee should be paid at the Cashier's Window and the application needs to be filed with Jacket Student Central, City College Tech Building, first floor. This

application is good for one year from the date of information supplied by the student on the Application for Graduation in the blank labeled "Semester/Year Graduating." After one calendar year from that date, the Application will be destroyed and the student will need to re-apply and re-pay the fee.

- The Application for Graduation is required in order to prepare and forward the Final Evaluation for Graduation to the necessary offices for approval. A student who submits an Application for Graduation after the fourth week of the semester may have the final evaluation for graduation processed the following semester and will graduate at the end of that particular semester.
- The Final Evaluation will be circulated during the student's final semester. The Final Evaluation must be completed, must have all the required signatures, and must be returned to the Office of Admissions and Records before notification of the student's graduation is posted on the student's Official Academic Record.
- Student must meet, by the end of the Summer Session, all of the graded requirements for graduation or be enrolled in Pass/No Pass coursework the following Fall Semester and meet all the requirements for graduation by the end of that Fall Semester.

Diplomas are generally mailed near the end of the next academic term (i.e., Fall graduates will receive diplomas in early June, Spring graduates in January).

**Please note:** Certain departments may have additional academic requirements that must be met before students will be permitted to graduate and/or participate in the commencement ceremony. Students should check with their major department for any additional departmental requirements.

The determination for honors for students who will graduate at the end of the Spring Semester or Summer Session will be calculated on the most recent semester completed. Should a student's cumulative grade point average (including any transfer work) at the end of the Spring Semester or Summer Session entitle the student to an honors designation, this recognition will be recorded on the student's Montana State University Billings academic record.

## Release of Information

In accordance with the Family Educational Rights and Privacy Act (FERPA), the Office of Admissions and Records at City College at Montana State University Billings may disclose directory information from the educational records of a student who is in attendance at

the University. If the student wishes to have all directory information excluded as public information, the student must notify Jacket Student Central, City College Tech Building first floor, within the first two weeks of the current academic year. This notice is good for the remainder of the current academic year. A new form for nondisclosure must be completed each academic year.

A complete copy of the MSU Billings' FERPA policy is available upon request at the Office of Admissions and Records.

# General Education Requirements

General Education provides for breadth of study across many areas of knowledge. In addition to a concentration in their plan of study, all students are required to complete the General Education program as an essential component of the baccalaureate degree and associate degree. Students pursuing an Associate of Science degree at City College at MSU Billings will also have a focused plan of study in a technical area.

For City College at MSU Billings students who wish to pursue a baccalaureate degree, this degree includes three distinct and required areas of study: General Education, concentration (major), and electives.

An area of concentration provides for depth of study within a chosen discipline (major). Students choose their major, but the specialized, in-depth courses they take are determined by the department which is responsible for the major.

Electives in a plan of study guarantee that students have the opportunity to study areas of personal interest in their own academic pursuits. Students are allowed to choose courses (electives) from any discipline that interests them.

## The Purpose of General Education

### Objectives

The objectives of General Education are to help students develop and demonstrate an understanding of humanity and what it means to be members of the global community. Students completing General Education will reflect upon the evolution of culture, and learn to identify and value responsible roles for the human being in the physical, social, and intellectual worlds.

### Structure

General Education is structured to fulfill the objectives by addressing essential components of human development: (1) Skills Development and Application, (2) Cultural Development, and (3) Intellectual Growth and Development. Specific courses applicable to General Education are arranged in categories and selected to ensure that students completing General Education are intellectually engaged in each of these areas of human development.

1. Skills Development and Application ensures that students will develop effective writing, mathematical, reading and oral communication skills.
2. Cultural Development ensures that students will develop an understanding of the evolution of human culture and social organizations, and an appreciation of cultural diversity.
3. Intellectual Growth and Development ensures that students will pursue knowledge, integrate knowledge among disciplines, apply knowledge to the identification and solving of problems, understand the importance of personal and societal ethics, and reflect on and appreciate the diversity of human endeavors.

## General Education Minimum Satisfactory Course Grade

By action of the University's Academic Senate, the minimum satisfactory grade students must earn in a General Education course is "C-" or better. However, students must earn an overall GPA of 2.0 in the General Education core. (11/10/05 memo #473 p. 1770)

## Categorization

Students will complete 31 credits of General Education with either traditional courses, discipline-specific courses, or integrated courses.

Category	Required Credits
<b>I. Global Academic Skills .....</b>	<b>9</b>
A. Mathematics .....	3
B. English .....	3
C. Communication & Information Literacy .....	3
<b>II. Natural Sciences .....</b>	<b>7</b>
A. Life Sciences .....	3-4
B. Physical Sciences .....	3-4
<b>III. Social Sciences and History .....</b>	<b>6</b>
A. Social Sciences .....	3
B. History .....	3
<b>IV. Cultural Diversity .....</b>	<b>3</b>
<b>V. Arts and Humanities .....</b>	<b>6</b>
A. Fine Arts .....	3
B. Humanities .....	3
<b>Total Required Credits .....</b>	<b>31</b>

## Category Descriptions

### Global Academic Skills

The ability to read, write, calculate, and assess sources of information are fundamental and necessary human skills. These skills are prerequisite to effective communication of ideas and the creative solving of qualitative and quantitative problems. These skills are important for their own sake but mastery of them is also required for a university graduate to be considered an educated person.

- Demonstrate the ability to communicate effectively in written form by writing papers which effectively develop and support theses, tell stories, describe events, or express personal insights or values,
- Read and evaluate research materials and incorporate them into informative, argumentative, or analytical writing and oral presentation,
- Read and evaluate problems and quantitatively solve those problems using mathematical reasoning,
- Demonstrate how mathematical modeling or statistical designs are used to obtain knowledge.

### The Natural Sciences

The diversity of species in the biosphere, including humans, interact with their environment, changing it and being changed in the process. Science is a creative human endeavor devoted to discovering the principles that rule the physical universe. The natural world is law-driven and science is limited to investigating by asking and answering questions, processes that can be observed and measured to help us understand the laws of nature and the physical universe.

- Understand the experimental basis of science and how scientists accumulate new knowledge,
- Appreciate the goals and limitations of science,
- Develop an understanding of important scientific facts and how those facts help us understand our observations and the laws that govern the natural world,
- Appreciate the role of science in the development of modern technological civilization.

### Social Sciences and History

Humans are social beings. Through their various relationships they create social life and are, in turn, influenced and transformed by the social life they create and maintain. Social sciences represent those disciplines that apply scientific methods to study the intricate and complex network of human relationships and the forms of organization designed to enable people to live together in societies. History is the record of human activity. History presents us with an overview

of this activity with the intent that past accomplishments and failures will serve to inform present issues.

- Understand the evolution of social institutions and the development and maintenance of individual and social behaviors,
- Develop perspectives about the nature of psychological and social processes and the structure of society,
- Identify and comprehend theories of human behavior and of the participation of individuals in psychological and social processes,
- Practice the basic methodologies involved in the social sciences,
- Develop a view of current social conditions and events within a chronological and historical context,
- Understand social, cultural, political and economic changes over time,
- Comprehend the international ramifications of domestic policies and how these may affect and be experienced by people in other cultures.

### Cultural Diversity

Cultural diversity presents us with an awareness and understanding of the variety of human experience, especially as manifested among cultures, both present and past.

- Understand social, cultural, political and economic changes over time,
- Comprehend the international ramifications of domestic policies and how these may affect and be experienced by people in other cultures,
- Appreciate and be sensitized to world cultures.

### Arts and Humanities

Through the arts and humanities, students will explore and experience the sensory and perceptual capacities and potentialities that are shared by people and that define us as humans. The expressive arts include visual, performing, and language-based activities in celebration of multiple perspectives. The humanities address qualitative relationships wherein judgments are made but change with time and circumstances.

- Develop an appreciation of the varied cultural artifacts of humans throughout history,
- Foster an understanding of the variety of human expressive experiences in relation to ourselves, other cultures and the physical environment,
- Utilize the basic methodologies and practices endemic to the various disciplines,
- Explore human characteristics especially considered desirable through expressive communicative systems about how to live fully.



# General Education Assessment Objectives

## I. Global Academic Skills

### A. Mathematics

1. Demonstrate ability to solve problems quantitatively.
2. Solve problems with various mathematical methods of the discipline.
3. Communicate using mathematical terminology.

### B. English

1. Demonstrate knowledge of and competence in the use of conventional written forms: mechanics, spelling, punctuation, syntax, grammar, etc.
2. Demonstrate ability to apply knowledge of writing strategies.
3. Demonstrate the ability to undertake and accomplish original work in written form.

### C. Information Literacy

1. Engage in hands-on research as a process of gathering, assessing, interpreting, and using data from multiple sources to express ideas.
2. Use information effectively to accomplish a specific purpose in oral or written form.
3. Understand the economic, legal, and social issues surrounding the use of information, and access and use information ethically and legally.

## II. Natural Sciences

### A. Life Science

1. Demonstrate an understanding of knowledge related to the life sciences.
2. Demonstrate the ability to synthesize knowledge from different subject areas concerning the life sciences.
3. Demonstrate the ability to use logical or quantitative approaches to solve problems related to the life sciences.

### B. Physical Science

1. Demonstrate an understanding of knowledge related to the physical sciences.
2. Demonstrate the ability to synthesize knowledge from different subject areas concerning the physical sciences.
3. Demonstrate the ability to use logical or quantitative approaches to solve problems related to the physical sciences.

## III. Social Sciences and History

### A. Social Sciences

1. Analyze human behavior, ideas, and social institutions for historical and cultural meaning and significance.
2. Gather information, analyze data, and draw conclusions from multiple hypotheses to understand human behavior.
3. Synthesize ideas and information with regard to historical causes, the course of events, and their consequences, separated by time and place.

### B. History

1. Demonstrate an ability to use analysis of a variety of types of sources to construct historical knowledge.
2. Demonstrate an ability to organize a variety of historical sources and express them effectively in written form.
3. Demonstrate basic understanding of the historical context of events.

## IV. Cultural Diversity

1. Demonstrate an ability to identify and solve problems relating to cultural diversity within the discipline.
2. Demonstrate the ability to communicate and analyze effectively concerning cultural diversity within the discipline
3. Demonstrate a basic understanding of the importance of awareness of cultural diversity within the various disciplines.

### B. Cultural Diversity

1. Demonstrate an ability to identify and solve problems relating to cultural diversity within the discipline.
2. Demonstrate the ability to communicate and analyze effectively concerning cultural diversity within the discipline
3. Demonstrate a basic understanding of the importance of awareness of cultural diversity within the various disciplines.

## V. Arts and Humanities

### A. Fine Arts

1. Demonstrate an understanding of insight in the fine arts, i.e., the role that insight plays in the face of folly: stereotypes, cliché, etc.
2. Demonstrate an awareness of the power of imagination and expression.
3. Demonstrate an appreciation for the fine arts and what that appreciation can mean as a quality of life issue.

**B. Humanities**

1. Develop an awareness of the role that the humanities play in culture, i.e., politics, philosophy, economics, science, math, etc.
2. Create an awareness of how to cross-relate/reference humanities-based information.
3. Demonstrate an awareness of issues surrounding life, death, and morality.

**General Education Courses****I. Global Academic Skills .....9**

Regarding Global Academic Skills, students are required to take 1 course from Mathematics, 1 course from English, and 1 course from Communication & Information Literacy.

**A. Mathematics .....3**

**M 105 Contemporary Mathematics .....3**  
*Surveys the foundations of mathematics with an emphasis on the unity of the subject.*

**M 114 Extended Technical Mathematics .....3**  
*Develops and/or enhances critical thinking skills as students analyze problems and utilize mathematical skills of applied algebra, geometry, and trigonometry to solve such problems.*

**M 121 College Algebra .....3**  
*College algebra introduces functions and surveys the basic algebraic functions.*

**M 122 College Trigonometry .....3**  
*Along with College Algebra, covers the trigonometry, series, and sequences needed for the calculus series.*

**M 131 Mathematics for Elementary Teachers II .....3**  
*Provides an in-depth survey of the mathematics necessary to teach through eighth grade.*

**M 143 Finite Mathematics .....4**  
*Surveys a number of topics in discrete and continuous mathematics that are applicable in the life, management, and social sciences.*

**M 161 Survey of Calculus .....3**  
*A survey of basic calculus concepts and their applications.*

**M 171 Calculus I .....4**  
*Introduces and explores the mathematics of change.*

**STAT 141 Introduction to Statistical Concepts .....3**  
*Surveys the basic ideas statistics has to offer.*

**STAT 216 Introduction to Statistics .....4**  
*Provides an introduction to the basic practice of statistics and data analysis.*

**B. English.....3**

**WRIT 101 College Writing I .....3**  
*Helps students acquire the basic writing skills expected in college-level academic writing.*

**WRIT 121 Introduction to Technical Writing .....3**  
*Develops and/or enhances writing skills for various real-life work situations that emphasize technical fields.*

**WRIT 122 Introduction to Business Writing.....3**  
*Develops and/or enhances writing skills for various real-life work situations in the business world.*

**WRIT 201 College Writing II ..... 3**

*Introduces students to the expectations, conventions, and requirements of undergraduate academic research writing.*

**WRIT 220 Business & Professional Writing ..... 3**  
*Emphasizes accurate and precise writing for the business audience.*

**WRIT 221 Intermediate Technical Writing ..... 3**  
*Introduces students to the creation and evaluation of several kinds of written technical communication.*

**C. Communication & Information Literacy ..... 3**

**BMIS 150 Computer Literacy..... 3**  
*Explores access to, retrieval of, and organization of information in a wide variety of environments and formats.*

**COMX 111 Introduction to Public Speaking ..... 3**  
*This a public speaking skills acquisition course with a two-part objective: (1) improving abilities to access, retrieve, and evaluate information (2) in order that the information might be used in effective public performance.*

**COMX 115 Introduction to Interpersonal Communication ..... 3**  
*This is a communication skills acquisition course with a two-fold objective: identifying theories and patterns of communication within specific social contexts and improving communication competence within those social contexts.*

**LSCI 125 Research in the Information Age..... 3**  
*Introduces students to the organization, retrieval, and evaluation of both electronic and print sources; covers concepts of the research process, methods, and ethics of information research, the evolving nature of information resources, and appropriate information citation.*

**II. Natural Sciences.....7**

Regarding Natural Sciences, students are required to take one course from Life Sciences and one course from Physical Sciences. **At least one course must include a corresponding laboratory.** Students can satisfy Natural Sciences by taking SCIN 101, 102, 103, and 104.

**A. Life Sciences..... 3-4**

**BIOB 101 Discover Biology ..... 3**  
*Provides students with academic foundation in major concepts of biology from a historical perspective and as they relate to contemporary issues in the world today.*

**BIOB 102 Discover Biology Laboratory ..... 1**  
*This course is designed to help non-majors understand basic biological concepts such as cellular biology, metabolism, genetics, and population ecology among others through hands-on laboratory exercises and demonstrations.*

**BIOB 160 Principles of Living Systems ..... 3**  
*Provides students with academic foundation in major concepts of biology from a historical perspective and as they relate to contemporary issues in the world today.*

**BIOB 161 Principles of Living Systems Laboratory ..... 1**  
*Provides students exposure to major concepts of biology through hands-on lab investigations and application of the scientific method.*

**B. Physical Sciences .....3-4**

ASTR 110 Introduction to Astronomy .....3  
*Provides students with an understanding of the historical development of astronomy and an understanding of our place in the universe.*

ASTR 111 Introduction to Astronomy Lab .....1  
*Provides the students with empirical observations to corroborate astronomical theories developed in Introduction to Astronomy (ASTR 110).*

CHMY 121 Introduction to General Chemistry .....3  
*This course focuses on understanding fundamental chemical principles.*

CHMY 122 Introduction to General Chemistry  
 Laboratory .....1  
*Provides students with the opportunity to empirically verify concepts learned in Introduction to General Chemistry (CHMY 121).*

CHMY 141 College Chemistry I .....3  
*Provides students with a foundation in qualitative and quantitative chemistry and relates chemistry to other academic disciplines and to everyday life.*

CHMY 142 College Chemistry Laboratory I .....1  
*Provides students with the opportunity to empirically verify concepts learned in College Chemistry I (CHMY 141).*

GEO 101 Introduction to Physical Geology .....3

GEO 102 Introduction to Physical Geology  
 Laboratory .....1

GPHY 111 Introduction to Physical Geography .....3

GPHY 112 Introduction to Physical Geography  
 Laboratory .....1

PHSX 103 Our Physical World .....3  
*This course develops a basic understanding of the principles of "everyday physics."*

PHSX 104 Our Physical World Laboratory .....1  
*This course provides students with laboratory experience in physics.*

PHSX 105 Fundamentals of Physical Science.....3  
*Demonstrate physical science awareness and an appreciation of laboratory practice.*

PHSX 106 Fundamentals of Physical Science Lab ...1  
*Provides students with the opportunity to empirically verify concepts learned in PHSX 105.*

PHSX 205 College Physics I .....3  
*Provides students with a foundation in the physics of motion and an understanding of the consequences of forces and conservation laws.*

PHSX 206 College Physics I Laboratory .....1  
*Provides the students with empirical observations to corroborate physical theories developed in College Physics I (PHSX 205).*

**A. and B. Integrated Sciences .....7**

SCIN 101 Integrated Sciences I .....3  
*The first half of a two-semester integrated course in the sciences, where core principles of scientific knowledge are integrated across scientific disciplines, while also integrating applications of science into the lives of students whose very existence is impacted by science and its technological applications.*

SCIN 102 Integrated Sciences Lab .....1  
*A course that complements Integrated Sciences lecture (SCIN 101).*

SCIN 103 Integrated Sciences II .....3  
*The second half of a two-semester integrated course in the sciences.*

SCIN 104 Integrated Sciences Lab II .....1  
*A course that complements Integrated Sciences lecture (SCIN 103).*

**III. Social Sciences and History .....6**

Regarding Social Sciences and History, students are required to take one course from Social Sciences and one course from History.

**A. Social Sciences .....3**

ANTY 217 Physical Anthropology and Archeology 3  
*Surveys the structure, evolution, and history of humans as biological and cultural beings.*

BGEN 105 Introduction to Business .....3  
*Surveys aspects of business using concepts and tools for business decision making.*

COMX 106 Communicating in a Dynamic  
 Workplace .....3  
*Aims to develop students' perception and expression skills as used in a diverse workplace.*

ECNS 201 Principles of Microeconomics .....3  
*The analysis of individual decisions and their impact on social organizations and structures.*

ECNS 202 Principles of Macroeconomics .....3  
*The behavior of markets in the context of a national economy.*

EDU 105 Education and Democracy .....3  
*This course explores democracy as a form of government, and the critical relationship between democracy and education in the United States.*

GPHY 141 Geography of World Regions.....3  
*As an overview of the major continents and regions of the world, this course provides a broad survey of how globalization processes are influencing local identities, modes of life, and standards of living.*

HTH 110 Personal Health and Wellness .....3  
*Covers contemporary health issues and explores individual and community based solutions.*

PSCI 210 Introduction to American Government .....3  
*Covers the American political system relative to central government and institutions.*

PSCI 220 Introduction to Comparative  
 Government .....3  
*Introduces the ideas behind the democratic and non-democratic forms of political life in the modern world.*

PSYX 100 Introduction to Psychology .....3  
*Introduces students to the foundations of human psychology including topics such as the biological basis of behavior, learning, memory, problem solving, motivation, developmental process, and social behavior.*

PSYX 231 Human Relations.....3  
*Applies psychological insights and principles to daily life and personal growth with an emphasis on Positive Psychology.*

SOCI 101 Introduction to Sociology .....3  
*The course examines the basic elements of the relationship between self and society, the patterns of human activity, and how these are maintained.*

SOCI 201 Social Problems .....3  
*Survey of contemporary social problems in the U.S.*

#### **B. History.....3**

HSTA 101 American History I.....3  
*Survey of United States history from the colonial era to the end of the Reconstruction.*

HSTA 102 American History II .....3  
*Survey of United States history from the end of Reconstruction to the present.*

HSTR 101 Western Civilization I.....3  
*Survey of world history from Antiquity to the Reformation.*

HSTR 102 Western Civilization II .....3  
*Survey of world history from the Italian Renaissance to the present.*

HSTR 103 Honors Western Civilization I.....3  
*Honors survey of western civilization from Antiquity to the Peace of Westphalia.*

HSTR 104 Honors Western Civilization II.....3  
*Honors survey of the history of western civilization from the Italian Renaissance to the present.*

PSCI 230 Introduction to International Relations.....3  
*Various dimensions of international politics.*

#### **IV. Cultural Diversity .....3**

Regarding Cultural Diversity, students are required to take one course from the following:

ANTY 220 Culture and Society .....3  
*Surveys the basis and diversity of human behavior from a multicultural perspective.*

ARTH 160 Global Visual Culture .....3  
*Examines visual culture, which includes painting, sculpture, photography, the Internet, performance, cinema, advertising, and television, as our primary means of communication and of understanding our postmodern world.*

COMX 212 Introduction to Intercultural Communication.....3  
*Explores culture as both producer and product of communication, creating an appreciation of communication processes as essential factors in promoting positive intercultural relations.*

GPHY 121 Human Geography .....3  
*This course focuses on how the cultural values and practices of people from a variety of places have shaped the various regional landscapes.*

HTH 270 Global Health Issues.....3  
*Explores relationships between human behavior, economics, history, culture, politics, policy formation, and the environment, while investigating the impact of these elements on the quality of health within our global community.*

LIT 230 World Literature Survey .....3  
*Provides a comparative basis for understanding different cultures through their literary traditions.*

MUSI 207 World Music .....3  
*Introduces students to the uses and functions of music in various cultures.*

NASX 105 Introduction to Native American Studies.....3  
*Survey course covering the cultures, sociology, and history of American Indian peoples.*

#### **NASX 205 Native Americans in Contemporary**

**Society ..... 3**  
*Addresses the issues raised at the interface of Native American culture and the values with the majority culture of the United States.*

PHL 271 Indian Philosophies and Religions..... 3  
*Course explores, compares, and contrasts philosophies and religions of India, starting from 3000 BCE and working up to the present; exploring such subjects as scripture, art, social justice, and politics; noting how India has influenced other nations and how other nations have influenced India; and examining our own beliefs and practices through the lens of Indian philosophies and religions.*

PHL 272 Chinese Philosophies and Religions ..... 3  
*Course explores, compares, and contrasts philosophies and religions of China (including Tibet) and Japan from ancient history through to the present, exploring such subjects as scripture, art, social justice, and politics, noting how China has influenced other nations, most notably Japan and modern America, and examining our own beliefs and practices through the lens of Chinese philosophies and religions.*

REHA 201 Introduction to Diversity in Counseling ..... 3  
*The course focuses on perspectives for interacting with diverse cultures, based on understanding of cultural characteristics and differences related to disability, gender, race/ethnicity, sexual orientation, religion, geography, advanced aging, and social class.*

RLST 170 The Religious Quest ..... 3  
*Fosters careful and sensitive listening and thinking on diverse and other divisive religious issues.*

SPNS 150 The Hispanic Tradition ..... 3  
*This course introduces students to various Hispanic traditions and cultures throughout history.*

WGSS 274 Women, Culture and Society ..... 3  
*Employs the sociological perspective to analyze the lives of girls and women in North America.*

#### **V. Arts and Humanities .....6**

Regarding Arts and Humanities, students are required to take one course from Fine Arts and one course from Humanities.

##### **A. Fine Arts..... 3**

ARTZ 101 Art Fundamentals..... 3  
*Encourages enhancement of two- and three-dimensional artistic skills for the general student.*

ARTZ 105 Visual Language-Drawing ..... 3  
*Introduces the beginning student to the basic fundamentals of drawing and linear perspective.*

ARTZ 131 Ceramics for Non-Majors ..... 3  
*Develops the ability to design three-dimensional clay forms using manual dexterity.*

CRWR 240 Introductory Creative Writing Workshop ..... 3  
*Provides students with the basic skills for self-expression.*

FILM 160 Introduction to World Cinema..... 3  
*Examines films that speak in their own way to issues of arts appreciation, feminism, diversity, and the human condition.*

LIT 270 Film & Literature ..... 3  
*Provides students with thinking and writing skills focused on a visual art form.*

MART 260 Computer Presentation and Animation ..3	<i>This course explores the arts through digital three-dimensional environments and animations.</i>
MUSI 101 Enjoyment of Music .....3	<i>Designed to assist students in developing the ability to effectively perceive the aesthetic and structural qualities of music.</i>
MUSI 114 Band: MSUB Symphonic .....1	
MUSI 131 Jazz Ensemble I: MSUB .....1	
MUSI 147 Choral Ensemble: University Chorus .....1	
PHOT 154 Exploring Digital Photography .....3	<i>Introduces technical and aesthetic ways of creating digital photographic images. Emphasis is on the production of photographic images, from acquiring them with digital cameras to manipulating them using computer software, such as Adobe Photoshop.</i>
THTR 101 Introduction to Theatre .....3	<i>Introduces students to the complexities of performance theory and criticism.</i>
THTR 120 Introduction to Acting I.....3	<i>Explores both collaborative and individual projects in the areas of comedy, tragedy, and social and political drama; students will find opportunities for personal expression, ensemble building, problem solving, and multi-cultural activities.</i>
<b>B. Humanities.....3</b>	
ARTH 150 Introduction to Art History .....3	<i>Surveys world art from prehistory through the present day with the objective of developing a critical understanding of art forms in their historical and cultural context.</i>
HONR 111 Perspectives and Understanding.....3	<i>This course explores classic and contemporary works of literature, art, and philosophy with an emphasis on cultural and historical contexts in order to develop critical and multi-disciplinary analytical skills.</i>
LIT 110 Introduction to Literature .....3	<i>Students build and expand their knowledge to the extent that reading literature is a discovery process for the engaged mind.</i>
LIT 240 The Bible as Literature .....3	<i>Examines the Bible as a work of literary art.</i>
PHL 110 Introduction to Ethics: Problems of Good and Evil.....3	<i>Students analyze divergent moral views and assess the strengths and weaknesses of these views in order to form their own point of view.</i>
PHL 111 Philosophies of Life .....3	<i>Students evaluate the diversity, intrinsic value, and consequences of various philosophical points of view to develop their own philosophy of life.</i>
PHL 254 People and Politics .....3	<i>Examines a number of the main figures, texts, and ideas in the history of western political thought, with an emphasis on the development of democracy. Analyzes the significance of issues like rights, freedoms, equality, justice, the legitimacy of the state, and the sovereign.</i>

**City College at MSU Billings students who wish to pursue a baccalaureate degree must also be aware of the requirements below.**

**Students should consult with their advisors, major departments, or faculty in their programs for guidance in selecting appropriate writing, technology intensive, and experiential learning courses.**

## Experiential Learning Requirement

Students who intend to graduate with a baccalaureate degree are required to take and pass at least one course of experiential learning. Examples are student teaching, internships, undergraduate research, cooperative education experiences, practica, experiences abroad, and senior projects.

## Bachelor of Applied Science Degree

The Bachelor of Applied Science (BAS) degree is available to students with an Associate of Applied Science (AAS) degree. If a student has earned an AAS degree from a regionally accredited institution, he or she may enroll on the University campus of MSU Billings (or the other four units within the Montana University System to complete General Education requirements) and take upper division credits in existing areas of study which will complement the student's AAS credits already earned. The transferability of the AAS courses will be determined course by course. Students anticipating transferring are encouraged to consult with their advisor and check the requirement of the institution into which they plan to transfer. Contact the Advising Center located in McMullen Hall First Floor, (406) 657-2240.

## Transfer Opportunities

### **Bachelor of Applied Science Degree**

The Bachelor of Applied Science (BAS) degree is available to students with an Associate of Applied Science (AAS) degree. If a student has earned an AAS degree from a regionally accredited institution, he or she may enroll on the main campus of MSU Billings (or the other four units within the Montana University System to complete general education requirements) and complete General Education courses and upper division credits in existing areas of study which will complement the student's AAS credits already earned. At MSU Billings, there are many different plans of study including Communications, Business, Health Administration, and others. The transferability of the AAS courses will be determined course by course. Students anticipating transferring are encouraged to consult with their advisor and check the requirement of the institution into which they plan to transfer. Contact the Advising Center located in McMullen Hall First Floor, (406) 657-2240.

### **Pathways to other Bachelor degrees**

Students who complete an Associate of Science degree through the City College at MSU Billings have many options available to complete a Bachelor's degree and beyond. The Associate of Science degrees with plans of study in Human Resources Business Articulated Emphasis and Business Administration are designed for students to complete their Associate of Science degree at City College at MSU Billings and attend the University campus for two more years to complete a Bachelor of Science in Business Administration. City College at MSU Billings has an articulation agreement with MSU-Northern for students who complete an Associate of Science Degree at City College and wish to complete a Bachelor's degree in Nursing.

In addition to the examples above, there is also an Associate of Science or Associate of Arts Degree in General Studies (Self-Design Option). Students complete all of the general studies requirements and choose 23 credits of electives in consultation with a faculty advisor. This provides an excellent foundation for transfer in many areas. Students should contact an academic advisor to discuss the pathway that is right for them.

# Academic Programs and Departments

Academic programs at City College at MSU Billings are organized into six departments, as noted below. However, for students' convenience, the academic program plans of study following this page are listed alphabetically.

## Computer Technology and Drafting & Design

**Craig McKenzie, Department Chair**

(406) 247-3080

CMcKenzie@msubillings.edu

Computer Programs:

Computer Desktop/Network Support

Computer Systems Technology

Computer Programming and Application

Development

Networking

~~Drafting and Design Technology (includes Assistant Drafter)~~ **Programs placed on moratorium**

## Transportation, Welding and Metal Fabrication

**Katherine Pfau, Department Chair**

(406) 247-3044

kpfau@msubillings.edu

Transportation Programs:

Automotive Technology

Autobody Repair and Refinishing Technology

Diesel Technology

Welding Programs:

Welding and Metal Fabrication

Welding for Energy Technology

## Business, Construction and Energy Technology

**Francisco Saldivar, Department Chair**

(406) 247-3046

francisco.saldivar@msubillings.edu

Business Programs:

Accounting

Business Administration

Craft Brewing and Fermentation

Human Resources

Medical Administrative Assistant

~~Administrative Assistant & Office Assistant~~

**Programs placed on moratorium**

Trades Program:

Construction-Carpentry

Industry Programs:

Power Plant Operations

Process Plant Technology

Energy Technology Program:

Sustainable Energy Technician

Energy Technician

## Nursing, Health and Public Safety

**David Gurchiek, Department Chair**

(406) 247-3076

dgurchiek@msubillings.edu

Public Safety Programs:

Criminal Justice

Fire Science

Paramedic

Healthcare Programs:

Medical Coding and Insurance Billing

Pharmacy Technician

Radiologic Technology

Surgical Technology

**Susan Floyd, Director of Nursing**

(406) 247-3071

sfloyd@msubillings.edu

Nursing—Registered Nurse

Nursing—Practical Nurse

## Developmental Education

**Chairsty Stewart, Department Chair**

(406) 657-2010

cstewart@msubillings.edu

Developmental Education curriculum and courses

## General Education, Transfer, and Learner Support

**Julie McDade, Department Chair**

(406) 247-3087

jmcdade@msubillings.edu

AS option in General Studies-Self Design (Transfer Degree)

AA option in General Studies-Self Design (Transfer Degree)

## Academic Programs

### Accounting Assistant ▽

#### *Certificate of Applied Science*

The Accounting Assistant program is designed to prepare students for entry-level employment in accounts receivable, accounts payable, payroll, and general accounting. A Certificate of Applied Science is awarded upon successful completion of the required Accounting Assistant courses. All credits earned in completion of the Certificate may be applied toward the Accounting Technology Associate of Applied Science Degree. See our website at [www.msubillings.edu/careers](http://www.msubillings.edu/careers) for graduate data.

For more information on this MSU Billings Gainful Employment Program, such as cost, financial assistance and placement rates, please go to the following link: [www.msubillings.edu/citycollege/Programs/Gedt/AcctAssistant.htm](http://www.msubillings.edu/citycollege/Programs/Gedt/AcctAssistant.htm)

**Upon successful completion of this program, a student will be able to:**

- Perform basic accounting functions relative to appropriate program of accounting e.g. recording daily transactions, planning and recording adjusting and closing entries, and preparing basic financial statements using common practices and GAAP (Generally Accepted Accounting Principles).
- Identify and apply appropriate accounting procedures and methods pertaining to service, professional, or merchandising enterprises.
- Associate and use appropriate accounting terminology.
- Recognize and synthesize business or workplace practices, procedures and laws.

#### Required Courses

#### Credits

ACTG 101 Accounting Procedures I.....	3
ACTG 102 Accounting Procedures II .....	3
ACTG 125 QuickBooks .....	3
ACTG 205 Computerized Accounting .....	3
BGEN 105 Introduction to Business .....	3
CAPP 120 Introduction to Computers .....	3
CAPP 156 MS Excel .....	3
COMX 106 Communicating in a Dynamic Workplace.....	3
COMX 111 Introduction to Public Speaking.....	3
M 108 Business Mathematics .....	3
TASK 115 Keyboard Applications/Ten Key.....	3
WRIT 122 Introduction to Business Writing.....	3
<b>Total minimum credits required .....</b>	<b>36</b>

#### Suggested Plan of Study

##### First Semester Credits

CAPP 120 .....	3
ACTG 101 .....	3
TASK 115.....	3
BGEN 105 .....	3
M 108 .....	3
WRIT 122.....	3

##### Second Semester Credits

CAPP 156 .....	3
COMX 106 .....	3
COMX 111 .....	3
ACTG 205 .....	3
ACTG 125 .....	3
ACTG 102 .....	3

*Students should check course descriptions for required prerequisites. Math and communication requirements are usually determined by performance on placement tests or transfer credits.*



## Accounting Technology ▽

### *Associate of Applied Science Degree*

The technical skills of a qualified accounting professional are needed by every business in America, large or small. The Accounting Technology program provides students with the basic knowledge of accounting processes necessary for employment. After completing the program, students will be able to record day-to-day financial transactions and prepare summary statements of business conditions. Computers are implemented in performing accounting functions and preparing reports. As a capstone training experience, it is highly recommended that students complete a one-semester internship in an accounting technician trainee position. This internship allows students to apply learned competencies to on-the-job situations.

This program prepares students for entry-level accounting positions as an accounting clerk, payroll clerk, bookkeeper, accounting technician, or accounting associate. Accounting clerks and bookkeepers are hired by public accounting firms, private and public organizations, and large and small businesses. See our website at [www.msubillings.edu/careers](http://www.msubillings.edu/careers) for graduate data.

#### Upon successful completion of this program a student will be able to:

- Perform basic accounting functions relative to appropriate program of accounting e.g. recording daily transactions, planning and recording adjusting and closing entries, and preparing basic financial statements using common practices and GAAP (Generally Accepted Accounting Principles).
- Identify and apply appropriate accounting procedures and methods pertaining to service, professional, or merchandising enterprises.
- Associate and use appropriate accounting terminology.
- Recognize and synthesize business or workplace practices, procedures and laws.

#### Required Courses

	Credits
ACTG 101 Accounting Procedures I.....	3
ACTG 102 Accounting Procedures II .....	3
ACTG 103 Accounting Procedures III .....	3
ACTG 125 QuickBooks .....	3
ACTG 180 Payroll Accounting .....	3
ACTG 205 Computerized Accounting .....	3
BGEN 105 Introduction to Business .....	3
BGEN 235 Business Law .....	3
CAPP 120 Introduction to Computers .....	3
CAPP 154 MS Word .....	3
CAPP 156 MS Excel .....	3
CAPP 158 MS Access .....	3
COMX 106 Communicating in a Dynamic Workplace.....	3
COMX 111 Introduction to Public Speaking.....	3
M 108 Business Mathematics .....	3
M 121 College Algebra .....	3*
<b>OR</b>	
M 143 Finite Mathematics .....	4*
<b>OR</b>	
M 105 Contemporary Mathematics .....	3*
TASK 115 Keyboard Applications/Ten Key .....	3
WRIT 122 Introduction to Business Writing.....	3

*Continued...*

#### Suggested Plan of Study

First Year	Credits
CAPP 120 .....	3
CAPP 154 .....	3
ACTG 180 .....	3
ACTG 205 .....	3
ACTG 101 .....	3
ACTG 102 .....	3
TASK 115.....	3
BGEN 105 .....	3
WRIT 122.....	3
M 108 .....	3
Restricted Electives .....	3
<b>Second Year</b>	
CAPP 156 .....	3
CAPP 158 .....	3
COMX 106 .....	3
COMX 111 .....	3
ACTG 125 .....	3
BGEN 235 .....	3
ACTG 103 .....	3
College Math .....	3-4
Restricted Electives .....	6

**Subtotal..... 54**

Restricted Electives chosen in consultation with academic advisor ..... 9

**Total minimum credits required for degree ..... 63**

\* Students should check with their academic advisor to determine the specific math course that is appropriate for their plan of study.

*Students should check course descriptions for required prerequisites. Math and communication requirements are usually determined by performance on placement tests or transfer credits.*

**Suggested Electives:**

ACTG 201 Principles of Financial Accounting

BFIN 305 Financial Planning

CAPP 110 Short Courses: MS Outlook

CAPP 153 MS PowerPoint

CAPP 172 Advanced Software Applications

CSCI 181 Web Design & Programming

ECNS 201 Principles of Microeconomics

MART 208 Multimedia Technology

TASK 145 Records Management

TASK 230 Office Career Success

TASK 298 Internship/Cooperative Education

***\*Program placed on moratorium\******Administrative Assistant  
Associate of Applied Science Degree**

Office occupations rank among the careers with the largest anticipated job growth in the next decade. The Administrative Assistant program provides students with the technical skills and knowledge necessary for employment in a variety of office positions and for advancement toward office management positions. After completing the program, students will be able to perform a variety of administrative duties in an office as well as use computers and business application software to perform advanced information processing functions. Emphasis is placed on developing problem-solving and decision-making abilities in addition to technical skills. As a capstone training experience, it is highly recommended that students complete a one-semester internship in an administrative support trainee position. This internship allows students to apply learned competencies to on-the-job situations.

This program provides the skills necessary for an entry-level clerical position in a variety of organizations, including government agencies, private industry, banks, accounting firms, insurance companies, legal firms, medical offices, real estate agencies, court offices, utility companies, and many more. Most graduates gain a position as a receptionist, secretary, administrative assistant, accounting clerk, word processor, or data entry clerk. See our website at [www.msubillings.edu/careers](http://www.msubillings.edu/careers) for graduate data.

**Upon successful completion of this program a student will be able to:**

- Produce word processing documents and spreadsheets.
- File and organize documents.
- Perform basic accounting and business math operations.
- Spell, proofread and use proper business English.
- Evaluate and report professional business standards and procedures in the workplace.
- Demonstrate professional verbal and nonverbal communication skills.

**Required Courses****Credits**

ACTG 101 Accounting Procedures I.....	3
ACTG 102 Accounting Procedures II .....	3
ACTG 180 Payroll Accounting .....	3
ACTG 205 Computerized Accounting	

**OR**

ACTG 125 QuickBooks .....	3
BGEN 105 Introduction to Business .....	3
BGEN 235 Business Law .....	3
CAPP 110 Short Courses: MS Outlook .....	1
CAPP 120 Introduction to Computers .....	3
CAPP 154 MS Word .....	3
CAPP 156 MS Excel .....	3
CAPP 158 MS Access .....	3
CAPP 172 Advanced Software Applications .....	3
CMP 115 Introduction to Desktop Publishing.....	3
COMX 106 Communicating in a Dynamic Workplace.....	3
COMX 111 Introduction to Public Speaking.....	3
M 108 Business Mathematics .....	3
M 121 College Algebra .....	3*

**OR**

M 143 Finite Mathematics.....	4*
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**OR**

M 105 Contemporary Mathematics .....	3*
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*Continued...*

**Suggested Plan of Study****First Year Credits**

CAPP 120 .....	3
CAPP 154 .....	3
CAPP 156 .....	3
ACTG 101 .....	3
ACTG 102 .....	3
TASK 115.....	3
TASK 145.....	3
TASK 230.....	3
BGEN 105 .....	3
WRIT 122.....	3
WRIT 180.....	1
M 108 .....	3

**Second Year Credits**

CAPP 110 .....	1
CAPP 158 .....	3
COMX 106 .....	3
COMX 111 .....	3
ACTG 180 .....	3
ACTG 205 .....	
<b>OR</b> ACTG 125 .....	3

TASK 115 Keyboard Applications/Ten Key .....	3	TASK 202.....	3
TASK 145 Records Management .....	3	BGEN 235 .....	3
TASK 202 Machine Transcription .....	3	CMP 115.....	3
TASK 230 Office Career Success .....	3	CAPP 172 .....	3
WRIT 122 Introduction to Business Writing.....	3	College math.....	3
WRIT 180 Editing for Business Writing .....	1	Restrictive Electives .....	3
<b>Subtotal.....</b>	<b>65</b>		
Restricted Electives chosen in consultation with academic advisor .....	3		
<b>Total minimum credits required for degree.....</b>	<b>68</b>		

\* Students should check with their academic advisor to determine the specific math course that is appropriate for their plan of study.

*Students should check course descriptions for required prerequisites. Math and communication requirements are usually determined by performance on placement tests or transfer credits.*

**Suggested Electives:**

ACTG 103 Accounting Procedures III

ACTG 205 Computerized Accounting

**OR** ACTG 125 QuickBooks

CSCI 181 Web Design & Programming

CTBU 175 Current Issues in Business

MART 208 Multimedia Technology

TASK 298 Internship/Cooperative Education

***\*Program placed on moratorium\****

## **Assistant Drafter**

### ***Certificate of Applied Science***

Students completing one year of the program may apply for an Architectural or Civil Drafting Certificate. This provides acknowledgement to students who have achieved a rudimentary level of training but are unable or choose not to complete the two-year program. See our website at [www.msubillings.edu/careers](http://www.msubillings.edu/careers) for graduate data. The Assistant Drafter Certificate of Applied Science can be earned in two (2) semesters by completing Part One (1) or Part Two (2) of the Assistant Drafter plan of study.

For more information on this MSU Billings Gainful Employment Program, such as cost, financial assistance and placement rates, please go to the following link: [www.msubillings.edu/citycollege/Programs/Gedt/AsstDrafter.htm](http://www.msubillings.edu/citycollege/Programs/Gedt/AsstDrafter.htm)

**Upon successful completion of this program a student will be able to:**

- Interpret and create two-dimensional drawings relevant to mechanical, civil and architectural disciplines.
- Interpret and create three-dimensional models relevant to mechanical, civil and architectural disciplines.
- Perform discipline-specific data calculations.
- Prepare projects from conception to development of a final product.
- Utilize a wide variety of software relevant to the disciplines of Drafting & Design.

### **Part One – Architectural (Students start in the spring semester)**

<b>Required Courses</b>	<b>Credits</b>
CAPP 120 Introduction to Computers .....	3
COMX 106 Communicating in a Dynamic Workplace .....	3
CSTN 148 Blueprint Codes and Estimating .....	2
DDSN 110 Technical Drawing Lecture .....	4
DDSN 111 Technical Drawing Lab .....	3
DDSN 116 3D CAD .....	3
DDSN 160 Architectural Lecture .....	2
DDSN 161 Architectural Lab .....	5
M 114 Extended Technical Mathematics .....	3
MART 208 Multimedia Technology .....	3
WRIT 104 Workplace Communications	
<b>OR</b> WRIT 121 Introduction to Technical Writing	
<b>OR</b> WRIT 122 Introduction to Business Writing .....	3
<b>Total minimum credits required .....</b>	<b>34</b>

### **Part Two – Civil (Students start in the fall semester)**

<b>Required Courses</b>	<b>Credits</b>
CAPP 120 Introduction to Computers .....	3
COMX 106 Communicating in a Dynamic Workplace .....	3
DDSN 110 Technical Drawing Lecture .....	4
DDSN 111 Technical Drawing Lab .....	3
DDSN 116 3D CAD .....	3
DDSN 145 Structural Drafting .....	3
DDSN 240 Civil Lecture .....	2
DDSN 241 Civil Lab .....	5
DDSN 244 GIS Mapping .....	2
M 114 Extended Technical Mathematics .....	3
WRIT 104 Workplace Communications	
<b>OR</b> WRIT 121 Introduction to Technical Writing	
<b>OR</b> WRIT 122 Introduction to Business Writing .....	3
<b>Total minimum credits required .....</b>	<b>34</b>

### **Suggested Plan of Study**

<b>First Semester</b>	<b>Credits</b>
CAPP 120.....	3
M 114 .....	3
DDSN 110.....	4
DDSN 111.....	3
DDSN 116.....	3
<b>Total .....</b>	<b>16</b>
<b>Second Semester</b>	
COMX 106.....	3
DDSN 160.....	2
WRIT 104/121/122 .....	3
CSTN 148 .....	2
DDSN 161.....	5
MART 208 .....	3
<b>Total .....</b>	<b>18</b>

### **Suggested Plan of Study**

<b>First Semester</b>	<b>Credits</b>
CAPP 120.....	3
M 114 .....	3
DDSN 110.....	4
DDSN 111.....	3
DDSN 116.....	3
<b>Total .....</b>	<b>16</b>
<b>Second Semester .....</b>	<b>Credits</b>
COMX 106.....	3
DDSN 240.....	2
DDSN 145.....	3
DDSN 241.....	5
DDSN 244.....	2
WRIT 104/121/122 .....	3
<b>Total .....</b>	<b>18</b>

*Students should check the course descriptions for required prerequisites.*

## Automobile Collision Repair and Refinishing Technology

### *Associate of Applied Science Degree*

The ever-increasing numbers of vehicles on the highways, coupled with the high cost of original purchase and replacement, have created a demand for trained collision repair technicians. This demand is currently exceeding the supply, and future indications are that this trend will continue. A student may exit this program after completing two semesters and receive an Automobile Collision Repair Technician or Automobile Refinishing Technician Certificate of Applied Science. Graduates in our Automobile Repair and Refinishing program may find career opportunities with auto repair shops, auto parts stores, windshield repair shops and other automotive related businesses. See our website at [www.msubillings.edu/careers](http://www.msubillings.edu/careers) for graduate data.

**Automobile Collision Repair Technicians** perform structural and cosmetic repairs on automobiles with unitized body construction in preparation for refinishing. Responsibilities include minor sheet metal repair, welding of mild and high-strength steels, panel replacement, and measuring with laser and mechanical measuring systems.

**Automobile Refinishing Technicians** prepare and refinish vehicles. Students perform panel and overall refinishing using the latest techniques and equipment. Basic knowledge and skills in refinishing are developed with hands-on practice of current techniques.

#### Upon successful completion of this program a student will be able to:

##### Repair:

- Perform demonstrations with basic tools in body damage repair situations, according to lectures and demonstrations shown.
- Perform welding operations using resistance and metal inert gas equipment.
- Disassemble multiple vehicle panels including hood, fenders, doors and bumpers, reassemble and align according to manufacturers' recommendations.
- Identify and diagnose door hardware malfunctions, including latches, lock assemblies and window regulators.
- Apply gasket and adhesive methods to remove and replace stationary automobile glass

##### Refinishing:

- Select and use proper safety equipment for personal and environmental protection against hazards from the refinish industry.
- Use appropriate application skills and correct maintenance procedures in refinishing equipment according to the manufacturer's specifications.
- Apply automotive undercoat products per manufacturer's specifications through proper application techniques.
- Select and apply correct automotive basecoat/clearcoat products per manufacturer's specifications.
- Using the proper techniques and products, prepare a substrate by correctly cleaning and abrading the surface before the application of automotive undercoats.

#### Required Courses

	Credits
ABDY 111 Introduction to Auto Body Repair .....	5
ABDY 112 Minor Collision Repair.....	6
ABDY 121 Automobile Body Structural Repair .....	6
ABDY 122 Automobile Collision Mechanics .....	5
ABDY 131 Introduction to Refinishing Principles .....	6
ABDY 132 Introduction to Automotive Undercoats & Plastics.....	6
ABDY 141 Advanced Automotive Refinishing .....	6
ABDY 142 Introduction to Automotive Paint Blending and Color Matching .....	7
AST 285 ASE Exam Prep: Section One .....	1
CAPP 120 Introduction to Computers .....	3
COMX 106 Communicating in a Dynamic Workplace.....	3

*Continued...*

#### Suggested Plan of Study

First Semester	Credits
ABDY 111.....	5
ABDY 112.....	6
TRID 150.....	2
TRID 140.....	2
M 114 .....	3
<b>Total.....</b>	<b>18</b>
Second Semester	Credits
ABDY 131.....	6
ABDY 132.....	6
TRID 152.....	3
CAPP 120 .....	3
<b>Total.....</b>	<b>18</b>

M 114 Extended Technical Mathematics .....	3
TRID 140 Automobile Sheet Metal and Structural MIG Welding .....	2
TRID 150 Environmental and Shop Practices .....	2
TRID 152 Vehicle Heating, Ventilation & Air Conditioning .....	3
TRID 180 Electrical Systems .....	4
WRIT 122 Introduction to Business Writing.....	3

**Total minimum credits required for degree..... 71**

*Students should check the course descriptions for required prerequisites.  
Math and English requirements are usually determined by performance on  
placement tests or transfer credits.*

<b>Third Semester..... Credits</b>
ABDY 141.....6
ABDY 142.....7
COMX 106.....3
AST 285 .....1
<b>Total.....17</b>

<b>Fourth Semester..... Credits</b>
ABDY 121.....6
ABDY 122.....5
TRID 180.....4
WRIT 122.....3
<b>Total.....18</b>

## Automobile Collision Repair Technology

### *Certificate of Applied Science*

For more information on this MSU Billings Gainful Employment Program, such as cost, financial assistance and placement rates, please go to the following link: [www.msubillings.edu/citycollege/Programs/Gedt/AutoRepair.htm](http://www.msubillings.edu/citycollege/Programs/Gedt/AutoRepair.htm)

**Upon successful completion of this program a student will be able to:**

- Perform demonstrations with basic tools in body damage repair situations, according to lectures and demonstrations shown.
- Perform welding operations using resistance and metal inert gas equipment.
- Disassemble multiple vehicle panels including hood, fenders, doors and bumpers, reassemble and align according to manufacturers' recommendations.
- Identify and diagnose door hardware malfunctions, including latches, lock assemblies and window regulators.
- Apply gasket and adhesive methods to remove and replace stationary automobile glass

#### Required Courses

	Credits
ABDY 111 Introduction to Auto Body Repair .....	5
ABDY 112 Minor Collision Repair.....	6
ABDY 121 Automobile Body Structural Repair .....	6
ABDY 122 Automobile Collision Mechanics .....	5
CAPP 120 Introduction to Computers .....	3
COMX 106 Communicating in a Dynamic Workplace .....	3
M 111 Technical Mathematics .....	3
TRID 140 Automobile Sheet Metal and Structural MIG Welding .....	2
WRIT 104 Workplace Communications .....	3
<b>Total minimum credits required .....</b>	<b>36</b>

*Students should check the course descriptions for required prerequisites.*

#### Suggested Plan of Study

Fall Semester	Credits
ABDY 111.....	5
ABDY 112.....	6
WRIT 104.....	3
M 111 .....	3
<b>Total.....</b>	<b>17</b>
<b>Spring Semester</b>	
ABDY 121.....	6
ABDY 122.....	5
CAPP 120 .....	3
COMX 106 .....	3
TRID 140.....	2
<b>Total.....</b>	<b>19</b>



## Automobile Refinishing Technology

### *Certificate of Applied Science*

For more information on this MSU Billings Gainful Employment Program, such as cost, financial assistance and placement rates, please go to the following link: [www.msubillings.edu/citycollege/Programs/Gedt/AutoRefinishing.htm](http://www.msubillings.edu/citycollege/Programs/Gedt/AutoRefinishing.htm)

**Upon successful completion of this program a student will be able to:**

- Select and use proper safety equipment for personal and environmental protection against hazards from the refinish industry.
- Use appropriate application skills and correct maintenance procedures in refinishing equipment according to the manufacturer's specifications.
- Apply automotive undercoat products per manufacturer's specifications through proper application techniques.
- Select and apply correct automotive basecoat/clearcoat products per manufacturer's specifications.
- Using the proper techniques and products, prepare a substrate by correctly cleaning and abrading the surface before the application of automotive undercoats.

#### Required Courses

	Credits
ABDY 131 Introduction to Refinishing Principles .....	6
ABDY 132 Introduction to Automotive Undercoats and Plastics .....	6
ABDY 141 Advanced Automotive Refinishing .....	6
ABDY 142 Introduction to Automotive Paint Blending and Color Matching .....	7
CAPP 120 Introduction to Computers .....	3
COMX 106 Communicating in a Dynamic Workplace .....	3
M 111 Technical Mathematics .....	3
WRIT 104 Workplace Communications .....	3
<b>Total minimum credits required .....</b>	<b>37</b>

#### Suggested elective

TRID 152 Vehicle Heating, Ventilation and Air Conditioning .....	3
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*Students should check the course descriptions for required prerequisites.*

#### Suggested Plan of Study

Spring Semester	Credits
ABDY 131 .....	6
ABDY 132 .....	6
CAPP 120 .....	3
WRIT 104 .....	3
<b>Total .....</b>	<b>18</b>

Fall Semester	Credits
ABDY 141 .....	6
ABDY 142 .....	7
COMX 106 .....	3
M 111 .....	3
<b>Total .....</b>	<b>19</b>

## Automotive Technology

### *Associate of Applied Science Degree*

The Transportation, Welding and Metal Fabrication Department offers both an Associate of Applied Science degree and a Certificate of Applied Science in Automotive Technology. The Associate of Applied Science degree is usually completed in four semesters. The Certificate of Applied Science can be completed in two semesters. The automotive curriculum emphasizes the fundamentals of all mechanical, fuel, and electronic systems found on modern vehicles and prepares students for service and management positions in the automotive industry.

The program is Master NATEF accredited and ASE certified in the following areas of instruction: A1-Engine Repair, A2-Automatic Transmission/Transaxle, A3-Manual Drive Train & Axles, A4-Suspension & Steering, A5-Brakes, A6-Electrical/Electronic Systems, A7-Heating & Air Conditioning, A8-Engine Performance. Graduates find employment in new car dealerships, independent and specialty shops, government motor pools, and fleet maintenance organizations. Other graduates find positions in management as service managers, shop foremen, factory representatives, or diagnostic specialists. See our website at [www.msubillings.edu/careers](http://www.msubillings.edu/careers) for graduate data.

The program has pathway agreements with the Billings Career Center in School District #2 and into the Bachelor of Applied Science program at Montana State University-Northern to provide unique training and educational opportunities for those students who are interested and qualified.

#### Upon successful completion of this program a student will be able to:

- Diagnose problems throughout the eight ASE areas in modern automobiles.
- Repair complex systems throughout the eight ASE areas in modern automobiles.
- Perform diagnosis techniques and proper repair procedures relative to the flat rate time standard.
- Identify health and safety hazards and demonstrate proper techniques and practices associated with the automotive industry.

#### Required Courses

#### Credits

AST 106 Automotive Manual Drive Train and Axles .....	2
AST 107 Automotive Manual Drive Train and Axles Lab .....	2
AST 114 Automotive Brakes.....	2
AST 115 Automotive Brakes Lab .....	2
AST 162 Automotive Engine Diagnostics.....	3
AST 163 Automotive Engine Diagnostics Lab .....	3
AST 175 Engine Rebuild Lab.....	5
AST 220 Automotive Steering and Suspension.....	2
AST 221 Automotive Steering and Suspension Lab .....	2
AST 230 Electrical/Electronics Systems II.....	2
AST 231 Electrical/Electronics Systems II Lab .....	2
AST 260 Advanced Automotive Diagnostics .....	3
AST 261 Advanced Automotive Diagnostics Lab.....	3
AST 270 Automatic Transmissions and Transaxles .....	3
AST 271 Automatic Transmissions and Transaxles Lab .....	3
AST 285 ASE Exam Prep: Section One .....	1
AST 280 Applied Lab Experience and Light Repair	
OR AST 298 Automotive Internship.....	4
CAPP 120 Introduction to Computers .....	3
COMX 106 Communicating in a Dynamic Workplace.....	3
M 114 Extended Technical Mathematics .....	3
TRID 150 Environmental and Shop Practices .....	2
TRID 151 Welding .....	2

*Continued...*

#### Suggested Plan of Study

##### First Semester

	Credits
AST 106 .....	2
AST 107 .....	2
COMX 106 .....	3
TRID 170.....	4
TRID 180.....	4
CAPP 120 .....	3
<b>Total.....</b>	<b>18</b>

##### Second Semester

AST 114 .....	2
AST 115 .....	2
AST 175 .....	5
AST 162 .....	3
AST 163 .....	3
TRID 150.....	2
<b>Total.....</b>	<b>17</b>

##### Third Semester

AST 285 .....	1
AST 220 .....	2
AST 221 .....	2
AST 230 .....	2
AST 231 .....	2

TRID 152 Vehicle Heating, Ventilation, and Air Conditioning .....	3
TRID 170 Engine Theory .....	4
TRID 180 Electrical Systems .....	4
WRIT 122 Introduction to Business Writing .....	
<b>OR</b> WRIT 121 Introduction to Technical Writing .....	3
<b>Total minimum credits required for degree .....</b>	<b>71</b>

*Students should check the course descriptions for required prerequisites.  
Math and English requirements are usually determined by performance on  
placement tests or transfer credits.*

TRID 152.....	3
M 114 .....	3
WRIT 121 or 122.....	3
<b>Total.....</b>	<b>18</b>

**Fourth Semester**

AST 260 .....	3
AST 261 .....	3
AST 280 or 298 .....	4
AST 270 .....	3
AST 271 .....	3
TRID 151.....	2
<b>Total.....</b>	<b>18</b>

## Automotive Technology

### *Certificate of Applied Science*

For more information on this MSU Billings Gainful Employment Program, such as cost, financial assistance and placement rates, please go to the following link: [www.msubillings.edu/citycollege/Programs/Gedt/AutoTechnology.htm](http://www.msubillings.edu/citycollege/Programs/Gedt/AutoTechnology.htm)

**Upon successful completion of this program a student will be able to:**

- Diagnose problems in the ASE areas of Manual Drive Train and Axles, Brakes, Engine Repair, and Electrical/Electronic Systems used in modern automobiles.
- Repair complex systems in the ASE areas of Manual Drive Train and Axles, Brakes, Engine Repair, and Electrical/Electronic Systems used in modern automobiles.
- Perform diagnosis techniques and proper repair procedures relative to the flat rate time standard.
- Identify health and safety hazards and demonstrate proper techniques and practices associated with the automotive industry.

#### Required Courses

	Credits
AST 106 Automotive Manual Drive Train and Axles .....	2
AST 107 Automotive Manual Drive Train and Axles Lab .....	2
AST 114 Automotive Brakes.....	2
AST 115 Automotive Brakes Lab .....	2
AST 162 Automotive Engine Diagnostics.....	3
AST 163 Automotive Engine Diagnostics Lab .....	3
AST 175 Engine Rebuild Lab.....	5
COMX 106 Communicating in a Dynamic Workplace.....	3
M 111 Technical Mathematics .....	3
TRID 170 Engine Theory .....	4
TRID 180 Electrical Systems .....	4
WRIT 104 Workplace Communications .....	3
<b>Total credits required.....</b>	<b>36</b>

#### Optional courses

CAPP 120 Introduction to Computers .....	3
TRID 150 Environmental and Shop Practices .....	2

*Students should check the course descriptions for required prerequisites.  
Math and English requirements are usually determined by performance on  
placement tests or transfer credits.*

#### Suggested Plan of Study

First Semester	Credits
AST 106 .....	2
AST 107 .....	2
COMX 106 .....	3
TRID 170.....	4
TRID 180.....	4
M 111 .....	3
<b>Total.....</b>	<b>18</b>

#### Second Semester

AST 114 .....	2
AST 115 .....	2
AST 175 .....	5
AST 162 .....	3
AST 163 .....	3
WRIT 104.....	3
<b>Total.....</b>	<b>18</b>

## Business Administration ▽

### *Associate of Science Program of Study*

This program is designed to provide an entry point for students interested in pursuing business-related careers. It focuses on a broad business core in a flexible and practical way that is ideal for adults seeking career changes or those who desire advancement in their current position as well as the traditional students seeking a career in business. The program covers key areas dealing with economics; management, marketing, accounting, and business law that prepare students for an active and successful career. Classes are offered at flexible times with evening, hybrid, and online offerings making it ideal for adult learners or students who work during the day.

The Associate of Science Plan of Study in Business Administration offers a unique point of access for anyone interested in careers in management, marketing, finance or information systems because the program articulates directly into the College of Business Bachelor of Science degree in Business Administration. Those who enter the program can get the up-to-date skills and knowledge they need to improve their current career path or move on to the MSU Billings College of Business and complete a four-year degree with options in Management, Marketing, Finance or Information Systems. See our website at [www.msubillings.edu/careers](http://www.msubillings.edu/careers) for graduate data.

#### Upon successful completion of this program a student will be able to:

- Identify and define the major marketing concepts and principles including the 4 P's of marketing; Product, Place, Price and Promotion.
- Design a fundamental marketing plan including the 4 P's of marketing; Product, Place, Price and Promotion.
- Identify and define the major management concepts and principles including the four functions of management; planning, leading, organizing & controlling.
- Apply the four functions of management; planning, organizing, leading & controlling to the workplace.
- Evaluate standards of professional performance in the workplace.

#### Required Courses

##### General Education Requirements ..... 31

Students should consult with an academic advisor before registering for General Education courses. **The following General Education courses are required: M 143, WRIT 101, WRIT 220, COMX 111 or BMIS 150, and ECNS 201.**

#### Core Courses

^ACTG 201 Principles of Financial Accounting .....	3
^BGEN 105 Introduction to Business.....	3
#BGEN 235 Business Law .....	3
^BMGT 235 Management .....	3
^BMKT 225 Marketing .....	3
CAPP 120 Introduction to Computers	

#### OR

^CAPP 131 Basic MS Office.....	3
#ECNS 202 Principles of Macroeconomics .....	3
^TASK 294 Seminar/Workshop .....	2

##### **Total for core..... 23**

#Indicates courses that transfer to the College of Business core.

^Indicates courses that transfer to the College of Business as general electives.

##### **Restricted electives selected with advisor approval..... 6**

#### Credits

#### Suggested Plan of Study (Coordinated Evening/Online Studies Plan)

##### First Semester Credits

BGEN 105 .....	3
CAPP 120 or 131 .....	3
General Education .....	9

##### Second Semester

ACTG 201 .....	3
BMGT 235 .....	3
General Education .....	9

##### Third Semester

ECNS 201 .....	3
BMKT 225 .....	3
General Education .....	9

##### Fourth Semester

ECNS 202.....	3
BGEN 235 .....	3
TASK 294.....	2
General Education .....	7

## Computer Desktop/Network Support

### *Associate of Applied Science Degree*

CDNS is a fall start program. Please see an advisor for more information.

A Computer Desktop/Network Support specialist provides technical solutions to customer-critical problems related to software applications and associated hardware. This is accomplished through problem analysis using online training, phone service support, and a variety of electronic means to achieve high-level customer satisfaction and to accomplish the goals of the organization. Students who are successful in the program will be prepared to take industry exams such as A+, Net+, MCP, and MCDST. Students who graduate with a CDNS degree can work as support specialists in business, industry, education, and government. See our website at [www.msubillings.edu/careers](http://www.msubillings.edu/careers) for graduate data.

#### Upon successful completion of this program a student will be able to:

- Create and present a helpdesk environment from conception to development.
- Troubleshoot and repair computer hardware.
- Set up operating systems and troubleshoot software.
- Set up and document small and home networks using troubleshooting skills.
- Use business-oriented computer software programs such as Microsoft Word, Excel, Access and PowerPoint.
- Use appropriate tools to administer and troubleshoot computers.

Before a student can be accepted into the Computer Desktop/Network Support program, competency in mathematics and computers must be demonstrated. This may be done by:

- transferring of appropriate credits
- completing the computer literacy challenge test
- obtaining permission of CST faculty
- taking prerequisite course (CAPP 120)
- possessing current ACT/SAT scores in the required range
- taking the necessary prerequisite English, math and/or computer classes identified in the catalog

Check with an academic advisor to determine how you can meet these requirements. Students should check the course descriptions for required prerequisites.

Required Courses	Credits	Suggested Plan of Study
CAPP 110 Short Courses: MS Outlook .....	1	<b>First Semester</b>
CAPP 154 MS Word .....	3	NTS 104 .....
CAPP 156 MS Excel .....	3	NTS 105 .....
CAPP 158 MS Access .....	3	ITS 166 .....
COMX 106 Communicating in a Dynamic Workplace .....	3	ITS 280 .....
COMX 111 Introduction to Public Speaking .....	3	M 114 .....
CSCI 181 Web Design & Programming .....	3	<b>Total .....</b>
CSCI 211 Client Side Programming .....	3	<b>Second Semester</b>
ITS 166 Configuring MS Windows 10 .....	3	CAPP 154 .....
ITS 171 Configuring MS Server 2016 .....	3	CAPP 156 .....
ITS 182 Help Desk Support .....	3	CSCI 181 .....
ITS 217 Network Operating System – Server Admin/Apps .....	3	ITS 256 .....
ITS 224 Introduction to Linux .....	3	ITS 171 .....
ITS 256 CCNA Security .....	3	WRIT 121 .....
ITS 274 Advanced Hardware/Software Troubleshooting and Support .....	3	<b>Total .....</b>
ITS 280 Computer Repair and Maintenance .....	3	
ITS 283 Health Information Networking .....	3	
ITS 284 Network Storage .....	3	
M 114 Extended Technical Mathematics .....	3	

*Continued...*

NTS 104 CCNA 1: Intro to Networks .....	4
NTS 105 CCNA 2: Routing & Switching Essentials .....	4
WRIT 121 Introduction to Technical Writing .....	3
Elective or ITS 298 Technical Support Internship .....	3
<b>Total minimum credits required for degree .....</b>	<b>69</b>

*Students should check course descriptions for required prerequisites. Math and communication requirements are usually determined by performance on placement tests or transfer credits.*

**Third Semester**

CAPP 110 .....	1
CAPP 158 .....	3
COMX 106 .....	3
ITS 182 .....	3
ITS 217 .....	3
ITS 224 .....	3
<b>Total .....</b>	<b>16</b>

**Fourth Semester**

COMX 111 .....	3
CSCI 211 .....	3
ITS 274 .....	3
ITS 284 .....	3
ITS 283 .....	3
Elective/Internship .....	3
<b>Total .....</b>	<b>18</b>

## Computer Programming and Application Development

### *Associate of Applied Science Degree*

Computer Programming and Application Development is a fall start program. Please see an advisor for more information.

The Computer Programming and Application Development degree prepares students to enter industry as entry-level software and web application developers. Students gain hands-on experience and skills in C#, Java, Perl, Visual Basic.NET, and web development technologies such as HTML5, CSS3, JavaScript, and PHP. Graduates will also gain experience working on Linux and Windows Operating System platforms, as well as the basics of Cisco networking. This combination of programming skills, web development skills, and computer system knowledge combine to create a powerful mix of skills valuable to a variety of business, industrial, and professional fields. At graduation, each student will have a portfolio of applications created for demonstration at job interviews. See our website at [www.msubillings.edu/careers](http://www.msubillings.edu/careers) for graduate data.

#### Upon successful completion of this program a student will be able to:

- Design, create, edit, deploy and administer dynamic web sites.
- Design, create, edit, deploy and administer databases.
- Analyze, design and document from conception to development of a final application.
- Test computer applications and systems solutions.

Before a student can be accepted into the Computer Programming and Application Development degree program, competency in mathematics and computers must be demonstrated. This may be done by:

- transferring of appropriate credits
- completing the computer literacy challenge test
- obtaining permission of CST faculty
- taking prerequisite course (CAPP 120)
- possessing current ACT/SAT scores in the required range
- taking the necessary prerequisite English, math and/or computer classes identified in the catalog

Check with an academic advisor to determine how you can meet these requirements. Students should check the course descriptions for required prerequisites.

Required Courses	Credits	Suggested Plan of Study
		<b>First Semester</b>
CAPP 156 MS Excel .....	3	CAPP 156 .....
CAPP 158 MS Access .....	3	CSCI 114 .....
COMX 106 Communicating in a Dynamic Workplace .....	3	CSCI 116 .....
CSCI 111B Programming with Java I .....	4	CSCI 181 .....
CSCI 113 Programming with C++ I .....	3	ITS 163 .....
CSCI 114 Programming with C# .....	3	WRIT 121 .....
CSCI 116 Introduction to Python Programming .....	3	<b>Total.....18</b>
CSCI 121 Programming with Java II .....	4	
CSCI 124 Advanced C#/.NET .....	3	<b>Second Semester</b>
CSCI 181 Web Design & Programming .....	3	CAPP 158 .....
CSCI 211 Client Side Programming .....	3	CSCI 124 .....
CSCI 214 Server-Side Web Programming & Administration .....	3	CSCI 211 .....
CSCI 223 Software Development .....	3	ITS 170 .....
CSCI 240 Databases and SQL .....	3	ITS 224 .....
CSCI 299 Thesis/Capstone .....	3	COMX 106 .....
ITS 163 MS Windows 8 Configuration .....	3	<b>Total.....18</b>
ITS 170 MS Windows Server 2012 .....	3	
ITS 224 Introduction to Linux .....	3	

*Continued...*



M 143 Finite Mathematics.....	4
NTS 104 CCNA 1: Intro to Networks .....	4
WRIT 121 Introduction to Technical Writing .....	3
Restricted Elective	
CSCI 298 Technical Support Internship	
OR CSCI 241 PL/SQL .....	3
<b>Total minimum credits .....</b>	<b>70</b>

**Third Semester**

CSCI 240 .....	3
CSCI 111B .....	4
CSCI 121 .....	4
CSCI 223 .....	3
M 143 .....	4
<b>Total.....</b>	<b>18</b>

**Fourth Semester**

CSCI 113 .....	3
NTS 104 .....	4
CSCI 214 .....	3
CSCI 299 .....	3
Restricted Elective.....	3
<b>Total.....</b>	<b>16</b>

## Computer Systems Technology

### *Associate of Applied Science Degree*

CST is a fall start program. Please see an advisor for more information.

The Computer Systems Technology program prepares students for an exciting career in the computer industry. Technicians provide assistance and training to system users as well as administer the computer network. Graduates can find career opportunities in universities, public and private school systems, hospitals, financial institutions, retail stores, or any other organization that provides technical support to employees. See our website at [www.msubillings.edu/careers](http://www.msubillings.edu/careers) for graduate data.

Students learn techniques to investigate and resolve computer problems, both on a client computer and across an entire network and to answer clients' inquiries concerning the use of computer hardware and software. This includes solving problems related to network access, operating systems, and trouble-shooting communication issues.

Students will gain knowledge and skills in Cisco networking, Microsoft Windows networking and management, and other related computer areas. They will receive hands-on experience via the lab component of this program. Advanced computer and networking equipment is provided for use in the labs. Approximately 40% of the classroom time contains hands-on training to provide the student with real world experience. Students who are successful in the program will be prepared to take industry certification tests such as A+, Net+, Server+, CCNA, CCNP, MCP, and MCSE.

#### **Upon successful completion of this program a student will be able to:**

- Troubleshoot and repair computer hardware.
- Set up operating systems and troubleshoot software.
- Set up and document LAN networks using troubleshooting skills.
- Set up and document WAN networks using troubleshooting skills.
- Set up and document secure networks.

Before a student can be accepted into the Computer Systems Technology program, competency in mathematics and computers must be demonstrated. This may be done by:

- transferring of appropriate credits
- completing the computer literacy challenge test
- obtaining permission of CST faculty
- taking prerequisite course (CAPP 120)
- possessing current ACT/SAT scores in the required range
- taking the necessary prerequisite English, math and/or computer classes identified in the catalog

Check with an academic advisor to determine how you can meet these requirements. Students should check the course descriptions for required prerequisites.

#### **Required Courses**

	<b>Credits</b>
CAPP 156 MS Excel .....	3
COMX 106 Communicating in a Dynamic Workplace.....	3
CSCI 181 Web Design & Programming.....	3
HIT 101 Introduction to Health Care Informatics .....	3
ITS 166 Configuring MS Windows 10.....	3
ITS 171 Configuring MS Server 2016.....	3
ITS 217 Network Operating System – Server Admin/Apps.....	3
ITS 224 Introduction to Linux .....	3
ITS 256 CCNA Security.....	3
ITS 260 CCNP: Routing.....	4
ITS 264 CCNP 3: Switching.....	4
ITS 266 CCNP: Troubleshooting .....	4
ITS 280 Computer Repair and Maintenance .....	3

*Continued...*

#### **Suggested Plan of Study**

<b>First Semester</b>	<b>Credits</b>
NTS 104 (CCNA 1).....	4
NTS 105 (CCNA 2).....	4
ITS 166 (Windows 10).....	3
ITS 280 (Hardware).....	3
M 114 .....	3
<b>Total.....</b>	<b>17</b>
<b>Second Semester</b>	
CAPP 156 (Excel) .....	3
ITS 171 (Server).....	3
NTS 204 (CCNA 3).....	4

M 114 Extended Technical Mathematics .....	3
NTS 104 CCNA 1: Intro to Networks .....	4
NTS 105 CCNA 2: Routing & Switching Essentials .....	4
NTS 204 CCNA 3: Scaling Networks .....	4
NTS 205 CCNA 4: Connecting Networks .....	4
WRIT 121 Introduction to Technical Writing .....	3
Restricted Elective (choose from list below) .....	3
<b>Total minimum credits required for degree.....</b>	<b>67</b>

**Restricted Electives**

CSCI 116 Introduction to Python Programming .....	3
CSCI 211 Client Side Programming .....	3
CSCI 214 Server-Side Web Programming & Administration .....	3
ITS 182 Help Desk Support .....	3
ITS 200 CCNS Exam Preparation .....	1
ITS 284 Network Storage .....	3
ITS 291 Special Topics .....	3
ITS 298 Internship/Cooperative Education .....	3

ITS 256 (Security) .....	3
WRIT 121 .....	3
<b>Total .....</b>	<b>16</b>

**Third Semester**

COMX 106 .....	3
HIT 101 .....	3
ITS 217 (Net Infra) .....	3
NTS 205 (CCNA 4) .....	4
ITS 260 (CCNP Route) .....	4
<b>Total .....</b>	<b>17</b>

**Fourth Semester**

CSCI 181 .....	3
^ITS 200 (CCNA Prep) .....	1
ITS 224 (Linux) .....	3
ITS 264 (CCNP 3) .....	4
ITS 266 (CCNP TShoot) .....	4
Restricted Elective .....	3
<b>Total .....</b>	<b>18</b>

<b>Total .....</b>	<b>68</b>
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^Recommended

## Construction Technology - Carpentry

### *Associate of Applied Science Degree*

This degree will provide students with a foundation necessary to obtain employment in the construction industry with skills in residential and commercial construction. Students will learn skills in blueprint reading, computer aided drafting and design, construction layout, safety, residential construction, basic commercial and industrial construction, estimating, concrete and basic construction management. Students will apply these skills by performing a variety of hands-on building construction projects and field projects. See our website at [www.msubillings.edu/careers](http://www.msubillings.edu/careers) for graduate data.

**Upon successful completion of this program a student will be able to:**

- Model and employ OSHA-level safety standards
- Exemplify professional Journeyman standards
- Demonstrate tool safety and appropriate applications
- Identify and recognize various aspects of construction technology
- Read, interpret, and implement blueprints

#### Required Courses

	Credits
CAPP 120 Introduction to Computers .....	3
COMX 106 Communicating in a Dynamic Workplace .....	3
CSTN 100 Fundamentals of Construction Technology .....	3
CSTN 101 Introduction to Concrete .....	2
CSTN 120 Carpentry Basics and Rough-in Framing .....	5
CSTN 145 Exterior Finishing, Stair Construction, and Metal Stud Framing .....	5
CSTN 147 Blueprint Reading .....	3
CSTN 160 Construction Concepts and Building Laboratory .....	4
CSTN 161 Construction Concepts and Building Laboratory II .....	4
CSTN 171 Site Prep, Foundations, and Concrete Installation .....	3
CSTN 220 Interior Finishing .....	5
CSTN 230 Advanced Roof, Floor, Wall, and Stair Systems .....	5
CSTN 270 Foundations of Construction Project Management .....	3
CSTN 272 Construction Estimating Using Databases .....	1
CSTN 295 Construction Concepts and Building Laboratory III .....	6
CSTN 299 Capstone: Carpentry .....	6
DDSN 114 Introduction to CAD .....	3
M 114 Extended Technical Mathematics .....	3
TRID 151 Welding .....	2
WRIT 121 Introduction to Technical Writing .....	3
<b>Total minimum credits required for degree .....</b>	<b>72</b>

#### Suggested Plan of Study

First Semester	Credits
CSTN 100 .....	3
CSTN 120 .....	5
CSTN 147 .....	3
CSTN 160 .....	4
M 114 .....	3
<b>Total .....</b>	<b>18</b>

#### Second Semester

COMX 106 .....	3
CSTN 145 .....	5
CSTN 161 .....	4
CSTN 171 .....	3
WRIT 121 .....	3
<b>Total .....</b>	<b>18</b>

#### Third Semester

CSTN 101 .....	2
CSTN 230 .....	5
CSTN 295 .....	6
DDSN 114 .....	3
TRID 151 .....	2
<b>Total .....</b>	<b>18</b>

#### Fourth Semester

CAPP 120 .....	3
CSTN 270 .....	3
CSTN 272 .....	1
CSTN 220 .....	5
CSTN 299 .....	6
<b>Total .....</b>	<b>18</b>

**Total for degree.....72**

## Construction Technology - Carpentry

### *Certificate of Applied Science*

For more information on this MSU Billings Gainful Employment Program, such as cost, financial assistance and placement rates, please go to the following link: [www.msubillings.edu/citycollege/Programs/Gedt/Carpentry.htm](http://www.msubillings.edu/citycollege/Programs/Gedt/Carpentry.htm)

**Upon successful completion of this program a student will be able to:**

- Model and employ OSHA level safety standards
- Exemplify professional Journeyman standards
- Demonstrate tool safety and appropriate applications
- Identify and recognize various aspects of construction technology
- Read, interpret, and implement blueprints

#### Required Courses

	Credits
COMX 106 Communicating in a Dynamic Workplace .....	3
CSTN 100 Fundamentals of Construction Technology .....	3
CSTN 120 Carpentry Basics and Rough-in Framing.....	5
CSTN 145 Exterior Finishing, Stair Construction, and Metal Stud Framing.....	5
CSTN 147 Blueprint Reading.....	3
CSTN 160 Construction Concepts and Building Laboratory .....	4
CSTN 161 Construction Concepts and Building Laboratory II.....	4
CSTN 171 Site Prep, Foundations, and Concrete Installation .....	3
M 111 Technical Mathematics	
<b>OR</b>	
M 114 Extended Technical Mathematics.....	3
WRIT 104 Workplace Communications	
<b>OR</b>	
WRIT 121 Introduction to Technical Writing .....	3
<b>Total minimum credits required for degree.....</b>	<b>36</b>

#### Suggested Plan of Study

First Semester	Credits
CSTN 100.....	3
CSTN 120.....	5
CSTN 147.....	3
CSTN 160.....	4
M 111 or 114 .....	3
<b>Total.....</b>	<b>18</b>
<b>Second Semester</b>	
COMX 106.....	3
CSTN 145.....	5
CSTN 161.....	4
CSTN 171 .....	3
WRIT 104 or 121.....	3
<b>Total.....</b>	<b>18</b>

## Craft Brewing and Fermentation *Certificate of Technical Studies*

The Craft Brewing and Fermentation certificate program is a 16-credit undergraduate program that provides an overview of biochemistry, microbiology, technology, and business of craft brewing industries (beer, spirits, and wine). The program was developed with input of industry professionals and is aimed at developing a skilled workforce for the burgeoning craft brewing industries in Montana. Courses include lab work, hands-on brewing, industry speakers, and an opportunity to gain experience with a local craft brewing business through an internship or special project.

Since this program is offered on a self-support basis, federal and state financial aid (including tuition waivers) is not available for most participants. However, you may qualify for a private loan. To find out more about this option, please see The SmartStudent Guide to Financial Aid ([www.finaid.org/loans/privatestudentloans.phtml](http://www.finaid.org/loans/privatestudentloans.phtml)). Current MSUB students seeking degrees offered by the Biological and Physical Sciences Department should consult with the MSUB Office of Financial Aid and their program advisor.

Interested individuals must apply for admission separately for this program. Please contact Extended Campus at 406-896-5890 for more information.

### Upon successful completion of this program a student will be able to:

- Gain fundamental knowledge and demonstrate understanding of biological and chemical components of fermentation.
- Gain fundamental knowledge and demonstrate understanding of the craft brewing and fermentation business and industry, including the aspects of licensing and compliance.
- Evaluate quality of malt and hops brewing materials.
- Evaluate quality of final fermentation products.
- Develop a comprehensive business plan for a start-up brewery, winery, or distillery.
- Demonstrate the understanding of craft brewing and fermentation processes through a specialized project or internship.

### Required Courses

	Credits
BGEN 105 Introduction to Business .....	3
BGEN 299 Capstone: Brewing & Fermentation .....	2
BIOM 208 Applied Brewing Microbiology .....	3
BMGT 102 Business Basics for Brewing and Distillery .....	3
CHMY 170 Applied Brewing Chemistry .....	3
PPT 140 Brewing Process Technology .....	2
<b>Total minimum credits required for certificate .....</b>	<b>16</b>

### Suggested Plan of Study

Fall Semester	Credits
BGEN 105 .....	3
CHMY 170 .....	3
<b>Spring Semester</b>	
BMGT 102 .....	3
BIOM 208 .....	3
PPT 140 .....	2
<b>Summer Semester (or by arrangement)</b>	
BGEN 299 .....	2

## Criminal Justice

### *Associate of Science Program of Study*

This program is designed for students who would like to earn an associate degree with a concentration in criminal justice and have the ability to transfer to a baccalaureate criminal justice program. Students complete general education, criminal justice, and elective courses in the plan of study to help prepare for careers in law enforcement, corrections, probation, or private security.

**Upon successful completion of this program a student will be able to:**

- Identify effective written and oral communication skills and express oneself in a clear and professional manner.
- Summarize the basic knowledge of policing, courts, and corrections of crime and criminal justice.
- Discuss the diverse and multicultural nature of society and identify standards of ethical behavior.
- Demonstrate the ability to critically think and problem solve, and the ability to conceptualize ideas in the professional criminal justice environment.

#### Required Courses

#### Credits

##### Courses (includes General Education)

ARTZ 101 Art Fundamentals .....	3
BIOB 101 Discover Biology .....	3
^#CJUS 226 Introduction to Probation.....	3
^#CJUS 227 Introduction to Policing .....	3
*COMX 111 Introduction to Public Speaking.....	3
*COMX 115 Introduction to Interpersonal Communication .....	3
ECP 291 Special Topics .....	3
HSTA 101 American History I.....	3
M 121 College Algebra .....	3
*PHL 110 Introduction to Ethics: Problems of Good and Evil .....	3
PHSX 103 Our Physical World .....	3
PHSX 104 Our Physical World Laboratory .....	1
REHA 201 Introduction to Diversity in Counseling.....	3
+*SOC 101 Introduction to Sociology .....	3
+SOC 201 Social Problems .....	3
+SOC 221 Criminal Justice System .....	3
*WRIT 101 College Writing I.....	3
WRIT 121 Introduction to Technical Writing .....	3
Electives .....	8

**Total..... 60**

\* Required general education course

+ Also required for BS in Criminal Justice

# Can also be used as a restricted elective for BS in Criminal Justice

^ Prerequisites are SOCI 101 and SOCI 221

#### Suggested Plan of Study

##### First Semester Credits

WRIT 101 .....	3
HSTA 101 .....	3
BIOB 101 .....	3
ARTZ 101.....	3
M 121 .....	3
<b>Total.....</b>	<b>15</b>

##### Second Semester

SOCI 101 .....	3
PHSX 103.....	3
PHSX 104.....	1
WRIT 121 .....	3
SOCI 201 .....	3
SOCI 221 .....	3
<b>Total.....</b>	<b>16</b>

##### Third Semester

PHL 101 .....	3
COMX 115 .....	3
COMX 111 .....	3
CJUS 226.....	3
CJUS 227.....	3
<b>Total.....</b>	<b>15</b>

##### Fourth Semester

REHA 201 .....	3
ECP 291.....	3
Electives .....	8
<b>Total.....</b>	<b>14</b>

## Diesel Technology

### *Associate of Applied Science Degree*

The advent of computer-controlled machines in industry provides the City College at MSU Billings Diesel program with the challenge and opportunity to instruct students in the latest technologies available. Cooperation from industry has given this training program the advantage of having new and/or used equipment to study, adjust settings, scan readings and repair.

The program is certified in both ASE and NATEF. Current diesel employers include major truck, tractor, and auto dealerships; specialty shops; and independent garages. Diesel Technology graduates are in demand by heavy-duty construction, mining, logging, and agricultural businesses. See our website at [www.msubillings.edu/careers](http://www.msubillings.edu/careers) for graduate data. Articulation agreements with MSU-Northern, MSU Billings, and the Billings Career Center provide additional education for qualifying students.

Associate of Applied Science degrees are awarded to students who successfully pass the required courses.

#### Upon successful completion of this program a student will be able to:

- Inspect, diagnose, and repair diesel engines
- Inspect, diagnose, and repair heavy duty drive train
- Inspect, diagnose, and repair heavy duty brakes
- Inspect, diagnose, and repair heavy duty suspension and steering
- Inspect, diagnose, and repair electrical and electronic systems
- Inspect, diagnose, and repair heating, ventilation and air conditioning systems
- Perform basic preventive vehicle maintenance
- Inspect, diagnose, and repair hydraulic/hydrostatic/pneumatic systems
- Demonstrate appropriate work place communication skills
- Maintain a safe working environment

#### Required Courses

#### Credits

CAPP 120 Introduction to Computers .....	3
COMX 106 Communicating in a Dynamic Workplace .....	3
DST 101 Power Trains .....	2
DST 117 Introduction to Diesel Fuel Systems .....	4
DST 132 Diesel Engine Overhaul .....	6
DST 140 Introduction to Hydraulics .....	2
DST 141 Introduction to Hydraulics Lab .....	2
DST 155 Advanced Hydraulics and Pneumatics .....	4
DST 202 Advanced Power Trains .....	2
DST 250 Heavy Duty Chassis .....	6
DST 256 Applied Diesel Service Operation I	
<b>OR</b> DST 298 Cooperative Education/Internship .....	2
DST 257 Applied Diesel Service Operation II	
<b>OR</b> DST 298 Cooperative Education/Internship .....	2
DST 260 Diesel Engine Diagnosis and Troubleshooting .....	5
DST 277 Advanced Fuel Systems and Diesel Engine Controls .....	6
M 114 Extended Technical Mathematics .....	3
TRID 150 Environmental and Shop Practices .....	2
TRID 151 Welding .....	2
TRID 152 Vehicle Heating, Ventilation and Air Conditioning .....	3
TRID 170 Engine Theory .....	4

#### Suggested Plan of Study

First Semester	Credits
COMX 106 .....	3
DST 140 .....	2
DST 141 .....	2
TRID 150 .....	2
TRID 170 .....	4
TRID 180 .....	4
<b>Total .....</b>	<b>17</b>
<b>Second Semester</b>	
DST 117 .....	4
DST 250 .....	6
DST 101 .....	2
WRIT 121 or 122 .....	3
M 114 .....	3
<b>Total .....</b>	<b>18</b>
<b>Third Semester</b>	
CAPP 120 .....	3
DST 202 .....	2
DST 132 .....	6
DST 260 .....	5
DST 256/298 .....	2
<b>Total .....</b>	<b>18</b>

*Continued...*



TRID 180 Electrical Systems .....	4
WRIT 122 Introduction to Business Writing	
<b>OR</b> WRIT 121 Introduction to Technical Writing .....	3
<b>Total minimum credits required for degree .....</b>	<b>70</b>

*Students should check the course descriptions for required prerequisites.  
Math and English requirements are usually determined by performance on  
placement tests or transfer credits.*

**Fourth Semester**

DST 257/298 .....	2
DST 277 .....	6
DST 155 .....	4
TRID 151 .....	2
TRID 152 .....	3
<b>Total .....</b>	<b>17</b>

## Diesel Technology

### *Certificate of Applied Science*

For more information on this MSU Billings Gainful Employment Program, such as cost, financial assistance and placement rates, please go to the following link: [www.msubillings.edu/citycollege/Programs/Gedt/DieselTech.htm](http://www.msubillings.edu/citycollege/Programs/Gedt/DieselTech.htm)

**Upon successful completion of this program a student will be able to:**

- Inspect, diagnose, and repair mobile hydraulic systems
- Inspect, diagnose, and repair diesel fuel systems
- Inspect, diagnose, and repair diesel engines
- Inspect, diagnose, and repair heavy duty power trains
- Inspect, diagnose, and repair heavy duty chassis systems

#### Required Courses

	Credits
COMX 106 Communicating in a Dynamic Workplace .....	3
DST 101 Power Trains .....	2
DST 117 Introduction to Diesel Fuel Systems .....	4
DST 140 Introduction to Hydraulics .....	2
DST 141 Introduction to Hydraulics Lab .....	2
DST 250 Heavy Duty Chassis .....	6
M 111 Technical Mathematics .....	3
TRID 150 Environmental and Shop Practices .....	2
TRID 170 Engine Theory .....	4
TRID 180 Electrical Systems .....	4
WRIT 104 Workplace Communications .....	3
<b>Total minimum credits required .....</b>	<b>35</b>

*Students should check the course descriptions for required prerequisites.  
Math and English requirements are usually determined by performance on  
placement tests or transfer credits.*

#### Suggested Plan of Study

First Semester	Credits
DST 140 .....	2
DST 141 .....	2
COMX 106 .....	3
TRID 150 .....	2
TRID 170 .....	4
TRID 180 .....	4
<b>Total .....</b>	<b>17</b>
<b>Second Semester</b>	
DST 117 .....	4
DST 250 .....	6
DST 101 .....	2
M 111 .....	3
WRIT 104 .....	3
<b>Total .....</b>	<b>18</b>

***\*Program placed on moratorium\******Drafting and Design Technology**  
***Associate of Applied Science Degree****For the Assistant Drafter Certificate of Applied Science, see page 69.*

This degree program can be completed in four semesters.

The Drafting and Design Technology curriculum prepares students to interpret basic mechanical, architectural, civil, and engineering data. Students use written/verbal directions to graphically produce detailed models and working drawings for architectural, engineering, and manufacturing purposes. The curriculum is computer-based and incorporates state-of-the-art software to prepare the student for employment in a technological office environment. Drafting and Design graduates find career opportunities with engineering and architectural firms, construction companies, manufacturing industries, and land planning companies. See our website at [www.msubillings.edu/careers](http://www.msubillings.edu/careers) for graduate data.

Student projects incorporate applying ANSI Standards, three-dimensional data models, Geographic Information Systems, construction estimating, structural detailing, conformance to construction and safety codes, specialized software applications, Internet use, email communication, distance learning, and network use. The program also emphasizes the development of problem-solving skills. Some fieldwork is required during sections on surveying technique, Global Positioning Systems, and group projects.

All lab computers have Internet access and all students are eligible for an email account through MSU Billings.

**Upon successful completion of this program a student will be able to:**

- Interpret and create two-dimensional drawings relevant to mechanical, civil and architectural disciplines.
- Interpret and create three-dimensional models relevant to mechanical, civil and architectural disciplines.
- Perform discipline-specific data calculations.
- Prepare projects from conception to development of a final product.
- Utilize a wide variety of software relevant to the disciplines of Drafting & Design.

Before a student can be accepted into the Drafting Technician program courses, competency in math must be demonstrated. This may be done by:

- Receiving a passing score on the Compass Placement Test that indicates placement at M 090 or above
- Transferring of appropriate credits
- Possessing current ACT/SAT scores in the required range showing readiness to take M 090 or above

Check with the Office of Student Services or faculty advisory to determine how to meet these requirements.

**Required Courses****Credits**

CAPP 120 Introduction to Computers .....	3
COMX 106 Communicating in a Dynamic Workplace .....	3
CSTN 148 Blueprint Codes and Estimating .....	2
DDSN 110 Technical Drawing Lecture.....	4
DDSN 111 Technical Drawing Lab.....	3
DDSN 116 3D CAD .....	3
DDSN 135 SolidWorks .....	3
DDSN 145 Structural Drafting .....	3
DDSN 160 Architectural Lecture .....	2
DDSN 161 Architectural Lab .....	5
DDSN 186 CAD 2.....	3
DDSN 240 Civil Lecture .....	2
DDSN 241 Civil Lab .....	5

*Continued...*

**Suggested Plan of Study**

<b>First Semester</b>	<b>Credits</b>
CAPP 120 .....	3
M 114 .....	3
DDSN 110 .....	4
DDSN 111 .....	3
DDSN 116 .....	3
<b>Total.....</b>	<b>16</b>
<b>Second Semester (offered fall)</b>	
DDSN 160 .....	2
CSTN 148.....	2
DDSN 161 .....	5
MART 208 .....	3
WRIT 121 or 122.....	3
<b>Total.....</b>	<b>15</b>

DDSN 244 GIS Mapping .....	2
DDSN 256 SDS/2 Structural Detailing .....	3
DDSN 294A Project Development Lecture.....	3
DDSN 295A Project Development Lab.....	3
DDSN 299 Capstone: Project Development.....	1
M 114 Extended Technical Mathematics .....	3
MART 208 Multimedia Technology .....	3
MART 260 Computer Presentation and Animation .....	3
WRIT 122 Introduction to Business Writing	
<b>OR</b> WRIT 121 Introduction to Technical Writing .....	3
<b>Total minimum credits required for degree .....</b>	<b>65</b>

**Optional, but recommended:**

CSCI 181 Web Design & Programming.....	3
DDSN 114 Introduction to CAD .....	3

*Students should check the course descriptions for required prerequisites.*

**Third Semester (offered spring)**

COMX 106 .....	3
DDSN 240 .....	2
DDSN 145 .....	3
DDSN 241 .....	5
DDSN 244 .....	2
DDSN 186 .....	3
<b>Total.....</b>	<b>18</b>

**Fourth Semester**

DDSN 256 .....	3
DDSN 295A .....	3
DDSN 294A .....	3
DDSN 299 .....	1
DDSN 135 .....	3
MART 260 .....	3
<b>Total.....</b>	<b>16</b>

***\*Program placed on moratorium\******Drafting and Design*****Associate of Science Program of Study****\*For the Assistant Drafter Certificate of Applied Science, see page 69.\**

The Drafting and Design Program curriculum interprets basic mechanical, architectural, civil, and engineering data. Students use written/verbal directions to graphically produce detailed models and working drawings for architectural, engineering, and manufacturing purposes. The curriculum is computer-based and incorporates state-of-the-art software to prepare the student for employment in a technological office environment.

Student projects incorporate applying ANSI Standards, three-dimensional data models, Geographic Information Systems, construction estimating, structural detailing, conformance to construction and safety codes, specialized software applications, Internet use, email communication, distance learning, and network use. The program also emphasizes the development of problem-solving skills. Some fieldwork is required during sections on surveying technique, Global Positioning Systems, and group projects.

All lab computers have Internet access and all students are eligible for an email account through MSU Billings.

Students should consult with an academic advisor before registering for General Education courses. Certain General Education courses may be required for trajectory into particular bachelor degrees.

**Upon successful completion of this program a student will be able to:**

- Create two-dimensional drawings relevant to mechanical, civil and architectural disciplines
- Create three-dimensional models relevant to mechanical, civil and architectural disciplines
- Begin a well-rounded academic base through the completion of the General Education core

**Required Courses****Credits****General Education Requirements .....31**

Students should consult with an academic advisor before registering for General Education courses. Certain General Education courses may be required for trajectory into particular bachelor degrees.

**Technical Courses**

CAPP 120 Introduction to Computers .....	3
DDSN 110 Technical Drawing Lecture.....	4
DDSN 111 Technical Drawing Lab.....	3
DDSN 116 3D CAD .....	3
DDSN 135 SolidWorks .....	3
DDSN 244 GIS Mapping .....	2
MART 208 Multimedia Technology .....	3
Restricted Electives .....	2
<b>Total for Technical Courses.....</b>	<b>23</b>

**Restricted electives selected with advisor approval.....6**

**Total for degree.....60**

**Suggested Plan of Study****First Semester Credits**

CAPP 120 .....	3
DDSN 110 .....	4
DDSN 111 .....	3
General Education .....	6
<b>Total.....</b>	<b>16</b>

**Second Semester**

DDSN 244 .....	2
DDSN 116 .....	3
General Education .....	10
<b>Total.....</b>	<b>15</b>

**Third Semester**

MART 208 .....	3
General Education .....	12
<b>Total.....</b>	<b>15</b>

**Fourth Semester**

DDSN 135 .....	3
Elective.....	2
General Education .....	9
<b>Total.....</b>	<b>14</b>

**Total.....60**

## Energy Technician

### *Certificate of Applied Science*

The Energy Technician CAS will provide completers the entry-level skill needed to gain enrollment as an apprentice electrician in the residential wiremen track. According to Bureau of Labor Statistics, employment of electricians is projected to grow 20 percent from 2012 to 2022, faster than the average for all occupations. The total number of electrician jobs that will be added over the next 10 years is 114,700. Apprentice electricians are responsible for assisting journeyman electricians with installing and maintaining electrical and power systems in homes and businesses. They work at construction sites, factories, businesses, and residences. Energy Technician CAS students build off what they learn as Energy Technician CTS completer and are introduced to and taught the skills required to be an apprentice electrician.

For more information on this MSU Billings Gainful Employment Program, such as cost, financial assistance and placement rates, please go to the following link: [www.msubillings.edu/citycollege/Programs/Gedt/EnergyMngmnt.htm](http://www.msubillings.edu/citycollege/Programs/Gedt/EnergyMngmnt.htm)

#### Upon successful completion of this program a student will be able to:

- Install wiring systems.
- Upgrade existing wiring.
- Use State and National Electrical Codes during installation and inspection.
- Repair electrical equipment.
- Trace out short circuits in wiring using test meter.
- Read and interpret blueprints.
- Examine diagrams of circuits, outlets, load centers, and panel boards.
- Determine where wires and components will be situated.
- Install and connect wires to circuit breakers, outlets, and transformers.
- Use tools such as conduit benders, screwdrivers, pliers, knives, hacksaws, and wire strippers.
- Install circuit breakers, fuses, switches, electrical and electronic components, or wire.
- Calculate Service Entrance requirements and install Load Centers.
- Calculate lighting loads and branch circuit requirements.
- Calculate special purpose branch circuits requirements for appliances.
- Install new lighting and ceiling fans.
- Study motors, transformers, generators, and electronic controllers.
- Bend offsets, kicks, saddles, segmented and parallel bends.

**Please note:** Students must test into M 114 or WRIT 121 through the COMPASS placement test or take the appropriate prerequisite course work in order to start this program.

#### Required Courses

	Credits
CAPP 120 Introduction to Computers .....	3
COMX 106 Communicating in a Dynamic Workplace .....	3
ELCT 130 Electric Motors and Generators .....	3
ETEC 103 AC/DC Electronics II .....	3
ETEC 192 Fundamentals of Energy Technicians I .....	4
ETEC 193 Fundamentals of Energy Technicians II .....	4
M 114 Extended Technical Mathematics .....	3
NRGY 101 Introduction to Sustainable Energy .....	3
NRGY 121 Climb Safety and Rigging .....	1
TRID 150 Environmental and Shop Practices .....	2
TRID 185 Introduction to Industrial Power Systems Lecture .....	2
TRID 186 Introduction to Industrial Power Systems Laboratory .....	1
WRIT 121 Introduction to Technical Writing .....	3
<b>Total .....</b>	<b>35</b>

#### Suggested Plan of Study

Semester 1 Fall	Credits
ETEC 103.....	3
TRID 185 .....	2
TRID 186 .....	1
M 114 .....	3
TRID 150 .....	2
WRIT 121 .....	3
ETEC 192.....	4
<b>Total .....</b>	<b>18</b>
Semester 2 Spring	
CAPP 120.....	3
ETEC 193.....	4
ELCT 130.....	3
NRGY 101 .....	3
NRGY 121 .....	1
COMX 106.....	3
<b>Total .....</b>	<b>17</b>
<b>Total .....</b>	<b>35</b>

## Energy Technician

### *Certificate of Technical Studies*

The Energy Technician CTS will provide completers the basic entry-level skill needed to gain employment as an electrician helper. According to Bureau of Labor Statistics, employment of electricians is projected to grow 20 percent from 2012 to 2022, faster than the average for all occupations. The total number of electrician jobs that will be added over the next 10 years is 114,700. Helper electricians assist electricians by performing duties requiring less skill. Duties include using, supplying, or holding materials or tools and cleaning work area and equipment.

For more information on this MSU Billings Gainful Employment Program, such as cost, financial assistance and placement rates, please go to the following link: [www.msubillings.edu/citycollege/Programs/Gedt/EnergyMngmnt.htm](http://www.msubillings.edu/citycollege/Programs/Gedt/EnergyMngmnt.htm)

#### Upon successful completion of this program a student will be able to:

- Thread conduit ends and connect couplings and conduit fittings using wrenches.
- Secure brackets to bulkheads with screws and bolts and pull wires through conduit leading to connection boxes, switch panels, and other terminals.
- Use tools such as conduit benders, screwdrivers, pliers, knives, hacksaws, and wire strippers.
- Measure, cut, and bend wire and conduit, using measuring instruments and hand tools.
- Strip insulation from wire ends, using wire stripping pliers, and attach wires to terminals.
- Drill holes and pull or push wiring through openings using hand and power tools.
- Clean work area and wash parts.
- Erect electrical system components and barricades.
- Dig trenches or holes for installation of conduit or supports.
- Solder electrical connections using soldering iron.

#### Required Courses

	Credits
ETEC 103 AC/DC Electronics II .....	3
ETEC 192 Fundamentals of Energy Technicians I.....	4
M 114 Extended Technical Mathematics .....	3
TRID 150 Environmental and Shop Practices .....	2
TRID 185 Introduction to Industrial Power Systems Lecture .....	2
TRID 186 Introduction to Industrial Power Systems Laboratory .....	1
WRIT 121 Introduction to Technical Writing .....	3
<b>Total .....</b>	<b>18</b>

#### Suggested Plan of Study

	Credits
M 114 .....	3
WRIT 121 .....	3
ETEC 103 .....	3
ETEC 192 .....	4
TRID 150.....	2
TRID 185.....	2
TRID 186.....	1
<b>Total.....</b>	<b>18</b>

## Fire Science

### *Associate of Science Program of Study*

#### MISSION STATEMENT

The Fire Science program provides excellence in academic programs and access to qualified students. The Fire Science program provides instruction in the knowledge and skills needed to enter and prepare for advancement in the fire and emergency service fields. The knowledge and skills acquired will enable success and achievement allowing students to compete and advance in an ever changing, technologically diverse environment and will provide preparation for regional, national, and global markets. We strive, by example, to instill in each student our philosophy, civic leadership skills, an interest in life-long learning, and a commitment to service. Serving a unique blend of urban and rural educational needs in the Southeastern Yellowstone region of Montana, we work with the community to promote intellectual and educational excellence to meet the evolving needs of the fire and emergency service industry.

#### VISION STATEMENT

The Fire Science program envisions creating an inviting environment that serves students by being responsive, adaptive, and innovative through a proactive approach to present and future needs. The program foresees a continued increased enrollment, expanded programs, use of regional outreach delivery, use of advanced technology, and expanded alliance with our various customer bases as a bridge to becoming a leader in post-secondary two-year Fire Science education.

The fire science program has been developed to prepare students to enter fire and emergency service careers and to provide the necessary and essential education needed for advancement opportunities within the fire and emergency service fields. By providing a broad educational background, the fire science associate of science degree seeks to meet the evolving needs of the fire service industry. This program trains students in: critical thinking, communication, physical skills, public relations, and numerous other technical aspects of the fire science field.

Local fire service professionals will have an opportunity to be provided with the technical expertise and training for fire sciences. Students also do on-site training with the Billings Fire Department throughout the degree process. Nationwide, fire and emergency service providers are seeking applicants with college degrees.

See our website at [www.msubillings.edu/careers](http://www.msubillings.edu/careers) for graduate data.

#### Upon successful completion a student will be able to demonstrate program outcomes by:

- Identify and appraise building construction and inspection practices to safe guard occupants and firefighting personnel.
- Explain the process of fire development as it relates to cause and origin.
- Apply decision-making skills as a team member or leader within the Incident Command System.
- Use professional terminology to explain the origins, traditions, organization and operations of the fire service.
- Explain and demonstrate entry-level firefighter skills.
- Identify specific sections of the NFPA Standards.
- Operate at awareness, operations and technician levels of response to hazardous materials.

#### Required Courses

#### Credits

**General Education Requirements ..... 31**

Students should consult with an academic advisor before registering for General Education courses. **Students must take M 143, WRIT 220, and ECNS 201 if they wish to continue into the BSBA General Business Program in the College of Business.**

#### Required Technical Courses

ECP 294 Workshop: Conflict Resolution ..... 3  
 FIRE 105 Fire Apparatus, Equipment and Hydraulics ..... 3  
 FIRE 115 Fire Fighter I Essentials ..... 3  
 FIRE 130 Fire Service Management and Law ..... 3  
 FIRE 172 Wildlands Standards for Survival ..... 3

*Continued...*

#### Suggested Plan of Study

First Semester	Credits
FIRE 115 .....	3
FIRE 130 .....	3
Gen Ed Courses .....	9
<b>Total.....</b>	<b>15</b>

Second Semester	Credits
FIRE 275 .....	3
FIRE 172 .....	3
Gen Ed Courses .....	7
<b>Total.....</b>	<b>13</b>



FIRE 180 Incident Command .....	3
FIRE 214 Inspection Codes and Practice .....	3
FIRE 255 Cause and Origin.....	2
FIRE 275 Fire Service Instructor.....	3
TRID 160 Hazardous Materials Technician General Training .....	3
<b>Total Technical Courses.....</b>	<b>29</b>

**Total minimum credits required for degree..... 60**

*It is highly recommended that all students take Emergency Medical Technician (EMT) training before graduation.*

<b>Third Semester</b>	
FIRE 255 .....	2
ECP 294.....	3
FIRE 214 .....	3
Gen Ed Courses .....	9
<b>Total.....</b>	<b>17</b>

<b>Fourth Semester</b>	
FIRE 105 .....	3
TRID 160.....	3
FIRE 180 .....	3
Gen Ed Courses .....	6
<b>Total.....</b>	<b>15</b>

## AA/AS General Studies (Self-Designed)

The AA/AS in General Studies degree is designed for students who would like to earn a foundation of general education and transfer to a baccalaureate program. Students complete 31 credits of general education and can choose courses from each category in the menu below. In consultation with an advisor, students choose 29 credits of elective courses that will help them to prepare for the bachelor's degree of their choice.

### General Education Courses

*For more information on General Education Requirements, see page 55.*

<b>I. Global Academic Skills .....</b>	<b>9</b>
<b>A. Mathematics .....</b>	<b>3</b>
M 105 Contemporary Mathematics .....	3
M 114 Extended Technical Mathematics .....	3
M 121 College Algebra.....	3
M 122 College Trigonometry.....	3
M 131 Mathematics for Elementary Teachers II.....	3
M 143 Finite Mathematics .....	4
M 161 Survey of Calculus .....	3
M 171 Calculus I.....	4
STAT 141 Introduction to Statistical Concepts .....	3
STAT 216 Introduction to Statistics.....	4
<b>B. English .....</b>	<b>3</b>
WRIT 101 College Writing I .....	3
WRIT 121 Introduction to Technical Writing.....	3
WRIT 122 Introduction to Business Writing .....	3
WRIT 201 College Writing II.....	3
WRIT 220 Business & Professional Writing .....	3
WRIT 221 Intermediate Technical Writing .....	3
<b>C. Information Literacy .....</b>	<b>3</b>
BMIS 150 Computer Literacy.....	3
COMX 111 Introduction to Public Speaking .....	3
COMX 115 Introduction to Interpersonal Communication .....	3
LSCI 125 Research in the Information Age.....	3
<b>II. Natural Sciences.....</b>	<b>7</b>
<b>A. Life Sciences.....</b>	<b>3-4</b>
BIOB 101 Discover Biology .....	3
BIOB 102 Discover Biology Laboratory .....	1
BIOB 160 Principles of Living Systems .....	3
BIOB 161 Principles of Living Systems Laboratory .....	1
<b>B. Physical Sciences.....</b>	<b>3-4</b>
ASTR 110 Introduction to Astronomy.....	3
ASTR 111 Introduction to Astronomy Lab.....	1
CHMY 121 Introduction to General Chemistry .....	3
CHMY 122 Introduction to General Chemistry Laboratory .....	1
CHMY 141 College Chemistry I .....	3
CHMY 142 College Chemistry Laboratory I.....	1
GEO 101 Introduction to Physical Geology .....	3
GEO 102 Introduction to Physical Geology Laboratory .....	1
GPHY 111 Introduction to Physical Geography .....	3
GPHY 112 Introduction to Physical Geography Laboratory .....	1
PHSX 103 Our Physical World.....	3
PHSX 104 Our Physical World Laboratory .....	1

PHSX 105 Fundamentals of Physical Science .....	3
PHSX 106 Fundamentals of Physical Science Lab .....	1
PHSX 205 College Physics I.....	3
PHSX 206 College Physics I Laboratory .....	1
<b>A. and B. Integrated Sciences.....</b>	<b>7</b>
SCIN 101 Integrated Sciences I .....	3
SCIN 102 Integrated Sciences Lab .....	1
SCIN 103 Integrated Sciences II.....	3
SCIN 104 Integrated Sciences Lab II.....	1
<b>III. Social Sciences and History .....</b>	<b>6</b>
<b>A. Social Sciences .....</b>	<b>3</b>
ANTY 217 Physical Anthropology and Archeology .....	3
BGEN 105 Introduction to Business .....	3
COMX 106 Communicating in a Dynamic Workplace .....	3
ECNS 201 Principles of Microeconomics .....	3
ECNS 202 Principles of Macroeconomics.....	3
EDU 105 Education and Democracy .....	3
GPHY 141 Geography of World Regions.....	3
HTH 110 Personal Health and Wellness .....	3
PSCI 210 Introduction to American Government .....	3
PSCI 220 Introduction to Comparative Government .....	3
PSYX 100 Introduction to Psychology .....	3
PSYX 231 Human Relations.....	3
SOCI 101 Introduction to Sociology.....	3
SOCI 201 Social Problems .....	3
<b>B. History .....</b>	<b>3</b>
HSTA 101 American History I .....	3
HSTA 102 American History II.....	3
HSTR 101 Western Civilization I.....	3
HSTR 102 Western Civilization II.....	3
HSTR 103 Honors Western Civilization I .....	3
HSTR 104 Honors Western Civilization II .....	3
PSCI 230 Introduction to International Relations .....	3
<b>IV. Cultural Diversity.....</b>	<b>3</b>
ANTY 220 Culture and Society .....	3
ARTH 160 Global Visual Culture.....	3
COMX 212 Introduction to Intercultural Communication.....	3
GPHY 121 Human Geography .....	3
HTH 270 Global Health Issues .....	3
LIT 230 World Literature Survey .....	3
MUSI 207 World Music .....	3
NASX 105 Introduction to Native American Studies .....	3
NASX 205 Native Americans in Contemporary Society .....	3
PHL 271 Indian Philosophies and Religions.....	3
PHL 272 Chinese Philosophies and Religions .....	3
REHA 201 Introduction to Diversity in Counseling .....	3
RLST 170 The Religious Quest .....	3
SPNS 150 The Hispanic Tradition.....	3
WGSS 274 Women, Culture and Society .....	3

<b>V. Arts and Humanities.....</b>	<b>6</b>
<b>A. Fine Arts.....</b>	<b>3</b>
ARTZ 101 Art Fundamentals.....	3
ARTZ 105 Visual Language-Drawing .....	3
ARTZ 131 Ceramics for Non-Majors .....	3
CRWR 240 Introductory Creative Writing Workshop.....	3
FILM 160 Introduction to World Cinema.....	3
LIT 270 Film & Literature .....	3
MART 260 Computer Presentation and Animation.....	3
MUSI 101 Enjoyment of Music .....	3
MUSI 114 Band: MSUB Symphonic.....	1
MUSI 131 Jazz Ensemble I: MSUB .....	1
MUSI 147 Choral Ensemble: University Chorus .....	1
PHOT 154 Exploring Digital Photography .....	3
THTR 101 Introduction to Theatre .....	3
THTR 120 Introduction to Acting I .....	3
<b>B. Humanities .....</b>	<b>3</b>
ARTH 150 Introduction to Art History.....	3
HONR 111 Perspectives and Understanding .....	3
LIT 110 Introduction to Literature .....	3
LIT 240 The Bible as Literature.....	3
PHL 110 Introduction to Ethics: Problems of Good and Evil .....	3
PHL 111 Philosophies of Life.....	3
<b>Total.....</b>	<b>31</b>

## Requirements

General Education .....	31
Electives .....	29
<b>Total.....</b>	<b>60</b>

- Earn a minimum of 60 semester credits with a cumulative grade point average of 2.0 or better
- Satisfy the General Education requirements of MSU Billings
- Earn a C- or better in all General Education requirements
- A minimum of 20 semester credits with 40 grade points must be earned at MSU Billings

## Human Resources College of Business Articulated Emphasis v Associate of Science Program of Study

Graduates of the AS in Human Resources will have a foundation of human resources management with an overview of laws, regulations, and course decision that determine the legal framework of Equal Employment Opportunity (EEO). This program is articulated with the Bachelor of Science in Business Administration degree through the MSU Billings College of Business. Students will be prepared to further their education or to secure an entry level position in human resource management. See our website at [www.msubillings.edu/careers](http://www.msubillings.edu/careers) for graduate data.

### Upon successful completion of this program a student will be able to:

- Identify and define the major federal, state & local employment laws as well as the penalties for non-compliance (tests, projects).
- Design and develop recruitment process and selection procedures (tests, project).
- Identify and define the major risk management, safety and security laws as well as the penalties for non-compliance (tests, projects).
- Design a training program utilizing the ADDIE Model (project).
- Evaluate standards of professional performance in the workplace.

Students should consult with an academic advisor before registering for General Education courses in order to maximize the number of elective credits allowed in the degree.

**Associate of Science Emphases:** The AS programs of study are arranged to transfer credits to a Bachelor degree program. Those who choose the College of Business articulated emphasis will be able to transfer directly into the College of Business.

### Required Courses

#### General Education Requirements ..... 31

The following General Education courses are required: M 143 in Category I subcategory A; WRIT 101 **OR** WRIT 220 in Category I subcategory B; COMX 111 **OR** BMIS 150 in Category I subcategory C; and ECNS 201 in Category III.

#### Technical Courses

ACTG 180 Payroll Accounting ..... 3  
 ACTG 201 Principles of Financial Accounting ..... 3  
 BMGT 180 Employment Law and Practices ..... 3  
 BMGT 250 Employment and Compensation Strategies ..... 3  
 BMGT 281 Risk Management, Safety and Security

#### **OR**

BMGT 282 Organizational Training and Development ..... 3  
 CAPP 120 Introduction to Computers

#### **OR**

CAPP 131 Basic MS Office ..... 3  
 ECNS 202 Principles of Macroeconomics ..... 3  
 TASK 294 Seminar/Workshop

#### **OR**

BMGT 298 Internship ..... 2-3\*  
**Total Required Courses ..... 23**

**Restricted electives selected with advisor approval ..... 6**

**Total Credits ..... 60**

### Credits

### Suggested Plan of Study

#### First Semester Credits

ACTG 201 ..... 3  
 CAPP 120 ..... 3  
 BMGT 180 ..... 3  
 Gen Ed Courses ..... 6  
**Total ..... 15**

#### Second Semester

ACTG 180 ..... 3  
 BMGT 250 ..... 3  
 Gen Ed Courses ..... 9  
**Total ..... 15**

#### Third Semester

ECNS 202 ..... 3  
 BMGT 281 or 282 ..... 3  
 Gen Ed Courses ..... 9  
**Total ..... 15**

#### Fourth Semester

TASK 294 or BMGT 298 ..... 2  
 Gen Ed Courses ..... 13  
**Total ..... 15**

\*Students are required to complete two credits, but may earn up to three.

## Human Resources General Applied Emphasis ▽

### *Associate of Science Program of Study*

The Human Resource curriculum is broad-based and designed to meet the demands of business and service organizations. Graduates of this program will have a foundation in human resource management, an overview of various laws, regulations and court decisions that determine the legal framework of EEO and a sound base for lifelong learning. See our website at [www.msubillings.edu/careers](http://www.msubillings.edu/careers) for graduate data.

#### Upon successful completion of this program a student will be able to:

- Identify and define the major federal, state & local employment laws as well as the penalties for non-compliance (tests, projects).
- Design and develop recruitment process and selection procedures (tests, project).
- Identify and define the major risk management, safety and security laws as well as the penalties for non-compliance (tests, projects).
- Design a training program utilizing the ADDIE Model (project).
- Evaluate standards of professional performance in the workplace.

**Associate of Science Emphases:** The AS programs of study are arranged to transfer credits to a Bachelor degree program. Those who choose the College of Business articulated emphasis will be able to transfer directly into the College of Business.

#### Required Courses

##### General Education Requirements ..... 31

The following General Education courses are required: WRIT 101 **OR** WRIT 220 in Category I subcategory B; COMX 111 **OR** BMIS 150 in Category I subcategory C; and ECNS 201 **OR** ECNS 202 in Category III.

##### Required Technical Courses

ACTG 101 Accounting Procedures I.....	3
ACTG 180 Payroll Accounting .....	3
BMGT 180 Employment Law and Practices.....	3
BMGT 250 Employment and Compensation Strategies.....	3
BMGT 281 Risk Management, Safety and Security.....	3
BMGT 282 Organizational Training and Development .....	3
CAPP 120 Introduction to Computers .....	3
TASK 294 Seminar/Workshop	

##### **OR**

BMGT 298 Internship .....	2-3*
<b>Total Required Courses .....</b>	<b>23</b>

**Restricted electives selected with advisor approval..... 6**

**Total Credits ..... 60**

\*Students are required to complete two credits, but may earn up to three.

#### Credits

#### Suggested Plan of Study

##### First Semester Credits

ACTG 101 .....	3
CAPP 120 .....	3
BMGT 180 .....	3
Gen Ed Courses .....	6
<b>Total.....</b>	<b>15</b>

##### Second Semester

ACTG 180 .....	3
BMGT 250 .....	2
Gen Ed Courses .....	9
<b>Total.....</b>	<b>15</b>

##### Third Semester

BMGT 281 .....	3
Gen Ed Courses .....	12
<b>Total.....</b>	<b>15</b>

##### Fourth Semester

BMGT 282 .....	3
TASK 294 or BMGT 298.....	2
Gen Ed Courses .....	10
<b>Total.....</b>	<b>15</b>

## Human Resource Management ▽

### *Certificate of Applied Science*

This option is available for individuals who are in the workforce or seeking quick training in basic human resources. All graduating students will be prepared for employment opportunities in human resource management. See our website at [www.msubillings.edu/careers](http://www.msubillings.edu/careers) for graduate data.

For more information on this MSU Billings Gainful Employment Program, such as cost, financial assistance and placement rates, please go to the following link: [www.msubillings.edu/citycollege/Programs/Gedt/HRMnagement.htm](http://www.msubillings.edu/citycollege/Programs/Gedt/HRMnagement.htm)

#### Upon successful completion of this program a student will be able to:

- Identify and define the major federal, state & local employment laws as well as the penalties for non-compliance (tests, projects).
- Design and develop recruitment process and selection procedures (tests, project).
- Identify and define the major risk management, safety and security laws as well as the penalties for non-compliance (tests, projects).
- Design a training program utilizing the ADDIE Model (project).
- Evaluate standards of professional performance in the workplace.

#### Required Courses

##### General Education

WRIT 122 Introduction to Business Writing.....	3
COMX 106 Communicating in a Dynamic Workplace.....	3
M 121 College Algebra .....	3
<b>Total.....</b>	<b>9</b>

Students should consult with an academic advisor before registering for General Education courses in order to maximize the number of elective credits allowed in the degree. A list of General Education courses is available in the General Bulletin and City College at MSU Billings catalog.

ACTG 101 Accounting Procedures I.....	3
ACTG 180 Payroll Accounting .....	3
BMGT 180 Employment Law and Practices .....	3
BMGT 250 Employment and Compensation Strategies.....	3
BMGT 281 Risk Management, Safety and Security.....	3
BMGT 282 Organizational Training and Development .....	3
CAPP 120 Introduction to Computers .....	3
TASK 294 Seminar/Workshop .....	

##### OR

BMGT 298 Internship .....	2-3*
<b>Total Required Courses .....</b>	<b>23</b>

**Total minimum credits required ..... 32**

\*Students are required to complete two credits, but may earn up to three.

#### Credits

#### Suggested Plan of Study

##### First Semester Credits

ACTG 101 .....	3
CAPP 120 .....	3
BMGT 180 .....	3
Gen Ed Courses .....	6
<b>Total.....</b>	<b>15</b>

##### Second Semester

ACTG 180 .....	3
BMGT 250 .....	3
BMGT 281 .....	3
BMGT 282 .....	3
TASK 294 or BMGT 298.....	2
Gen Ed Courses .....	3
<b>Total.....</b>	<b>17</b>

## Medical

### *Certificate of Technical Study*

#### Special Considerations:

Students must submit their NREMT certification as well as complete a competitive application process in order to enter the paramedic program.

#### Prerequisites:

Demonstrate proficiency in English and math.

BIOH 101 Foundations of Human Biology, 3 credits (available online).

Required Courses	Credits	Suggested Plan of Study	
		Spring Semester	Credits
ECP 207 Cardiology .....	4	ECP 207.....	4
ECP 208 Cardiology Lab and ACLS .....	1	ECP 208.....	1
ECP 220 Special Considerations .....	1	ECP 220.....	1
ECP 221 OB/Neonate/Pediatrics .....	2	ECP 221.....	2
ECP 222 OB/Neonate/Pediatrics Lab and NRP and PALS .....	1	ECP 222.....	1
ECP 242 Medical .....	2	ECP 242.....	2
ECP 243 Medical Lab.....	1	ECP 243.....	1
ECP 246 Hospital Clinical II .....	6	ECP 246.....	6
<b>Total minimum credits required .....</b>	<b>18</b>	<b>Total.....</b>	<b>18</b>



## Medical Administrative Assistant

### *Associate of Applied Science Degree*

Medical Administrative Assistants perform a variety of routine duties, depending on the nature of the employer's professional activities. Functions include scheduling appointments, establishing and maintaining patient records, processing mail, billing, collections, coding, insurance filing, and reception duties. The medical administrative assistant is responsible for correspondence and transcription of medical reports and letters, must follow appropriate medical office policies and be cognizant of the ethical and legal responsibilities of the medical profession. See our website at [www.msubillings.edu/careers](http://www.msubillings.edu/careers) for graduate data.

#### Upon successful completion of this program a student will be able to:

- Use current computer programs, including word processing, spreadsheet, and database software
- File and organize documents, including medical records
- Use basic accounting and business math
- Spell, proofread, and use proper business English
- Communicate professionally, both in writing and in person
- Demonstrate professionalism in a business environment
- Use proficient typing skills to develop an appropriate resume, cover letter, collection letters, brochures, pamphlets, and community agency lists
- Demonstrate medical receptionist skills

#### Required Courses

	Credits
ACTG 101 Accounting Procedures I.....	3
AHMS 144 Medical Terminology.....	3
AHMS 160 Beginning Procedural Coding.....	3
AHMS 162 Beginning Diagnosis Coding.....	3
AHMS 175 Medical Law and Ethics.....	3
AHMS 220 Medical Office Procedures.....	3
AHMS 255 Medical Transcription I.....	3
BIOH 101 Foundations of Human Biology.....	3
CAPP 110 Short Courses: MS Outlook.....	1
CAPP 120 Introduction to Computers.....	3
CAPP 154 MS Word.....	3
CAPP 156 MS Excel.....	3
CAPP 158 MS Access.....	3
COMX 106 Communicating in a Dynamic Workplace.....	3
COMX 111 Introduction to Public Speaking.....	3
M 108 Business Mathematics.....	3
M 121 College Algebra.....	3*
<b>OR</b>	
M 143 Finite Mathematics.....	4*
<b>OR</b>	
M 105 Contemporary Mathematics.....	3*
TASK 115 Keyboard Applications/Ten Key.....	3
TASK 145 Records Management.....	3
TASK 202 Machine Transcription.....	3
TASK 230 Office Career Success.....	3
WRIT 122 Introduction to Business Writing.....	3
<b>Subtotal.....</b>	<b>64</b>

#### Suggested Plan of Study

First Year	Credits
CAPP 120.....	3
CAPP 154.....	3
CAPP 156.....	3
ACTG 101.....	3
TASK 115.....	3
TASK 145.....	3
TASK 230.....	3
WRIT 122.....	3
BIOH 101.....	3
AHMS 144.....	3
M 108.....	3

#### Second Year

CAPP 110.....	1
CAPP 158.....	3
AHMS 160.....	3
AHMS 162.....	3
COMX 106.....	3
COMX 111.....	3
TASK 202.....	3
AHMS 255.....	3
AHMS 220.....	3
AHMS 175.....	3
Restricted Electives.....	3

\* Students should check with their academic advisor to determine the specific math course that is appropriate for their plan of study.

*Continued...*

Restricted Electives chosen in consultation with academic advisor (see below)..... 3

**Total minimum credits required for degree ..... 67**

**Suggested Restricted Electives:**

ACTG 102 Accounting Procedures II  
ACTG 103 Accounting Procedures III  
ACTG 125 QuickBooks  
ACTG 180 Payroll Accounting  
ACTG 205 Computerized Accounting  
BGEN 105 Introduction to Business  
BGEN 235 Business Law  
CAPP 172 Advanced Software Applications  
CMP 115 Introduction to Desktop Publishing  
CSCI 181 Web Design & Programming  
CTBU 175 Current Issues in Business  
MART 208 Multimedia Technology  
TASK 298 Internship/Cooperative Education  
WRIT 180 Editing for Business Writing

*Students should check course descriptions for required prerequisites. Math and communication requirements are usually determined by performance on placement tests or transfer credits.*

## **Medical Coding & Insurance Billing ▽**

### ***Certificate of Applied Science***

#### **MISSION STATEMENT**

The Medical Coding and Insurance Billing program provides excellence in academic programs and access to qualified students. The Medical Coding and Insurance Billing program provides instruction in the knowledge and skills needed to deliver entry level medical coding skills. The knowledge and skills acquired will enable success and achievement for students competing in an ever changing, technologically diverse environment and will provide preparation for regional, national, and global markets. We strive, by example, to instill in each student our philosophy, civic leadership skills, an interest in life-long learning, and a commitment to service. Serving a unique blend of urban and rural health educational needs in the Southeastern Yellowstone region of Montana, we will work with the community to promote intellectual and educational excellence.

#### **VISION STATEMENT**

The Medical Coding and Insurance Billing program envisions creating an inviting environment that serves students by being responsive, adaptive, and innovative through a proactive approach to present and future needs. The program foresees increased enrollment, expanded programs, use of advanced technology, and expanded alliance with our various customer bases as a bridge to becoming a leader in post-secondary two-year education.

The Medical Coding and Insurance Billing program is designed to provide a recommended curriculum through which students may earn a two semester Certificate of Applied Science. This Certificate will educate students in the areas of medical procedure and diagnosis coding. In addition, the Certificate will prepare the student for employment in either the inpatient or outpatient medical setting to work as an integral part of the healthcare team in a medical office, dental office, hospital, clinic, or independent billing company.

Medical coding is the transformation of handwritten or verbal descriptions of diseases, injuries and medical procedures into a numbered procedure code and/or numbered diagnosis code. The Medical Coding and Insurance Billing program prepares entry-level employees with the skills to analyze health records and assign the appropriate code to each diagnosis and procedure according to national and international guidelines. They perform research and rely on their knowledge of medical terminology, anatomy and disease processes to determine the correct codes and sequences.

The program consists of class lecture, practical application of codes, auditing of records and experience with computerized medical and insurance billing software. Students will learn to prepare various health claim forms required by the insurance industry using medical billing software. This involves practicing accurate interpretation of medical records, correctly documenting and coding information, and submission of forms to the insurance company for reimbursement. The emphasis is on the high level of responsibility required and the attention to detail and accuracy needed to be a competent medical biller. Instruction will include theory and practice to meet the competencies identified as necessary for entry-level employment.

Upon completion of the program the students will be able to sit for the American Academy of Professional Coders (AAPC) or American Health Information Management Association (AHIMA) coding exam. Graduates will fill a growing need in healthcare, now and in the future.

See our website at [www.msubillings.edu/careers](http://www.msubillings.edu/careers) for graduate data.

For more information on this MSU Billings Gainful Employment Program, such as cost, financial assistance and placement rates, please go to the following link: [www.msubillings.edu/citycollege/Programs/Gedt/MedCoding.htm](http://www.msubillings.edu/citycollege/Programs/Gedt/MedCoding.htm)

#### **Upon successful completion of this program will be able to:**

- Code medical documentation, written and verbal, for billing purposes utilizing the published Current Procedural Terminology 4th Edition (CPT-4) book.
- Code medical documentation, written and verbal, for billing purposes utilizing the published International Classification of Diseases, 9th Revision, Clinical Modification (ICD-9-CM) book. (The program will transition to ICD-10-CM spring semester 2013).

- Use a computerized medical billing program to create a patient record, statement and claim form.
- Code from actual medical cases.
- Audit the medical record.
- Create a resume and cover letter, collection letters, brochures, pamphlets, and community agency lists specific to a medical specialty.
- Produce a healthcare provider fee schedule using Excel.

<b>Required courses</b>	<b>Credits</b>
AHMS 144 Medical Terminology .....	3
AHMS 160 Beginning Procedural Coding .....	3
AHMS 162 Beginning Diagnosis Coding .....	3
AHMS 220 Medical Office Procedures .....	3
AHMS 250 Advanced Medical Coding .....	3
AHMS 299 Capstone Project.....	1
BIOH 101 Foundations of Human Biology .....	3
CAPP 120 Introduction to Computers .....	3
COMX 106 Communicating in a Dynamic Workplace .....	3
M 108 Business Mathematics .....	3
WRIT 122 Introduction to Business Writing .....	3
<b>Total Credits .....</b>	<b>31</b>

*Students should check the course descriptions for required prerequisites.  
Math and English requirements are usually determined by performance on  
placement tests or transfer credits.*

### **Suggested Plan of Study**

#### *Online*

<b>Spring Semester</b>	<b>Credits</b>
CAPP 120 .....	3
AHMS 160 .....	3
AHMS 162 .....	3
AHMS 144 .....	3
BIOH 101 .....	3
<b>Total.....</b>	<b>15</b>

#### **Fall Semester**

AHMS 220 .....	3
AHMS 250 .....	3
M 108 .....	3
WRIT 122.....	3
COMX 106 .....	3
AHMS 299 .....	1
<b>Total.....</b>	<b>16</b>

#### *Face-to-Face*

<b>Fall Semester</b>	<b>Credits</b>
CAPP 120 .....	3
AHMS 160 .....	3
AHMS 162 .....	3
AHMS 144 .....	3
BIOH 101 .....	3
<b>Total.....</b>	<b>15</b>

#### **Spring Semester**

AHMS 220 .....	3
AHMS 250 .....	3
M 108 .....	3
WRIT 122.....	3
COMX 106 .....	3
AHMS 299 .....	1
<b>Total.....</b>	<b>16</b>

## Networking Technology

### *Associate of Science Program of Study*

This program is the combination of the technical courses from the one year Networking Technology Certificate and the required General Education requirements for an Associate of Science degree. This will allow students with previous General Education credits, or who have strong experience, to gain a more diversified degree. The mixture of the courses gives students the ability to transition smoothly into a four-year degree, or to enter employment with a well-rounded degree. See our website at [www.msubillings.edu/careers](http://www.msubillings.edu/careers) for graduate data.

**Upon successful completion of this program a student will be able to:**

- Troubleshoot and repair computer hardware.
- Set up operating systems and troubleshoot software.
- Set up and document LAN networks using troubleshooting skills.
- Set up and document WAN networks using troubleshooting skills.
- Set up and document secure networks.

Students should consult with an academic advisor before registering for General Education courses.

#### Required Courses

	Credits
<b>General Education Requirements .....</b>	<b>31</b>
Students should consult with an academic advisor before registering for General Education courses.	

#### Required Technical Courses

CAPP 110 Short Courses: MS Outlook .....	1
ITS 166 Configuring MS Windows 10 .....	3
ITS 171 Configuring MS Server 2016 .....	3
ITS 256 CCNA Security .....	3
NTS 104 CCNA 1: Intro to Networks .....	4
NTS 105 CCNA 2: Routing & Switching Essentials .....	4
NTS 204 CCNA 3: Scaling Networks .....	4
<b>Total .....</b>	<b>22</b>

**Total minimum credits required for degree .....** 60

#### Preparatory Course

CAPP 120 Introduction to Computers .....	3
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#### Recommended

CAPP 156 MS Excel .....	3
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#### Suggested Plan of Study

First Semester	Credits
^CAPP 120 .....	3
Gen Ed Courses .....	13
<b>Total .....</b>	<b>16</b>

#### Second Semester

CAPP 110 .....	1
Gen Ed Courses .....	15
<b>Total .....</b>	<b>16</b>

#### Third Semester

NTS 104 (CCNA 1) .....	4
NTS 105 (CCNA 2) .....	4
ITS 166 (Windows 10) .....	3
Gen Ed Courses .....	3
<b>Total .....</b>	<b>14</b>

#### Fourth Semester

ITS 171 (Server 2016) .....	3
NTS 204 (CCNA 3) .....	4
ITS 256 (CCNA Security) ....	3
<b>Total .....</b>	<b>10</b>

^Recommended

## Networking Technology

### *Certificate of Applied Science*

*\*See page 82 for the Associate of Applied Science in Computer Systems Technology.\**

The Networking Technology Certificate of Applied Science is earned upon successful completion of the one year of courses listed below. Students may choose to sit for the Microsoft Certified Professional and the Cisco Certified Networking Associate examinations after completion of this Certificate. Technical support employees work in organizations to maintain an in-house Management Information System (MIS) function or technical support department. See our website at [www.msubillings.edu/careers](http://www.msubillings.edu/careers) for graduate data.

For more information on this MSU Billings Gainful Employment Program, such as cost, financial assistance and placement rates, please go to the following link: [www.msubillings.edu/citycollege/Programs/Gedt/Networking.htm](http://www.msubillings.edu/citycollege/Programs/Gedt/Networking.htm)

#### **Upon successful completion of this program a student will be able to:**

- Troubleshoot and repair computer hardware.
- Set up operating systems and troubleshoot software.
- Set up and document LAN networks using troubleshooting skills.
- Set up and document WAN networks using troubleshooting skills.
- Set up and document secure networks.

Before a student can be accepted into the Computer Systems Technology program, competency in computers must be demonstrated. This may be done by:

- transferring of appropriate credits
- completing the computer literacy challenge test
- obtaining permission of CST faculty
- taking prerequisite course (CAPP 120)
- possessing current ACT/SAT scores in the required range
- taking the necessary prerequisite English, math and/or computer classes identified in the catalog

Check with an academic advisor to determine how you can meet these requirements.

#### **Required Courses**

#### **Credits**

CAPP 156 MS Excel .....	3
COMX 106 Communicating in a Dynamic Workplace .....	3
ITS 166 Configuring MS Windows 10 .....	3
ITS 171 Configuring MS Server 2016 .....	3
ITS 256 CCNA Security .....	3
M 111 Technical Mathematics .....	3
NTS 104 CCNA 1: Intro to Networks .....	4
NTS 105 CCNA 2: Routing & Switching Essentials .....	4
NTS 204 CCNA 3: Scaling Networks .....	4
WRIT 104 Workplace Communications .....	3
<b>Total minimum credits required .....</b>	<b>33</b>

**NOTE:** Students are encouraged to take the industry certifications tests for Cisco and MCSE. Please contact our testing center for more information on cost and scheduling.

#### **Suggested Plan of Study**

<b>First Semester</b>	<b>Credits</b>
NTS 104 (CCNA 1) .....	4
NTS 105 (CCNA 2) .....	4
ITS 166 (Windows 10) .....	3
M 111 .....	3
WRIT 104 .....	3
<b>Total .....</b>	<b>17</b>
<b>Second Semester</b>	
CAPP 156 (Excel) .....	3
COMX 106 .....	3
ITS 171 (Server 2016) .....	3
NTS 204 (CCNA 3) .....	4
ITS 256 (Security) .....	3
<b>Total .....</b>	<b>16</b>

## **NURSING: Practical and Registered Nurse**

City College offers a CAS in Practical Nursing and an ASN in Registered Nursing.

Students apply to the nursing programs after completing the required prerequisites.

All prerequisite courses have to be completed with a “C” or better.

See [www.citycollege.msubillings.edu/Programs/ProgNursing.htm](http://www.citycollege.msubillings.edu/Programs/ProgNursing.htm) for the most recent application information.

Nursing students are held to the same standards as nursing. Students are required to pass a criminal background check and a urine drug screening at a site designated by the program before admission to clinical sites.

The Montana Board of Regents may alter information contained in this portion of the catalog. Please contact the Director of Nursing for the most current information.

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### **Practical Nursing** ***Certificate of Applied Science***

The faculty believe practical nurses are an integral part of the nursing workforce. Licensed Practical Nurses function within the ethical and legal framework of the Nurse Practice Act. Licensed Practical Nurses provide nursing care for clients in structured health care settings who are experiencing common, well-defined health problems. In their roles as members of the discipline of nursing, practical nurses actively participate in and subscribe to the legal and ethical tenets of the discipline. Licensed Practical Nurses provide care under the supervision of registered nurses, physicians, osteopaths, podiatrists, and dentists. They participate in data collection, communicate information within the chain of command, and implement nursing interventions based on established plans of care. Licensed Practical Nurses work in doctor’s offices, community sites, and long term care facilities.

#### **Special Considerations**

If any physical limitations exist which might impair the ability of a student to fully perform required activities, a letter written by the physician attending the student should be sent to City College at MSU Billings. The letter must state that no risk to the student or potential patient exists, should the student be required to provide medical services to the patient.

It should be noted that completion of the practical nursing program does not guarantee state licensing to practice as an LPN. Graduates must pass the NCLEX-PN to practice as an LPN.

The practical nursing program is provided in a distance learning format. Students will be required to come to the City College campus for some labs and clinical experiences. Students will be liable for their own transportation and lodging. When students are admitted into the program they will be given a schedule of dates and times for required attendance on campus. Whenever possible, the dates and times will be lumped together so students will only be coming to campus once or twice a month for two to four days, which may include weekends.

Students will be admitted to the Practical Nursing Program in spring semester. The application process includes: filling out an application and points criteria form, having a selective GPA of 2.5 based on the grades for the prerequisite courses, an interview in person or via Skype, and having a reference letter submitted to the nursing department. See website for specific application directions.

**PN Graduates who wish to take the registered nursing program will be required to take 11 additional credits of general education courses (see first semester of RN program).**

**Required Courses****Credits**

^BIOH 101 Foundations of Human Biology .....	3
BIOH 105 Basic Human Biology Lab .....	1
M 120 Mathematics with Health Care Applications .....	3
NRSG 130 Fundamentals of Nursing .....	3
NRSG 131 Fundamentals of Nursing Lab .....	3
NRSG 135 Pharmacology for Practical Nurses .....	3
NRSG 136 Pharmacology for Practical Nurses Lab .....	2
NRSG 140 Adult Health Nursing .....	4
NRSG 141 Adult Health Nursing Clinical .....	3
NRSG 142 Nursing Care of Women and Children .....	3
NRSG 143 Nursing Care of Women and Children Clinical .....	1
NRSG 148 Leadership Issues for Practical Nurses .....	2
NRSG 149 Leadership Issues for Practical Nurses Clinical .....	1
NRSG 152 Gerontology and Community Nursing .....	2
NRSG 153 Gerontology and Community Nursing Clinical .....	2
PSYX 100 Introduction to Psychology .....	3
WRIT 101 College Writing I .....	3
<b>Total .....</b>	<b>42</b>

^ Or BIOH 104 Basic Human Biology

**Plan of Study****First Semester - Prerequisites**

BIOH 101 or 104 .....	3
BIOH 105 .....	1
PSYX 100 .....	3
WRIT 101 .....	3
M 120 .....	3
<b>Total .....</b>	<b>13</b>

*Admission to the Nursing Program is required prior to taking second semester coursework.*

**Second Semester**

NRSG 130 .....	3
NRSG 131 .....	3
NRSG 135 .....	3
NRSG 136 .....	2
NRSG 152 .....	2
NRSG 153 .....	2
<b>Total .....</b>	<b>15</b>

**Third Semester**

NRSG 140 .....	4
NRSG 141 .....	3
NRSG 142 .....	3
NRSG 143 .....	1
NRSG 148 .....	2
NRSG 149 .....	1
<b>Total .....</b>	<b>14</b>

**Total credits .....42**



## Associate of Science Registered Nurse (ASN)

The role of the associate degree nurse (ASN) is to provide direct care to clients, individuals, or groups, in a variety of settings. The ASN is prepared to prioritize care by assessing the evolving needs of the individuals, groups, or families. The ASN utilizes critical thinking to modify the nursing plan of care. They manage, delegate, and supervise other health care team members, forming collaborative relationships with a therapeutic goal.

### Special Considerations

If any physical limitations exist which might impair the ability of a student to fully perform required activities, a letter written by the physician attending the student should be sent to City College at MSU Billings. The letter must state that no risk to the student or potential patient exists, should the student be required to provide medical services to the patient.

It should be noted that completion of the registered nursing program does not guarantee state licensing to practice as an RN. Graduates must pass the NCLEX-RN to practice as an RN.

Students will be admitted to the registered nursing program in fall and spring semesters. The program is a five semester program with one semester of prerequisite courses. The application process includes: filling out an application form and points criteria, having a selective GPA of 2.75 from the pre-requisite courses, passing an entrance exam, and an in person interview. See the nursing website for specific application directions:  
[www.citycollege.msubillings.edu/Programs/ProgNursing.htm](http://www.citycollege.msubillings.edu/Programs/ProgNursing.htm)

See our website at [www.msubillings.edu/careers](http://www.msubillings.edu/careers) for graduate data.

Students should consult with an academic advisor before registering for General Education courses.

### Required Courses

### Credits

BIOH 201 Human Anatomy and Physiology I .....	3
BIOH 202 Human Anatomy and Physiology I Laboratory .....	1
BIOH 211 Human Anatomy and Physiology II.....	3
BIOH 212 Human Anatomy and Physiology II Laboratory .....	1
BIOM 250 Microbiology for Health Sciences .....	3
BIOM 251 Microbiology for Health Sciences Lab.....	1
CHMY 121 Introduction to General Chemistry .....	3
CHMY 122 Introduction to General Chemistry Laboratory .....	1
M 121 College Algebra .....	3
NRSG 230 Nursing Pharmacology .....	3
NRSG 231 Pharmacology for Nursing Lab .....	2
NRSG 232 Foundations for Nursing .....	3
NRSG 233 Foundations of Nursing Lab.....	3
NRSG 234 Adult Nursing I .....	3
NRSG 235 Adult Nursing I Clinical .....	2
NRSG 236 Health and Illness of Maternity Nursing .....	2
NRSG 237 Health and Illness of Maternal Nursing Clinical .....	1
NRSG 244 Adult Nursing II .....	3
NRSG 245 Adult Nursing II Clinical .....	2
NRSG 246 Health and Illness of Child and Family Nursing .....	2
NRSG 247 Health and Illness of Child and Family Nursing Clinical .....	1
NRSG 254 Mental Health Concepts .....	3
NRSG 255 Mental Health Concepts Clinical .....	1
NRSG 256 Pathophysiology .....	3
NRSG 259 Adult Nursing III.....	3
NRSG 260 Adult Nursing III Lab .....	1
NRSG 261 Adult Nursing III Clinical .....	2
NRSG 266 Managing Client Care for the RN .....	2

### Plan of Study

#### First Semester

BIOH 201 .....	3
BIOH 202 .....	1
CHMY 121 .....	3
CHMY 122 .....	1
WRIT 101 .....	3
M 121 .....	3
<b>Total.....</b>	<b>14</b>

*Admission to the Nursing Program is required prior to taking second semester coursework.*

#### Second Semester

BIOH 211 .....	3
BIOH 212 .....	1
NRSG 230 .....	3
NRSG 231 .....	2
NRSG 232 .....	3
NRSG 233 .....	3
<b>Total.....</b>	<b>15</b>

#### Third Semester

NRSG 256 .....	3
NRSG 234 .....	3
NRSG 235 .....	2
NRSG 236 .....	2

*Continued...*

NRSG 267 Managing Client Care for the RN Clinical .....	2
PSYX 100 Introduction to Psychology .....	3
SOCI 101 Introduction to Sociology .....	3
WRIT 101 College Writing I .....	3
<b>Total for Associate of Science in Nursing .....</b>	<b>72</b>

NRSG 237 .....	1
PSYX 100 .....	3
<b>Total .....</b>	<b>14</b>

**Fourth Semester**

NRSG 244 .....	3
NRSG 245 .....	2
NRSG 254 .....	3
NRSG 255 .....	1
NRSG 246 .....	2
NRSG 247 .....	1
SOCI 101 .....	3
<b>Total .....</b>	<b>15</b>

**Fifth Semester**

NRSG 259 .....	3
NRSG 260 .....	1
NRSG 261 .....	2
NRSG 266 .....	2
NRSG 267 .....	2
BIOM 250 .....	3
BIOM 251 .....	1
<b>Total .....</b>	<b>14</b>

<b>Total for ASN .....</b>	<b>72</b>
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***\*Program placed on moratorium\****

## **Office Assistant**

### ***Certificate of Applied Science***

A Certificate of Applied Science is awarded upon successful completion of the required Office Assistant courses. Students acquire skills using the telephone and preparing correspondence, reports, and forms. The office assistant will greet customers or visitors, schedule appointments, and work with filing systems. See our website at [www.msubillings.edu/careers](http://www.msubillings.edu/careers) for graduate data.

For more information on this MSU Billings Gainful Employment Program, such as cost, financial assistance and placement rates, please go to the following link: [www.msubillings.edu/citycollege/Programs/Gedt/OfficeAssist.htm](http://www.msubillings.edu/citycollege/Programs/Gedt/OfficeAssist.htm)

**Upon successful completion of this program a student will be able to:**

- Produce word processing documents and spreadsheets.
- File and organize documents.
- Perform basic accounting and business math operations.
- Spell, proofread and use proper business English.
- Evaluate and report professional business standards and procedures in the workplace.
- Demonstrate professional verbal and nonverbal communication skills.

#### **Required Courses**

#### **Credits**

ACTG 101 Accounting Procedures I.....	3
CAPP 120 Introduction to Computers .....	3
CAPP 154 MS Word .....	3
CAPP 158 MS Access .....	3
COMX 106 Communicating in a Dynamic Workplace.....	3
COMX 111 Introduction to Public Speaking.....	3
M 108 Business Mathematics .....	3
TASK 115 Keyboard Applications/Ten Key .....	3
TASK 145 Records Management .....	3
TASK 202 Machine Transcription .....	3
TASK 230 Office Career Success .....	3
WRIT 122 Introduction to Business Writing.....	3
<b>Total minimum credits required .....</b>	<b>36</b>

*Students should check course descriptions for required prerequisites. Math and communication requirements are usually determined by performance on placement tests or transfer credits.*

#### **Suggested Plan of Study**

##### **First Semester Credits**

CAPP 120 .....	3
ACTG 101 .....	3
TASK 115.....	3
TASK 145.....	3
WRIT 122.....	3
M 108 .....	3
<b>Total.....</b>	<b>18</b>

##### **Second Semester**

CAPP 154 .....	3
CAPP 158 .....	3
COMX 106 .....	3
COMX 111 .....	3
TASK 202.....	3
TASK 230.....	3
<b>Total.....</b>	<b>18</b>

## **Paramedic**

### ***Associate of Applied Science***

*For the Trauma Certificate of Technical Study, see page 131,  
and the Medical Certificate of Technical Study, see page 104*

This curriculum has been arranged so students may complete the Pre-Paramedic Core semester and Final Summer Session from a distance through online courses. With the exception of ECP 200 Transition to Paramedic Care, the other Pre-Paramedic courses are also offered on campus. The core classes for the Paramedic program will start every fall semester.

**Competitive entrance is required for this program. Go to [www.citycollege.msubillings.edu](http://www.citycollege.msubillings.edu) for application requirements.**

#### **MISSION STATEMENT**

The Paramedic program provides excellence in academic programs and access to qualified students. The Paramedic program provides instruction in the knowledge and skills needed to deliver advanced pre-hospital care. The knowledge and skills acquired will enable success and achievement for students competing in an ever changing, technologically diverse environment and will provide preparation for regional, national, and global markets. We strive, by example, to instill in each student our philosophy, civic leadership skills, an interest in life-long learning, and a commitment to service. Serving a unique blend of urban and rural health educational needs in the Southeastern Yellowstone region of Montana, we will work with the community to promote intellectual and educational excellence.

#### **VISION STATEMENT**

The Paramedic program envisions creating an inviting environment that serves students by being responsive, adaptive, and innovative through a proactive approach to present and future needs. The program foresees increased enrollment, expanded programs, use of advanced technology, and expanded alliance with our various customer bases as a bridge to becoming a leader in post-secondary two-year education.

City College at MSU Billings' Paramedic program is the only regional college program that is nationally accredited by the Committee on Accreditation of Educational Programs for EMS Professions (CoAEMSP) and the Commission on Accreditation of Allied Health Education Programs (CAAHEP).

Paramedics are recognized as allied healthcare providers who respond and provide immediate patient evaluation and treatment intervention to victims of illness or injury. Paramedics rely on their advanced knowledge of normal human physiology and pathophysiology of acute and chronic disease to develop a working field impression order to provide advanced life support care to patients in needs. Airway management, vascular access, electrical therapy, and pharmacological management are all examples of the invasive and life-saving practices a paramedic is permitted to provide in conjunction with medical oversight. Paramedics are typically employed by fire services, hospitals, flight programs, or ambulance companies.

The curriculum consists of classroom instruction with a skills laboratory, in-hospital clinical practice, and a supervised field internship to prepare students for the National Registry EMT-Paramedic Exam and entry-level paramedic practice.

See our website at [www.msubillings.edu/careers](http://www.msubillings.edu/careers) for graduate data.

#### **Special Considerations:**

Students must submit their NREMT certification as well as complete a competitive application process in order to enter the paramedic program.

For the complete application, go to [citycollege.msubillings.edu/Programs/ProgParamedic.htm](http://citycollege.msubillings.edu/Programs/ProgParamedic.htm)

Students will be evaluated on their cognitive ability, psychomotor skills and behavioral characteristics throughout the program. Students must be successful in all three domains of learning to be eligible for graduation. It should be noted that completion of the paramedic program does not guarantee state and national licensing to practice as a paramedic. Paramedics must pass appropriate licensing boards to practice as a paramedic.

**Upon successful completion of this program a student will be able to:**

- Identify, integrate and apply cognitive knowledge essential to function as an entry-level paramedic.
- Perform patient assessment and employ therapeutic procedures in specific patient scenarios.
- Conduct oneself in an ethical and professional manner consistent with peer and employer expectations.
- Utilize technical and psychomotor skills required to function as an entry-level paramedic.

**Required Courses****Credits**

AHMS 144 Medical Terminology .....	3
BIOH 101 Foundations of Human Biology .....	3
CAPP 120 Introduction to Computers .....	3
COMX 106 Communicating in a Dynamic Workplace .....	3
ECP 200 Transition to Paramedic Care .....	3
ECP 201 Paramedic Fundamentals .....	3
ECP 202 Paramedic Fundamentals Lab .....	1
ECP 206 EMS Case Studies .....	4
ECP 207 Cardiology .....	4
ECP 208 Cardiology Lab and ACLS .....	1
ECP 216 Hospital Clinical I .....	5
ECP 220 Special Considerations .....	1
ECP 221 OB/Neonate/Pediatrics .....	2
ECP 222 OB/Neonate/Pediatrics Lab and NRP and PALS .....	1
ECP 230 Trauma .....	2
ECP 232 Pulmonary .....	2
ECP 233 Trauma/Pulmonary Lab and PHTLS .....	1
ECP 242 Medical .....	2
ECP 243 Medical Lab .....	1
ECP 246 Hospital Clinical II .....	6
ECP 250 NREMT Exam Preparation .....	3
ECP 251 NREMT Exam Preparation Lab .....	1
ECP 295 Field Internship .....	8
M 105 Contemporary Mathematics	
<b>OR</b> STAT 141 Introduction to Statistical Concepts	
<b>OR</b> M 121 College Algebra	
<b>OR</b> M 114 Extended Technical Mathematics .....	3
WRIT 122 Introduction to Business Writing	
<b>OR</b> WRIT 121 Introduction to Technical Writing .....	3
Restricted Elective .....	3
<b>Total .....</b>	<b>72</b>

*Students should check course descriptions for required prerequisites.*

**Suggested Plan of Study****Pre-Paramedic**

<b>Core Semester</b>	<b>Credits</b>
BIOH 101^ .....	3
AHMS 144^ .....	3
WRIT 121 or 122^ .....	3
CAPP 120^ .....	3
M 105/STAT 141/M 121/ M 114^ .....	3
ECP 200* .....	3
<b>Total .....</b>	<b>18</b>

**Fall Semester**

ECP 206* .....	4
ECP 201 .....	3
ECP 202 .....	1
ECP 230 .....	2
ECP 232 .....	2
ECP 233 .....	1
ECP 216 .....	5
<b>Total .....</b>	<b>18</b>

**Spring Semester**

ECP 207 .....	4
ECP 208 .....	1
ECP 242 .....	2
ECP 243 .....	1
ECP 220 .....	1
ECP 221 .....	2
ECP 222 .....	1
ECP 246 .....	6
<b>Total .....</b>	<b>18</b>

**Summer Semester**

ECP 250 .....	3
ECP 251 .....	1
ECP 295 .....	8
COMX 106^ .....	3
Restricted Elective .....	3
<b>Total .....</b>	<b>18</b>

^available online

\*offered *only* online

## Pharmacy Technician

### *Certificate of Applied Science*

The Pharmacy Technician program prepares students to function in broad variety of venues including various hospital-based and community based pharmacies. The two-semester program includes classroom, laboratory, and experiential learning opportunities. Laboratory and experiential hours allow students to integrate classroom knowledge in a practical setting. Students are required to rotate through at least two different experiential sites, one of which must be a dispensing pharmacy, during their internship.

Missoula College at the University of Montana is partnering with City College at MSU Billings to offer this Pharmacy Technician Certificate of Applied Science degree program. The laboratory and internship portions of the curriculum will be completed at City College and local pharmacies, while the didactic portion of the program will be completed online through Missoula College.

The Pharmacy Technology program is a fall entry only program. Applications to the program are due by April 1 during the spring semester prior to the fall semester program start. Demonstrated proficiency in math, writing, and computers is prerequisite to the program. Proficiency may be demonstrated by testing or by successfully completing appropriate courses listed under the Related Instruction section of the City College catalog.

Once accepted into the program, all students are expected to register with the State of Montana as Pharmacy Technicians in Training. Note that requirements for registration as a Pharmacy Technician in Training can be found on the application form on the Montana State Board of Pharmacy website:  
[http://bsd.dli.mt.gov/license/bsd\\_boards/pha\\_board/pdf/pha\\_tech.pdf](http://bsd.dli.mt.gov/license/bsd_boards/pha_board/pdf/pha_tech.pdf)

Students must complete all required fall PHAR classes with a “B” or better to proceed to the spring semester. If a student does not pass the required courses with a “B” or better, he/she will not be able to continue in the program and will need to apply for readmission. A student may take any required course a maximum of two (2) times.

After successfully completing the program, students are awarded a Certificate of Applied Science degree and are prepared for, and encouraged to sit for, the national technician certification examination offered through the Pharmacy Technician Certification Board (PTCB).

Conviction of a crime (misdemeanor or felony) could leave an individual ineligible for participation in the certifying test and/or becoming registered in Montana as a certified pharmacy technician. Background checks are required prior to internships. Additionally, the Montana State Board of Pharmacy Application for Pharmacy Technician Registration includes a number of questions regarding personal history, including but not limited to criminal charges. Please contact the Pharmacy Technician Certification Board ([www.ptcb.org](http://www.ptcb.org)) and the Montana State Board of Pharmacy ([http://bsd.dli.mt.gov/license/bsd\\_boards/pha\\_board/board\\_page.asp](http://bsd.dli.mt.gov/license/bsd_boards/pha_board/board_page.asp)) if this is a potential problem.

#### Required Courses

#### Credits

AHMS 144 Medical Terminology .....	3
COMX 106 Communicating in a Dynamic Workplace .....	3
^PHAR 100 Introduction to Pharmacy Practice for Technicians .....	3
^PHAR 101 Pharmacy Calculations .....	3
^PHAR 102 Pharmacology for Technicians .....	6
PHAR 104 Pharmacy Dispensing Lab.....	3
^PHAR 120 Medication Safety .....	3
^PHAR 121 Preparation for the PTCB Exam.....	1
PHAR 198 Internship: Pharmacy .....	8
<b>Total credits required.....</b>	<b>33</b>

^Course offered online only, through Missoula College

#### Suggested Plan of Study

##### First Semester Credits

AHMS 144 .....	3
PHAR 100 .....	3
PHAR 101 .....	3
PHAR 102 .....	6
PHAR 104 .....	3
<b>Total.....</b>	<b>18</b>

##### Second Semester Credits

COMX 106 .....	3
PHAR 120 .....	3
PHAR 121 .....	1
PHAR 198 .....	8
<b>Total.....</b>	<b>15</b>

## **Power Plant Technology (Pre-Apprenticeship Program) *Associate of Applied Science Degree***

Montana has numerous power plants and hydroelectric power generating plants. Previously, training in Power Plant Technology was only provided by the industry. Now, City College at MSU Billings offers an Associate of Applied Science degree in this area. Students learn technical, electrical laws, basic systems of a power plant, mechanical and safety systems during this four-semester program offering. Equipment operations and power plant control are also discussed in detail. Power plant simulators give students a realistic feel for actual power plant control room activities. A hazardous materials technician level 3 certificate is awarded as part of the safety training.

Graduates will be prepared for entry level apprenticeship training and qualification at nuclear, fossil fuel, and other types of electrical power generating facilities. Within any power plant, there are several different entry-level opportunities including Operations, Mechanical Maintenance, Electrical Maintenance, and Instrumentation and Control Technicians. See our website at [www.msubillings.edu/careers](http://www.msubillings.edu/careers) for graduate data.

Power Plant is a spring start program only. The program has been approved as a pre-apprenticeship program with the International Brotherhood of Electrical Workers (IBEW). See an advisor for more information

### **Upon successful completion of this program a student will be able to:**

- Explain the purpose and operation of major equipment and systems used in power plants.
- Read P&ID'S and logic diagrams used in power plants.
- Outline steps needed to place major power plant systems into service.

Before a student can be accepted into the Power Plant Technology Program, competency in Math and English must be demonstrated. This may be done by:

- Receiving a passing score on the Compass Placement Test that indicates adequate preparation to enroll in WRIT 122 and M 114
- Transfer of appropriate credits
- Current ACT/SAT scores in the required range showing readiness to take WRIT 122 and M 114

If none of the above criteria are met, a student must complete the necessary prerequisite English and math classes identified in this catalog (WRIT 104 and/or M 065 and M 111). Check with the Advising Center to determine how you can meet these requirements.

### **Required Courses**

### **Credits**

BGEN 105 Introduction to Business .....	3
CAPP 120 Introduction to Computers .....	3
COMX 106 Communicating in a Dynamic Workplace .....	3
COMX 111 Introduction to Public Speaking.....	3
M 114 Extended Technical Mathematics .....	3
PPT 101 Fundamentals of Processing Technology Lecture .....	4
PPT 102 Fundamentals of Processing Technology Laboratory .....	1
PPT 120 Environmental Awareness .....	2
PPT 130 Process Diagrams for Process Technology .....	2
PPT 135 Instrument and Control Systems Lecture .....	4
PPT 136 Instrument and Control Systems Laboratory .....	1
PPT 151 Process Plant Safety I .....	2
PPT 161 Process Plant Safety II .....	2
PPT 175 Process Plant Sciences Lecture .....	4
PPT 176 Process Plant Sciences Laboratory .....	1
PPT 207 Boilers, Accessories and Basic Operations .....	3
PWRP 201 Power Plant Equipment and Operations .....	3

*Continued...*

### **Suggested Plan of Study**

#### **First Semester Credits**

CAPP 120 .....	3
M 114 .....	3
PPT 101 .....	4
PPT 102 .....	1
PPT 130 .....	2
PPT 151 .....	2
TRID 185.....	2
TRID 186.....	1
<b>Total.....</b>	<b>18</b>

#### **Second Semester**

WRIT 122 or 121.....	3
COMX 111 .....	3
PPT 120 .....	2
PPT 135 .....	4
PPT 136 .....	1

PWRP 203 Energy Sources and Conversion .....	3
PWRP 210 Turbines, Accessories and Basic Operation.....	3
PWRP 214 Power Generation .....	4
PWRP 216 Electrical System Components and Protections.....	3
PWRP 218 Advanced Plant Operations and Troubleshooting.....	4
PWRP 296 Cooperative Education/Internship.....	2
TRID 160 Hazardous Materials Technician General Training .....	3
TRID 185 Introduction to Industrial Power Systems Lecture .....	2
TRID 186 Introduction to Industrial Power Systems Laboratory .....	1
WRIT 122 Introduction to Business Writing .....	
<b>OR</b> WRIT 121 Introduction to Technical Writing .....	3
<b>Total minimum credits required for degree .....</b>	<b>72</b>

*Students should check the course descriptions for required prerequisites.*

PPT 161 .....	2
PPT 175 .....	4
PPT 176 .....	1
<b>Total.....</b>	<b>20</b>

### **Third Semester**

COMX 106 .....	3
BGEN 105 .....	3
PPT 207 .....	3
PWRP 201 .....	3
PWRP 203 .....	3
TRID 160.....	3
<b>Total.....</b>	<b>18</b>

### **Fourth Semester**

PWRP 210 .....	3
PWRP 214 .....	4
PWRP 216 .....	3
PWRP 218 .....	4
PWRP 296 .....	2
<b>Total.....</b>	<b>16</b>



## Process Plant Technology

### *Associate of Applied Science Degree*

Process Plant Technology is a spring start program.

A degree in Process Plant Technology provides opportunities for a rewarding and high paying career in the chemical processing industries. Rapid expansion in the energy industry, both in the Rocky Mountain area and across the country, has created high demand for skilled workers. Careers in this field are highly sought-after due to their challenging and rewarding nature, high pay, and opportunities for advancement. See our website at [www.msubillings.edu/careers](http://www.msubillings.edu/careers) for graduate placement data.

Process Plant Technology graduates will find career opportunities in a variety of industries including petroleum refining, natural gas processing, oil and gas production, biofuels, food processing, chemical manufacturing, power generation, water treatment, and paper manufacturing.

Process Plant Technicians monitor and control chemical processes that upgrade raw materials into higher-value finished products. Finished products include a wide range of materials such as gasoline, diesel, natural gas, crude oil, ethanol, biodiesel, sugar, plastics, electricity, drinking water, and paper.

Process Plant Technology students learn technical, mechanical, and safety details of process plant operations during this four semester program. Topics covered in detail include equipment function and operation; process plant safety; communications, including reading and creating process diagrams; electrical and power systems; process control; environmental protection; chemical principles; boiler operation; advance process operations; troubleshooting; and quality control. Students receive hazardous materials training at the technician level as part of the safety training.

A significant part of the program is dedicated to hands-on training in the Process Plant lab where students operate pilot plant scale processes. Plant simulators give students a realistic understanding of industrial control room activities. The program is complemented with an internship where students experience process plant manufacturing large scale and first hand.

#### **Upon successful completion of this program a student will be able to:**

- Perform mathematical calculations applicable to process operations.
- Use appropriate verbal and written communication skills in process environment.
- Identify process equipment and state the purpose of the equipment.
- Analyze process conditions / scenarios using process technology concepts and theories.
- Apply knowledge of advanced process operations to specific areas of refineries and chemical plants.

Admission to the Process Plant Technology program requires competency in math and English such that students have met the prerequisites for M 114 and WRIT 121 or 122 before they start the program.

#### **Required Courses**

#### **Credits**

BGEN 105 Introduction to Business .....	3
CAPP 120 Introduction to Computers .....	3
COMX 106 Communicating in a Dynamic Workplace .....	3
COMX 111 Introduction to Public Speaking.....	3
M 114 Extended Technical Mathematics .....	3
PPT 101 Fundamentals of Processing Technology Lecture .....	4
PPT 102 Fundamentals of Processing Technology Laboratory .....	1
PPT 120 Environmental Awareness .....	2
PPT 130 Process Diagrams for Process Technology .....	2
PPT 135 Instrument and Control Systems Lecture .....	4
PPT 136 Instrument and Control Systems Laboratory .....	1
PPT 151 Process Plant Safety I .....	2
PPT 161 Process Plant Safety II .....	2

*Continued...*

#### **Suggested Plan of Study**

<b>First Semester</b>	<b>Credits</b>
CAPP 120 .....	3
M 114 .....	3
PPT 101 .....	4
PPT 102 .....	1
PPT 130 .....	2
PPT 151 .....	2
TRID 185 .....	2
TRID 186 .....	1
<b>Total .....</b>	<b>18</b>

PPT 175 Process Plant Sciences Lecture .....	4
PPT 176 Process Plant Sciences Laboratory .....	1
PPT 207 Boilers, Accessories and Basic Operations .....	3
PPT 208 Equipment and Operations Laboratory .....	2
PPT 210 Equipment and Operations Lecture.....	4
PPT 211 Advanced Operations Lecture.....	2
PPT 212 Advanced Operations Laboratory .....	1
PPT 220 Quality Control Practices .....	2
PPT 225 Plant Investigation and Troubleshooting .....	2
PPT 296 Cooperative Education/Internship.....	3
TRID 160 Hazardous Materials Technician General Training .....	3
TRID 185 Introduction to Industrial Power Systems Lecture .....	2
TRID 186 Introduction to Industrial Power Systems Laboratory .....	1
WRIT 122 Introduction to Business Writing .....	
<b>OR</b> WRIT 121 Introduction to Technical Writing .....	3

**Restricted Elective (to be selected in consultation with the advisor).....3**

Choose from the following:

BIOB 101 Discover Biology .....	3
CAPP 110 Short Courses: MS Outlook.....	1
CAPP 156 MS Excel .....	3
PWRP 210 Turbines, Accessories and Basic Operations .....	3
SOCI 101 Introduction to Sociology .....	3
TRID 151 Welding .....	2

**Total minimum credits required for degree.....69**

*Students should check the course descriptions for required prerequisites.*

**Second Semester**

COMX 111 .....	3
PPT 120 .....	2
PPT 135 .....	4
PPT 136 .....	1
PPT 161 .....	2
PPT 175 .....	4
PPT 176 .....	1
<b>Total.....</b>	<b>17</b>

**Third Semester**

BGEN 105 .....	3
COMX 106 .....	3
PPT 207 .....	3
PPT 208 .....	2
PPT 210 .....	4
TRID 160.....	3
<b>Total.....</b>	<b>18</b>

**Fourth Semester**

WRIT 121 or 122.....	3
PPT 211 .....	2
PPT 212 .....	1
PPT 220 .....	2
PPT 225 .....	2
PPT 296 .....	3
Restricted Elective(s).....	3
<b>Total.....</b>	<b>16</b>

## **Radiologic Technology**

### ***Associate of Applied Science***

This is a fall start program. Students must have all prerequisite course requirements completed in order to apply for the fall semester clinical part of the program. Applications for the clinical part of the program are due in May, interviews occur in June, and students accepted to start the following fall semester.

#### **MISSION STATEMENT**

The Radiologic Technology program provides excellence in academic programs and access to qualified students. The Radiologic Technology program provides instruction in the knowledge and skills needed to deliver entry level medical imaging. The knowledge and skills acquired will enable success and achievement for students competing in an ever changing, technologically diverse environment and will provide preparation for regional, national, and global markets. We strive, by example, to instill in each student our philosophy, civic leadership skills, an interest in life-long learning, and a commitment to service. Serving a unique blend of urban and rural health educational needs in the southeastern Yellowstone region of Montana, we will work with the community to promote intellectual and educational excellence.

#### **VISION STATEMENT**

The Radiologic Technology program envisions creating an inviting environment that serves students by being responsive, adaptive, and innovative through a proactive approach to present and future needs. The program's use of advanced technologies and our close affiliation with local hospitals and clinics provide a strong base for excellence in education and becoming a leader in post-secondary education.

Radiology is the art and science of using radiation to produce images of the body for use in diagnosing medical problems. This program will train students to apply modern principles of radiation exposure, radiation protection, and human anatomy and physiology to produce radiographic images. Students will learn how to manipulate x-ray equipment and to position patients to produce high quality diagnostic images. They will also learn how to assist and educate patients before, during, and after radiographic procedures.

Students will study clinical radiographic applications in a hospital radiology department. Computer skills applicable to radiographic requirements will be examined in detail. Students will also learn proper care and maintenance of patient records in accordance with applicable regulations.

Upon graduation, students will be prepared to take the certification examination administered by the American Registry of Radiologic Technologists (ARRT).

Graduates can find career positions in clinics, hospitals, physician's offices, and mobile units, as well as in research, public health, industry, and in sales of radiographic equipment. See our website at [www.msubillings.edu/careers](http://www.msubillings.edu/careers) for graduate data.

**Technical Standards:** Students must possess the following:

- a. Visual ability: Students must have the visual acuity to see at a distance and to discriminate colors.
- b. Strength: Students must possess the strength to perform physical activities including the ability to push/pull objects weighing more than 100 pounds and to transfer objects of more than 100 pounds.
- c. Mobility: Students must be able to perform mobility skills such as walking, standing, bending, and pushing portable equipment throughout the hospital.
- d. Communication (speech, reading and writing): Students must be able to interact with individuals and communicate promptly and effectively when required.
- e. Hearing: Students must be able to receive verbal communication from patients and members of the health care team and to use/assist with monitoring devices such as cardiac monitors, stethoscopes, IV pumps, fire alarms, etc.
- f. Coordination: Students must possess hand-eye coordination including the ability to align an x-ray beam with body parts and film trays. Students must be able to operate a computer/keyboard and must possess arm-hand steadiness to enable them to perform such tasks as taking blood pressure, performing venipuncture, catheterization, and/or calibration of tools and equipment.

**Special Admission Procedures:** All individuals applying for admission to the Radiologic Technology program must complete the prerequisite semester. **However, due to limited clinical space, only 12 to 16 students per year will be selected to continue in the clinical portion of the program which begins each fall semester.**

The following criteria will be used to select those Radiologic Technology students who will continue into the clinical portion of the program. The selection process is divided into two phases. Phase I will be applied to all applicants. Only the top 20-22 applicants will move to Phase II of the selection process.

### Phase I Point System

Points will be awarded for categories from the completed Radiologic Technology application form such as:

- Grade point average in prerequisite semester courses
- Hospital site visit and answers to site visit questions
- Prior medical and work experience
- Degrees and education
- Written essay
- Letters of reference

### Phase II Personal interviews

The personal interview portion of the selection process will involve answering a series of questions from a radiologic technology selection committee. All applicants will be asked the same questions. Follow-up questions may be asked. Only those students selected by the committee will continue in the clinical portion of the Radiologic Technology Program. The decision of the selection committee is final.

### Upon successful completion of this program a student will be able to:

- Perform radiographic examinations with the knowledge and skill of an entry level radiologic technologist.
- Demonstrate application and understanding of the basic theories of radiation physics, radiation protection, patient care, and radiographic anatomy and procedures.
- Assess the patient's physical and mental status and formulate the appropriate x-ray technique and positioning requirements to produce optimal radiographic images.
- Manipulate x-ray equipment and computer equipment to produce diagnostic x-ray images.
- Implement radiation protection measures to insure the protection of the patient, co-workers, medical staff, and the public.
- Communicate professionally with coworkers, medical staff, patients, and patient families.

### Required Courses

	Credits
AHXR 101 Patient Care in Radiology.....	3
AHXR 108 Introduction to Radiologic Physics.....	3
AHXR 150 Radiological Technology I.....	3
AHXR 151 Radiology I Positioning Lab.....	1
AHXR 160 Radiological Technology II.....	4
AHXR 161 Radiology II Positioning Lab.....	1
AHXR 181 Radiology III Positioning Lab.....	1
AHXR 195 Clinical Radiology Intersession.....	1
AHXR 195A Radiographic Clinical I.....	5
AHXR 195B Radiographic Clinical II.....	6
AHXR 195C Radiographic Clinical III.....	9
AHXR 225 Radiobiology/Radiation Protection.....	3
AHXR 250 Radiologic Technology III.....	4
AHXR 260 Radiologic Technology IV.....	2
AHXR 270 Radiographic Registry Review.....	2
AHXR 295A Radiographic Clinical IV.....	8
AHXR 295B Radiographic Clinical V.....	8

*Continued...*

### Suggested Plan of Study

Prerequisite	Credits
BIOH 201.....	3
BIOH 202.....	1
WRIT 121/122.....	3
CAPP 120.....	3
M 114/M 105.....	3
<b>Total.....</b>	<b>13</b>
<b>First Semester (Fall)</b>	
AHXR 101.....	3
AHXR 108.....	3
AHXR 150.....	3
AHXR 151.....	1
AHXR 195A.....	5
<b>Total.....</b>	<b>15</b>
<b>Intersession</b>	
AHXR 195.....	1

BIOH 201 Human Anatomy and Physiology I .....	3
BIOH 202 Human Anatomy and Physiology I Laboratory .....	1
CAPP 120 Introduction to Computers .....	3
COMX 106 Communicating in a Dynamic Workplace .....	3
M 114 Extended Technical Mathematics (preferred)	
<b>OR</b> M 105 Contemporary Mathematics .....	3
WRIT 122 Introduction to Business Writing	
<b>OR</b> WRIT 121 Introduction to Technical Writing .....	3
<b>Total</b> .....	<b>80</b>

*Students should check the course descriptions for required prerequisites.*

#### **Recommended Prerequisite Courses**

BIOH 211 Human Anatomy and Physiology II .....	3
PHSX 103 Our Physical World .....	3

#### **Second Semester (Spring)**

AHXR 160 .....	4
AHXR 161 .....	1
AHXR 195B .....	6
AHXR 225 .....	3
<b>Total</b> .....	<b>14</b>

#### **Summer Session**

AHXR 181 .....	1
AHXR 195C .....	9
<b>Total</b> .....	<b>10</b>

#### **Third Semester (Fall)**

AHXR 250 .....	4
AHXR 295A .....	8
COMX 106 .....	3
<b>Total</b> .....	<b>15</b>

#### **Fourth Semester (Spring)**

AHXR 260 .....	2
AHXR 270 .....	2
AHXR 295B .....	8
<b>Total</b> .....	<b>12</b>

## Sustainable Energy Technician

### Associate of Applied Science

The Sustainable Energy Technician AAS degree program prepares graduates for technician jobs in the rapidly expanding sustainable energy industry. Program graduates have general skills in industrial safety, electrical troubleshooting, hydraulic and pneumatic system operation, and mechanical system repair. They also have specialized skills in programmable logic controls, digital electronics, and wind turbine operations and maintenance. These specialized skills are built on a strong educational foundation in math, writing, communications, and computing.

**Upon successful completion of this program a student will be able to:**

- Set and raise wind towers using rigging safety skills.
- Climb into a confined space and simulate rescue procedures.
- Program and operate programmable logic controllers.
- Troubleshoot a basic electrical system.
- Obtain data from wind turbine generator to determine proper system operation.
- Perform preventative maintenance on wind turbine per manufacturer's specs.
- Utilize basic mechanical tools while installing, inspecting, operating and repairing mechanical systems.
- Maintain safe working habits while performing previously referenced procedures.

**Please note:** Students must test into M 114 or WRIT 121 through the COMPASS placement test or take the appropriate prerequisite course work in order to start this program.

Required Courses	Credits	Suggested Plan of Study
<b>General Education Requirements</b>		<b>Semester 1 Fall      Credits</b>
COMX 106 Communicating in a Dynamic Workplace .....	3	NRGY 101.....3
M 114 Extended Technical Mathematics		TRID 185.....2
<b>OR</b> M 121 College Algebra .....	3	TRID 186.....1
WRIT 121 Introduction to Technical Writing .....	3	M 114 .....
		NRGY 121.....1
		WRIT 121 .....
		HVC 110.....3
		<b>Total.....16</b>
<b>Sustainable Energy Technician Required Courses</b>		<b>Semester 2 Spring</b>
CAPP 120 Introduction to Computers .....	3	CAPP 120 .....
DST 140 Introduction to Hydraulics .....	2	ETEC 103 .....
DST 141 Introduction to Hydraulics Lab .....	2	ELCT 130 .....
ELCT 130 Electric Motors and Generators .....	3	DST 140 .....
ELCT 241 Electric Motor Controls .....	3	DST 141 .....
ELCT 250 Programmable Logic Controllers.....	3	COMX 106.....3
ETEC 103 AC/DC Electronics II .....	3	<b>Total.....16</b>
ETEC 220 Electrical Power and Distribution I.....	3	
HVC 110 Introduction to HVAC.....	3	<b>Semester 3 Fall</b>
HVC 255 Advanced Controls .....	3	ELCT 241 .....
NRGY 101 Introduction to Sustainable Energy .....	3	ETEC 220 .....
NRGY 121 Climb Safety and Rigging .....	1	NRGY 235.....3
NRGY 220 Wind Turbine Equipment .....	3	NRGY 220.....3
NRGY 235 Building Energy Efficiency .....	3	NRGY 243.....3
NRGY 243 Fundamentals of Photovoltaic Design and Installation .....	3	<b>Total.....15</b>
NRGY 299 Senior Capstone .....	3	
NTS 104 CCNA 1: Intro to Networks .....	4	
TRID 150 Environmental and Shop Practices .....	2	
TRID 185 Introduction to Industrial Power Systems Lecture .....	2	
TRID 186 Introduction to Industrial Power Systems Laboratory .....	1	

*Continued...*

Restricted Elective .....	3
Choose from the following:	
DDSN 114 Introduction to CAD .....	3
ETEC 284 Digital Electronics .....	4
NRGY 291 Special Topics .....	3
NRGY 298 Internship .....	3
<b>Total .....</b>	<b>65</b>

<b>Semester 4 Spring</b>	
HVC 255.....	3
NTS 104 .....	4
ELCT 250 .....	3
NRGY 299.....	3
Restricted Elective.....	3
<b>Total.....</b>	<b>16</b>

## **Surgical Technology**

### ***Associate of Applied Science***

The Missoula College University of Montana is proud to partner with City College at Montana State University Billings to offer the Associate of Applied Science Degree in Surgical Technology on the Outreach campus in Billings.

Students will take classes on the City College at Montana State University Billings (City College at MSUB) and Montana State University Billings (MSU Billings) campuses, and online through The Missoula College University of Montana (MCUM). The lab and clinical components of the curriculum are offered at St. Vincent Healthcare and Billings Clinic. All coursework can be completed in Billings. However, Outreach students are required to come to Missoula for commencement and to take the national Certification exam.

Students in the program are educated to be Surgical Technologists (ST), part of the surgical team, to ensure the operative procedure is conducted under optimal conditions. The ST is responsible for three phases (preoperative, intraoperative, and postoperative) of patient care with minimal direction. All surgical team members must adhere to the principles of asepsis and the practice of sterile technique. The ST normally functions in a sterile capacity by passing instruments, equipment and supplies to the surgeon during the surgical procedure but may also perform many non-sterile duties throughout the workday.

Students admitted to City College at MSU Billings enter as General Studies majors and should indicate Surgical Technology as their desired program. After meeting with an advisor, specific prerequisite courses are selected. Program applications are accepted each November 1. Students applying to the MCUM Surgical Technology program must successfully complete (or be in the process of completing) the prerequisite courses. Acceptance to the program is determined after fall semester grades are finalized and applications have been evaluated. The courses, BIOH 201 and BIOH 202, Anatomy and Physiology I and Lab, must be passed with a grade of B (3.0) for program acceptance. All other prerequisite courses must be passed with a grade of C (2.0). Course grading scales may vary. If, after program admission, a student fails a required course, he/she will not be able to continue in the program and will need to apply for readmission. If a student is readmitted, he/she will be required to complete skills labs, ST 115 and ST 215, to ensure sterile technique skills are acceptable for the delivery of safe patient care. **A student may take any required course a maximum of two (2) times.**

The Surgical Technology-specific courses begin each spring semester. The classroom portion of the program is delivered online in a web-based format from Missoula. Lab and clinical courses are conducted face-to-face in Billings. **It is expected that students applying to the Outreach program will have considerable computer expertise in order to be successful at the delivered online format.** Students are required to rotate sites during the clinical portion of their education. During the last semester of the program, internships may be outside their respective area. Transportation and housing are the student's responsibility.

As an allied health professional, a Surgical Technologist (ST) works closely with surgeons, anesthesiologists, registered nurses, and other surgical personnel delivering patient care and assuming appropriate responsibilities before, during and after surgery. As part of the surgical team, the ST must be able to work quickly and accurately with a commitment to detail. A number of activities must be integrated according to priority when under pressure in stressful and emergency situations. Therefore, a stable temperament and a strong sense of responsibility are qualities essential to the Surgical Technologist. Considerable patience and concern for order are required. Manual dexterity, good vision and hearing and physical stamina are vital. Sensitivity to the needs of the patient as well as other members of the surgical team must be demonstrated. Individuals who practice this profession have a strong desire to help others and make a valuable contribution to society. Honesty and moral integrity are essential in upholding standards and providing safe patient care. Technical skills will be important, as advances in medical technology will be central to the profession, and students will need to learn to incorporate computers, lasers, fiber optics, electronics and robotics for patient care.

Upon admission to the program, students must provide proof of the following:

- Tuberculosis testing using the PPD (Purified Protein Derivative) or chest x-ray (positive results will require a physician's letter before a student can continue in clinical settings)
- Hepatitis B vaccine (HBV); A three-injection series and a post-injection titer is required
- Measles, mumps and rubella vaccine (MMR; those born before 1956 must provide a titer)
- Tetanus vaccine



- CPR training for Healthcare Providers
- A baseline eye examination (includes a retinal exam prior to exposure to surgical lasers)
- Proof of health insurance

Many healthcare institutions have increasingly stringent access requirements. Background checks and drug testing may be conditions for student clinical experiences or employment. Surgical Technology students should be prepared for such requirements and are responsible for the costs.

The Surgical Technology program is accredited by the Committee on Accreditation of Allied Health Education Programs (CAAHEP), 1361 Park Street, Clearwater, FL 33756; phone 727-210-2350; [www.caahep.org](http://www.caahep.org).

Prospective students may contact MCUM Outreach Office at 406-243-7871 for more information regarding the Surgical Technology program or Program Director, Debbie Fillmore, at 406-243-7860 or [debbie.fillmore@mso.umt.edu](mailto:debbie.fillmore@mso.umt.edu)

### General Education Prerequisites

These courses are to be successfully completed, or in the process of completion, at the time of application to the program.

#### Pre-Surgical Technology

Course	Credits	Location
CAPP 120 Introduction to Computers .....	3	City College at MSUB
BIOH 201/202 Human Anatomy and Physiology I with Lab .....	4	City College at MSUB
<b>Grade of "B" required for BIOH 201/202</b>		
WRIT 101 College Writing I .....	3	City College at MSUB
M 105 Contemporary Mathematics .....	3	City College at MSUB
AHMS 144 Medical Terminology .....	3	City College at MSUB
<b>Total .....</b>	<b>16</b>	

*Please note! Surgical Technology course titles, numbers and rubrics have changed from previous listings.*

### Surgical Technology Program Curriculum

#### First Year – Spring

Course	Credits	Location
*BIOH 211/212 Human Anatomy & Physiology II & Lab .....	4	City College at MSUB
*PSYX 100 Introduction to Psychology .....	3	City College at MSUB
AHST 100 Introduction to Surgical Technology .....	3	MCUM Online
AHST 115 Surgical Lab I .....	2	Hospital Lab
AHST 154 Surgical Pharmacology .....	3	MCUM Online
AHST 164 Microbiology for the Surg Tech .....	3	MCUM Online
(or BIOM 250 Microbiology for Health Sciences)		
<b>Total .....</b>	<b>18</b>	

#### Second Year – Fall

Course	Credits	Location
AHST 200 Operating Room Techniques .....	5	MCUM Online
AHST 201 Surgical Procedures I .....	4	MCUM Online
AHST 215 Surgical Lab II .....	2	Hospital Lab
AHST 250 Surgical Clinical I .....	4	Hospital
*AHMS 175E Medical Law & Ethics .....	3	MCUM Online
<b>Total .....</b>	<b>18</b>	

\*Can be taken earlier

*Continued...*

**Second Year – Spring**

<b>Course</b>	<b>Credits</b>	<b>Location</b>
AHST 202 Surgical Procedures II .....	5	MCUM Online
AHST 251 Surgical Clinical II .....	5	Hospital
AHST 298 Surgical Internship .....	5	Hospital
<b>Total.....</b>	<b>15</b>	
<b>Total Credits .....</b>	<b>67</b>	

## Trauma

### *Certificate of Technical Study*

#### **Special Considerations:**

Students must submit their NREMT certification as well as complete a competitive application process in order to enter the paramedic program.

#### **Prerequisites:**

Demonstrate proficiency in English and math.

BIOH 101 Foundations of Human Biology, 3 credits (available online).

<b>Required Courses</b>	<b>Credits</b>	<b>Suggested Plan of Study</b>	
		<b>Fall Semester</b>	<b>Credits</b>
ECP 201 Paramedic Fundamentals.....	3	ECP 201.....	3
ECP 202 Paramedic Fundamentals Lab.....	1	ECP 202.....	1
ECP 206 EMS Case Studies .....	4	ECP 206.....	4
ECP 216 Hospital Clinical I .....	5	ECP 216.....	5
ECP 230 Trauma .....	2	ECP 230.....	2
ECP 232 Pulmonary .....	2	ECP 232.....	2
ECP 233 Trauma/Pulmonary Lab and PHTLS .....	1	ECP 233.....	1
<b>Total minimum credits required .....</b>	<b>18</b>	<b>Total.....</b>	<b>18</b>

## Welding and Metal Fabrication Technology

### *Associate of Applied Science*

Welding is a fall start program only. See an advisor for more information.

The welding industry offers workers immediate tangible rewards for their efforts. Few professions allow the opportunity for creativity found in the fabrication shop. In addition, the fabrication industry represents one of the largest employment segments in our local economy. Graduates may qualify for advanced placement in the Ironworkers, Pipefitters, or Boilermakers unions.

Graduates find work in structural and steel fabrication shops and with heavy equipment rebuilders and manufacturers, mining, refineries, and other energy related enterprises in the region. See our website at [www.msubillings.edu/careers](http://www.msubillings.edu/careers) for graduate data.

#### Upon successful completion of this program a student will be able to:

- Conduct and present a job safety analysis
- Set up and operate various cutting and welding processes
- Operate machinery common in welding environment
- Construct basic sketches and blueprints
- Evaluate lab work and projects for acceptability within limits of applicable welding codes
- Weld ferrous and non-ferrous metals in all positions with a variety of welding processes current with the welding and energy industry
- Apply welding metallurgy to weldments
- Apply inspection and testing methods to weldments
- Conduct and present a job safety analysis
- Set up and operate various cutting and welding processes
- Operate machinery common in welding environment
- Construct basic sketches and blueprints
- Evaluate lab work and projects for acceptability within limits of applicable welding codes
- Weld ferrous and non-ferrous metals in all positions with a variety of welding processes current with the welding and energy industry
- Apply welding metallurgy to weldments
- Apply inspection and testing methods
- Formulate a plan for assembly and welding of weldments

#### Required Courses

	Credits
CAPP 120 Introduction to Computers .....	3
COMX 106 Communicating in a Dynamic Workplace .....	3
M 114 Extended Technical Mathematics .....	3
WLDG 117 Blueprint Reading and Welding Symbols .....	3
WLDG 124 Welding Theory, Technology and Safety .....	3
WLDG 125 Cutting and Shielded Metal Arc Welding Lab .....	5
WLDG 126 Shielded Metal Arc Welding Lab .....	4
WLDG 153 Metal Fabrication Basics .....	3
WLDG 154 Metal Fabrication Basics Lab .....	3
WLDG 156 Semi-Automatic Welding .....	2
WLDG 157 Semi-Automatic and SMAW Lab .....	5
WLDG 205 Applied Metallurgy .....	2
WLDG 212 Pipe Welding and Layout .....	3
WLDG 213 Pipe Welding I Lab .....	5
WLDG 215 Gas Tungsten Arc Welding .....	5

#### Suggested Plan of Study

First Semester	Credits
WRIT 122 .....	3
WLDG 117 .....	3
WLDG 124 .....	3
WLDG 125 .....	5
WLDG 126 .....	4
<b>Total .....</b>	<b>18</b>
<b>Second Semester</b>	
M 114 .....	3
WLDG 153 .....	3
WLDG 154 .....	3
WLDG 156 .....	2
WLDG 157 .....	5
<b>Total .....</b>	<b>16</b>

*Continued...*

WLDG 250 Metals Production .....	2
WLDG 251 Specialty Welding Processes .....	5
WLDG 280 Weld Testing Certification.....	2
WLDG 281 Weld Testing Certification Lab .....	3
WRIT 122 Introduction to Business Writing.....	3
<b>Total minimum credits required .....</b>	<b>67</b>

**Suggested Elective**

WLDG 298 Internship/Cooperative Education .....	3-9
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*In order to take the first semester of WLDG courses, students must prove their skills in Reading Comprehension and Writing. For more information, please contact the Advising Office.*

**Summer**

WLDG 298 (optional) .....	3-9
<b>Total.....</b>	<b>3-9</b>

**Third Semester**

CAPP 120 .....	3
WLDG 205 .....	2
WLDG 212 .....	3
WLDG 213 .....	5
WLDG 215 .....	5
<b>Total.....</b>	<b>18</b>

**Fourth Semester**

COMX 106 .....	3
WLDG 250 .....	2
WLDG 251 .....	5
WLDG 280 .....	2
WLDG 281 .....	3
<b>Total.....</b>	<b>15</b>

## Welding and Metal Fabrication Technology

### *Certificate of Applied Science*

Welding is a fall start program only. See an advisor for more information.

The welding industry offers workers immediate tangible rewards for their efforts. Few professions allow the opportunity for creativity found in the fabrication shop. In addition, the fabrication industry represents one of the largest employment segments in our local economy. Graduates find work in structural and steel fabrication shops and with heavy equipment rebuilders and manufacturers, mining, refineries, and other energy related enterprises in the region. See our website at [www.msubillings.edu/careers](http://www.msubillings.edu/careers) for graduate data.

For more information on this MSU Billings Gainful Employment Program, such as cost, financial assistance and placement rates, please go to the following link: [www.msubillings.edu/citycollege/Programs/Gedt/Welding.htm](http://www.msubillings.edu/citycollege/Programs/Gedt/Welding.htm)

#### Upon successful completion of this program a student will be able to:

- Conduct and present a job safety analysis
- Set up and operate various cutting and welding processes
- Operate machinery common in welding environment
- Construct basic sketches and blueprints
- Evaluate lab work and projects for acceptability within limits of applicable welding codes
- Weld ferrous and non-ferrous metals in all positions with a variety of welding processes current with the welding and energy industry
- Apply welding metallurgy to weldments
- Apply inspection and testing methods to weldments

#### Required Courses

	Credits
CAPP 120 Introduction to Computers .....	3
COMX 106 Communicating in a Dynamic Workplace .....	3
M 111 Technical Mathematics .....	3
WLDG 117 Blueprint Reading and Welding Symbols .....	3
WLDG 124 Welding Theory, Technology and Safety .....	3
WLDG 125 Cutting and Shielded Metal Arc Welding Lab .....	5
WLDG 126 Shielded Metal Arc Welding Lab .....	4
WLDG 153 Metal Fabrication Basics .....	3
WLDG 154 Metal Fabrication Basics Lab .....	3
WLDG 156 Semi-Automatic Welding .....	2
WLDG 157 Semi-Automatic and SMAW Lab .....	5
WRIT 104 Workplace Communications .....	3
<b>Total minimum credits required .....</b>	<b>40</b>

*In order to take the first semester of WLDG courses, students must prove their skills in Reading Comprehension and Writing. For more information, please contact the Advising Office.*

#### Suggested Plan of Study

First Semester	Credits
WRIT 104 .....	3
COMX 106 .....	3
WLDG 117 .....	3
WLDG 124 .....	3
WLDG 125 .....	5
WLDG 126 .....	4
<b>Total .....</b>	<b>21</b>
<b>Second Semester</b>	
M 111 .....	3
CAPP 120 .....	3
WLDG 153 .....	3
WLDG 154 .....	3
WLDG 156 .....	2
WLDG 157 .....	5
<b>Total .....</b>	<b>19</b>

## Welding for Energy Technology Certificate of Applied Science

### Entrance Requirement

Entrance requirement for the Welding for Energy Technology Certificate of Applied Science is successful completion of the Welding and Metal Fabrication Certificate of Applied Science or equivalent professional industry certification, and/or evaluation by qualified City College at MSU Billings faculty of applicable work experience.

Welding is a fall start program only. See an advisor for more information.

The welding industry offers workers immediate tangible rewards for their efforts. Few professions allow the opportunity for creativity found in the fabrication shop. In addition, the fabrication industry represents one of the largest employment segments in our local economy. Graduates find work in structural and steel fabrication shops and with heavy equipment rebuilders and manufacturers, mining, refineries, and other energy related enterprises in the region. See our website at [www.msubillings.edu/careers](http://www.msubillings.edu/careers) for graduate data.

### Upon successful completion of this program a student will be able to:

- Describe and demonstrate welding and metal fabrication safety
- Follow written and oral directions related to welding procedures and fabrication
- Read and draw blueprints
- Set up and operate hand, semi-automatic, and automatic cutting processes
- Identify material shapes and sizes
- Weld in all positions with a variety of welding processes current with the welding and energy industry
- Weld ferrous and non-ferrous metals with a variety of welding processes
- Operate fabrication equipment common in a welding and fabrication environment
- Identify, select, and match filler metals to base metals
- Apply fabrication principles and practices
- Prepare parts for assembly and welding
- Understand and apply welding metallurgy to weldments
- Understand and apply CNC processes to fabrication and welding
- Formulate a plan for assembly and welding of weldments
- Comprehend and apply inspection and testing methods

### Required Courses

### Credits

CAPP 120 Introduction to Computers .....	3
COMX 106 Communicating in a Dynamic Workplace .....	3
M 111 Technical Mathematics .....	3
WLDG 205 Applied Metallurgy .....	2
WLDG 212 Pipe Welding and Layout .....	3
WLDG 213 Pipe Welding I Lab .....	5
WLDG 215 Gas Tungsten Arc Welding .....	5
WLDG 250 Metals Production .....	2
WLDG 251 Specialty Welding Processes .....	5
WLDG 280 Weld Testing Certification .....	2
WLDG 281 Weld Testing Certification Lab .....	3
WRIT 104 Workplace Communications .....	3
<b>Total minimum credits required .....</b>	<b>39</b>

### Suggested Plan of Study

First Semester	Credits
WRIT 104 .....	3
COMX 106 .....	3
WLDG 205 .....	2
WLDG 212 .....	3
WLDG 213 .....	5
WLDG 215 .....	5
<b>Total .....</b>	<b>21</b>
<b>Second Semester</b>	
M 111 .....	3
CAPP 120 .....	3
WLDG 250 .....	2
WLDG 251 .....	5
WLDG 280 .....	2
WLDG 281 .....	3
<b>Total .....</b>	<b>18</b>

*Students should check the course descriptions for required prerequisites.*

*The WLDG courses are on a fall start rotation.*

## **Welding and Fabrication 1**

### ***Certificate of Technical Study***

**Required Courses**

	<b>Credits</b>
WLDG 117 Blueprint Reading and Welding Symbols.....	3
WLDG 124 Welding Theory, Technology and Safety .....	3
WLDG 125 Cutting and Shielded Metal Arc Welding Lab.....	5
WLDG 126 Shielded Metal Arc Welding Lab .....	4
WRIT 104 Workplace Communications .....	3
<b>Total minimum credits required .....</b>	<b>18</b>

**Suggested Plan of Study**

<b>First Semester</b>	<b>Credits</b>
WLDG 117.....	3
WLDG 124.....	3
WLDG 125.....	5
WLDG 126.....	4
WRIT 104 .....	3
<b>Total .....</b>	<b>18</b>



## Outreach & Community Programs

Lisa Skiner, Director of Workforce and Resource Development  
(406) 247-3055; lskiner@msubillings.edu

### City College at MSU Billings Workforce Training Center

As City College at MSU Billings evolves into a comprehensive community college, a critical part of its mission is to become a center for community learning. City College, with funding from the U.S. Department of Labor, has developed a Workforce Training Center focusing on skill development in support of local business and industry. The Workforce Training Center offers short-term non-credit courses, modular-based courses delivered in hybrid formats, and access to City College academic courses and programs. In addition, City College has partnered with MSU Billings Extended Campus to bring together the rich resources of the City College and the entire University to serve the workforce and lifelong learning needs of our community.

The Workforce Training Center has acquired extensive resources for training that include:

- A \$250,000 Mobile Energy Workforce Training Lab complete with satellite link-up to deliver training anywhere it is needed throughout the region.
- Portable computer labs with 28 laptops designed to deliver software and simulator-based training.
- Portable welding and HazMat equipment that allows instructors to deliver training in a variety of settings and give students real-world, hands-on experience that replicates what they will encounter in the field.
- Simulator trainers as follows: Caterpillar Heavy Equipment Operation, Amatrol - AC/DC electrical, hydraulics and pneumatics, PLCs, process control, and rigging.
- Heavy equipment machines as follows: Caterpillar 14M Motor Grader, Volvo BL60, Bobcat Skidsteer, and Bobcat Versahandler to offer students hands-on experience.

### Customized Solutions

Why outsource your training issues when you can in-source a training director to be part of your executive team? Through a multi-step, consultative process, we listen to your needs and design a customized organizational development solution that may include

technical and “soft skills” training. City College at MSU Billings can bring the resources of MSU Billings to your business and help you achieve the next level.

As an effective community partner, the City College at MSU Billings Workforce Training Center develops and delivers customized training contracts for local businesses. These contracts include courses delivered on campus and at employer’s worksites. Courses have included safety training, mentoring and leadership, skills training, software, HazMat, and a variety of other specially developed courses. Many of the courses offer nationally recognized, portable skills certifications.

For additional information about the City College at MSU Billings Workforce Training Center, contact Lisa Skiner, at (406) 247-3055.

### Certification Testing Center

A variety of testing services are administered at City College at MSU Billings. Sylvan Prometric tests are available for areas including Microsoft, A+, Novell, Cisco, IBM, Lotus, J.D. Edwards, Auto Glass Technician, etc. The Microsoft Office Specialist (MOS) testing program offers certification tests for Word, Excel, Outlook, PowerPoint, and Access. Additional ways to serve the community by expanding the certification test offerings in additional areas are always being sought. For more information please contact our Library/Testing Center at (406) 247-3025.

### Community Education

City College at MSU Billings frequently collaborates with other organizations in the region to offer conferences and workshops. Conference and workshop topics include agriculture, healthcare, computer network security, leadership and other areas of professional development. City College at MSU Billings Conferences are regionally known for their quality and timeliness.

### Summer Camps

The College of the Technology offers a wide array of summer camps for youth ranging from primary to secondary education each summer. Many of the camps focus on informing students of available educational and career paths, while providing them with skills development and educational growth. Successful summer camps have included Kid’s Construction Camps for Girls and Boys and Energy Explorers focused on Process Plant Technology.

## MSU Billings Online University

Online Advising: [inquiry@msubonline.org](mailto:inquiry@msubonline.org) or (406) 657-2240

Website: [www.msubonline.org](http://www.msubonline.org)

### ▽ - This symbol denotes programs offered in an online format in addition to classroom training

We are pleased to be able to offer you an opportunity to take college courses via the internet as a way of overcoming barriers of time and place. Our students have told us they need the ability to reach their academic goals in an environment that affords them freedom and flexibility, comfort and convenience, and more time for work and family. By combining our commitment to Access and Excellence with the technology that allows you to “Learn Online... Anywhere...Anytime,” this program ensures that you can achieve your personal, professional, and academic goals without sacrificing the other things that are important in your life.

Through the MSU Billings Online University, you can complete General Education requirements as well as the following certificates and degrees listed below. We are continuously reviewing our programs to determine what we can offer in an online format. To get a current list of degrees and classes offered online, please check the online website [www.msubonline.org](http://www.msubonline.org).

### Online Programs currently offered at the City College at MSU Billings:

#### Associate Degree Programs

- A.A.S. Accounting Technology ▽
- A.A. General Studies (Self-Designed) ▽
- A.S. General Studies (Self-Designed) ▽
- A.S. Business Administration ▽
- A.S. Human Resources-Applied Emphasis ▽
- A.S. Human Resources-College of Business Articulated Emphasis ▽

#### Certificates of Applied Science

- Accounting Assistant ▽
- Human Resources Management ▽
- Medical Coding & Insurance Billing ▽

Please refer to the program requirements listed in the Business and Industry section of the catalog for information on any of these programs.

Students can also take individual online courses for professional development, to transfer to another institution, to apply toward another MSU Billings degree program, or to supplement your on-campus course schedule with an online learning experience.

Students are encouraged to work with an advisor when pursuing any of these degree programs to ensure that courses selected will successfully meet all degree requirements and also fulfill the student's academic interests and goals. For academic advising and course selection assistance, please contact the MSU Billings Online University Advisor at [inquiry@msubonline.org](mailto:inquiry@msubonline.org).

## International Studies

McD 150 (406) 657-1705

[www.msubillings.edu/intnlstudies](http://www.msubillings.edu/intnlstudies)

Who am I? What is my place in this world? The International Studies Program seeks to engage students in a process of awakening. Through various study abroad programs and the International Studies Minor, students begin to experience the complexity of cultures and the richness of diversity. The end result produces students who are involved, lifelong learners, with a concern for the world in which we live, and an ability to become leaders who think of future generations.

The Office of International Studies (OIS), McDonald Hall 150, provides support services for current and prospective international students, the International Studies Club, and facilitates study abroad applications, as well as the Be a Foreign Friend (BFF) program.

## Common Course Numbering Changes

The Common Course Numbering process is ongoing. Please see our course number equivalency tool in the class schedule under “my info” login at [www.citycollege.msubillings.edu](http://www.citycollege.msubillings.edu)

OLD COURSE	OLD COURSE TITLE	NEW COURSE	NEW COURSE TITLE
AUTO-110	Manual Drive Train & Axles	AST-106	Auto Manual Drive Train/Axles
AUTO-111	Manual Drive Train & Axles Lab	AST-107	Auto Man Drive Train/Axles Lab
AUTO-160	Automotive Brake Systems	AST-114	Automotive Brakes
AUTO-161	Automotive Brake Systems Lab	AST-115	Automotive Brakes Lab
AUTO-172	Engine Rebuild	AST-175	Engine Rebuild Lab
AUTO-182	Diagnosis and Tune-Up	AST-162	Automotive Engine Diagnostics
AUTO-183	Auto Diagnosis & Tune-Up Lab	AST-163	Auto Engine Diagnostics Lab
AUTO-202	ASE Exam Preparation	AST-285	ASE Exam Prep: Section One
AUTO-210	Suspension & Steering Systems	AST-220	Auto Steering and Suspension
AUTO-211	Suspension & Steering Lab	AST-221	Auto Steering/Suspension Lab
AUTO-220	Auto Elctrcl/Elctrnc Systems	AST-230	Elec/Elctrncs Sys II
AUTO-221	Elctrcl/Elctrnc Systems Lab	AST-231	Elec/Elctrncs Sys II Lab
AUTO-222	Auto Engine Performance	AST-260	Advanced Auto Diagnostics
AUTO-223	Auto Engine Performance Lab	AST-261	Advanced Auto Diagnostics Lab
AUTO-255	Appl Auto Service Operations	AST-280	Applied Lab Exp/Light Repair
AUTO-256	Automatic Trans/Transaxles	AST-270	Auto Transmissions/Transaxles
AUTO-257	Automatic Trans/Transaxles Lab	AST-271	Auto Transmissns/Transxls Lab
AUTO-292	Seminar	AST-294	Seminar/Workshop
AUTO-293	Workshop	AST-294	Seminar/Workshop
AUTO-296	Cooperative Educ/Internship	AST-298	Cooperative Educ/Internship
BIOL-101	Survey of Biology	BIOB-101	Discover Biology
BIOL-104	Nutrition for Health Careers	NUTR-121	Clinical Human Nutrition
BIOL-115	Survey of Biology Lab	BIOB-102	Discover Biology Lab
BIOL-178	Principles of Biology	BIOB-160	Principles of Living Systems
BIOL-179	Biodiversity	BIOB-170	Principles of Bio Diversity
BIOL-188	Principles of Biology Lab	BIOB-161	Principles Living Systems Lab
BIOL-189	Biodiversity Lab	BIOB-171	Principles Bio Diversity Lab
CARP-120	Carpentry Basics and Rough-in	CSTN-120	Carpentry Bscs & Rough-In Frmg
CARP-130	Exterior Finishing, Stair Cons	CSTN-145	Ext Finish, Stair, & Metal SF
CARP-140	Introduction to Site Layout	CSTN-171	Ste Prp, Fndtns, Cncrt Instltn
CARP-150	Beginning Carpentry Practicum	CSTN-160	Constructn Cncpts & Bldg Lab
CARP-152	Intermediate Carpentry Practic	CSTN-161	Constructn Cncpts & Bldg Lb II
CARP-220	Interior Finishing	CSTN-220	Interior Finishing
CARP-230	Advanced Roof, Floor, Wall, an	CSTN-230	Adv Rf, Flr, Wll, Stair Systms
CARP-250	Advanced Carpentry Practicum	CSTN-260	Constrectn Cncpts & Bldg Lb III

CARP-252	Capstone Carpentry Practicum	CSTN-299	Capstone: Carpentry
CMP-118	Word	CAPP-154	MS Word
CMP-119	Excel	CAPP-156	MS Excel
CMP-121	Intro to Microsoft Outlook	CAPP-110	Short Courses: MS Outlook
CMP-122	Intro to Microsoft PowerPoint	CAPP-153	MS PowerPoint
CMP-135	Introduction to Web Design	CSCI-181	Web Design & Programming
CMP-235	Advanced Web Design and Develo	CSCI-210	Web Programming
CMP-262	Microsoft Access	CAPP-158	MS Access
CMP-292	Seminar	CAPP-291	Special Topics
CMP-292	Seminar	ITS-294	Seminar/Workshop
CODE-110	CPT-4 Procedure Coding	AHMS-160	Beginning Procedural Coding
CODE-120	ICD-9 Diagnosis Coding	AHMS-162	Beginning Diagnosis Coding
CODE-140	Computerized Medical Billing	AHMS-252	Computerized Medical Billing
CODE-150	Advanced Coding and Auditing	AHMS-250	Advanced Medical Coding
COMT-109	Human Relations	COMX-106	Comm in a Dynamic Workplace
COMT-110	Interpersonal Comm	COMX-115	Intro to Interpersonal Comm
COMT-130	Intro to Public Speaking	COMX-111	Intro to Public Speaking
CST-110	Applied Basic Programming Conc	CSCI-110	Programming w/Visual Basic I
CST-130	Introduction to Scripting for	CSCI-115	Programming with Perl
CST-160	Installing, Configuring and Ad	ITS-160	MS Windows Vista Configuration
CST-162	Installing, Configuring and Ad	ITS-162	Wndws Srvr 08 Actv Drctry Cnfg
CST-168	Installing, Configuring and Ad	ITS-168	Install, Config & Admin Linux
CST-170	Introduction to Internetworkin	ITS-140	CCNA 1: Discovery
CST-172	Introduction to IP Routing	ITS-142	CCNA 2: Discovery
CST-174	Advanced Routing and Ethernet	ITS-240	CCNA 3: Discovery
CST-176	Wide Area Networking	ITS-242	CCNA 4: Discovery
CST-182	Help Desk Support	ITS-182	Help Desk Support
CST-200	Cisco CCNA Exam Prep	ITS-291	Special Topics
CST-211	Programming Capstone Project	CSCI-299	Thesis/Capstone
CST-220	Applied Introduction to Java	CSCI-111B	Programming with Java I
CST-221	Applied Intermediate Java	CSCI-121	Programming with Java II
CST-231	Software Development and Docum	CSCI-223	Software Development
CST-233	Deploying Databases with Micro	CSCI-240	Databases and SQL
CST-244	Introduction to Programming La	CSCI-109	Intro to Programming Lab
CST-250	Microcomputer Hardware Mainten	ITS-280	Computer Repair & Maintenance
CST-254	Advanced Hardware Technical Su	ITS-254	Adv Hardware Technical Support
CST-260	Planning, Implementing, Managi	ITS-210	Network OS - Desktop
CST-265	Applied Advanced Visual Basic.	CSCI-120	Programming w/Visual Basic II
CST-270	Advanced Routing Configuration	ITS-260	CCNP 1: Routing
CST-272	Remote Access Networks	ITS-262	CCNP2:Implmntng Sec Cnvrgrd WAN
CST-274	Multi-Layer Switching	ITS-264	CCNP3: Switching
CST-276	Network Troubleshooting	ITS-266	CCNP: Troubleshooting

CST-277	Fundamentals of Wireless LANs	ITS-220	Fundamentals Of Wireless LANS
CST-282	Research and Advanced Software	ITS-282	Rsrch & Adv Software Tech Supp
CST-285	Help Desk Infrastructure	ITS-285	Help Desk Infrastructure
CST-288	Network Security	ITS-218	Network Security
CTBU-103	Payroll Accounting	ACTG-180	Payroll Accounting
CTBU-105	Integrated General Ledger Acco	ACTG-205	Computerized Accounting
CTBU-106	QuickBooks	ACTG-125	QuickBooks
CTBU-108	Applied Accounting I	ACTG-101	Accounting Procedures I
CTBU-109	Applied Accounting II	ACTG-102	Accounting Procedures II
CTBU-113	Transcription	TASK-202	Machine Transcription
CTBU-115	Keyboard Applications/Ten Key	TASK-115	Keyboard Applications/Ten Key
CTBU-131	Records and Information Manage	TASK-145	Records Management
CTBU-133	Office Applications	TASK-230	Office Career Success
CTBU-153	Medical Transcription	AHMS-255	Medical Transcription I
CTBU-165	Business Law	BGEN-235	Business Law
CTBU-165	Business Law	BGEN-235B	Business Law
CTBU-171	Intro to Business	BGEN-105B	Introduction to Business
CTBU-171	Introduction to Business	BGEN-105	Introduction to Business
CTBU-201	Applied Accounting III	ACTG-103	Accounting Procedures III
CTBU-270	Introduction to Sales & Market	BMKT-225	Marketing
CTBU-280	Principles of Applied Manageme	BMGT-235	Management
CTBU-291	Independent Study	TASK-292	Independent Study
CTBU-292	Seminar	TASK-294	Seminar/Workshop
CTBU-293	Workshop	TASK-294	Seminar/Workshop
CTBU-296	Cooperative Education/Internsh	TASK-298	Internship
DIES-101	Powertrains	DST-101	Power Trains
DIES-113	Intro to Hydraulics	DST-140	Intro to Hydraulics
DIES-114	Intro to Hydraulics Lab	DST-141	Intro to Hydraulics Lab
DIES-117	Intro to Diesel Fuel Systems	DST-117	Intro to Diesel Fuel Systems
DIES-132	Diesel Engine Overhaul	DST-132	Diesel Engine Overhaul
DIES-155	Adv Hydraulics & Pneumatics	DST-155	Adv Hydraulics & Pneumatics
DIES-202	Advanced Powertrains	DST-202	Advanced Power Trains
DIES-245	Heavy Duty Powertrains/shifts	DST-203	Heavy Duty Power Trains/Shifts
DIES-250	Heavy Duty Chassis	DST-250	Heavy Duty Chassis
DIES-256	Applied Diesel Service I	DST-256	Applied Diesel Service Oper I
DIES-257	Applied Diesel Service II	DST-257	Applied Diesel Service Oper II
DIES-260	Diesel Eng Diag & Troubleshoot	DST-260	Diesel Eng Diag & Troubleshoot
DIES-277	Adv Fuel Systems & Diesel Eng	DST-277	Adv Fuel Systems & Diesel Eng
DIES-292	Seminar	DST-294	Seminar/Workshop
DIES-293	Workshop	DST-294	Seminar/Workshop
DIES-296	Cooperative Educ/Internship	DST-298	Cooperative Educ/Internship
DRFT-102	Building Construction	DDSN-160	Architectural Lecture

DRFT-104	Civil Technology	DDSN-240	Civil Lecture
DRFT-108	Introduction to CAD	DDSN-114	Introduction to CAD
DRFT-109	Intro Technical Drawing	DDSN-110	Technical Drawing Lecture
DRFT-110	Technical Drawing Lab	DDSN-111	Technical Drawing Lab
DRFT-128	3D Applications	DDSN-116	3D CAD
DRFT-138	Structural Drafting	DDSN-145	Structural Drafting
DRFT-292	Seminar	DDSN-294	Seminar/Workshop
DRFT-293	Workshop	DDSN-294	Seminar/Workshop
DRFT-296	Cooperative Education/Internsh	DDSN-298	Cooperative Educ/Internship
DSGN-107	Quantity Estimating	CSTN-148	Blueprint Codes and Est.
DSGN-112	Architectural Lab	DDSN-161	Architectural Lab
DSGN-114	Civil Lab	DDSN-241	Civil Lab
DSGN-116	GIS for Civil Applctns	DDSN-244	GIS Mapping
DSGN-148	CAD Customization	DDSN-186	CAD 2
DSGN-204	Adv Software Applications	CAPP-172	Adv Software Applications
DSGN-208	Multimedia Technology	MART-208	Multimedia Technology
DSGN-214	SolidWorks	DDSN-135	SolidWorks
DSGN-218	SDS2/Structural Detailing	DDSN-256	SDS/2 Structural Detailing
DSGN-229	Project Development Lab	DDSN-295A	Project Development Lab
DSGN-230	Project Development	DDSN-294A	Project Development Lecture
DSGN-231	Project Development Capstone	DDSN-299	Capstone
DSGN-248	Computer Presen & Animation	MART-260	Computer Presen & Animation
DSGN-292	Seminar	DDSN-294	Seminar/Workshop
DSGN-293	Workshop	DDSN-294	Seminar/Workshop
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HR-250	Employment & Compensation Stra	BMGT-250	Employment & Comp Strategies
HR-281	Risk Management, Safety & Secu	BMGT-281	Risk Mgmt, Safety & Security
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HVAC-200	Refrig Tech EPA Cert	HVC-200	Refrig Tech EPA Cert Review

HVAC-201	Adv Refrigeration	HVC-201	Advanced Refrigeration
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METL-214	Advanced Weld Technology and T	WLDG-205	Applied Metallurgy
METL-251	Specialty Welding Processes	WLDG-251	Specialty Weld Processes
METL-252	CNC Processes for Metal Fabric	WLDG-255	CNC Burn Table Prog & Oprtn
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PARA-130	Paramedic Fundamentals	ECP-201	Paramedic Fundamentals
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RAD-105	Patient Care in Radiology	AHXR-101	Patient Care in Radiology
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RAD-110	Radiation Physics and Biologic	AHXR-225	Radiobiology/Radiation Ptrctn
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RAD-152	Clinical Radiology II	AHXR-195B	Radiographic Clinical: II
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SET-150	Industrial Safety and Rigging	NRGY-120	Industrial Safety and Rigging
SET-160	AC/DC Electronics I	Etec-101	AC/DC Electronics I
SET-170	Electric Motors and Generators	ELCT-130	Electric Motors and Generators
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TRID-115	Using a Construction Calculato	CSTN-115	Construction Calc & Estimating
TRID-120	Introduction to Concrete	CSTN-101	Introduction to Concrete
TRID-125	Introduction to Flooring Insta	CSTN-108	Intro to Flooring Installation
TRID-130	Basic Rigging	CSTN-135	Basic Rigging
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*\*These courses may only be available on the MSU Billings University Campus.*

∇ - This symbol denotes courses offered in an online format in addition to classroom instruction.

## Auto Body

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### **ABDY 111 Introduction to Auto Body Repair**

**5 cr. (2 lec/6 lab/wk) (F)**

Covers the basic methods and techniques used in the repair of non-structurally damaged automobile sheet metal panels, the use and care of basic hand tools, identifying metal composition, automobile body construction, set up and use of a metal inert gas (MIG) and resistance welding equipment.

### **ABDY 112 Minor Collision Repair**

**6 cr. (2 lec/6 shop/wk) Prerequisite: ABDY 111. (F)**

Covers training in removal, replacement, and alignment of various panels and parts, including glass. Diagnosis and correcting body component malfunctions.

Advanced training in panel repair, damage analysis and estimating using manuals and computer software programs.

### **ABDY 121 Automobile Body Structural Repair**

**6 cr. (2 lec/6 shop/wk) Prerequisite: ABDY 111. (Sp)**

Covers the inspection, measurements, and repair of automobile bodies. Methods and techniques recommended by the manufacturers are studied and utilized. Tasks and procedures which are promoted by ASE and I-CAR programs are incorporated into the training. Repair of plastic body parts as recommended by manufacturers is practiced.

### **ABDY 122 Automobile Collision Mechanics**

**5 cr. (2 lec/6 lab/wk) (Sp)**

Includes the removal, replacement, and service of mechanical and electrical components in repairing collision damaged automobiles. Components include suspension, steering, brakes, drive train, cooling system, fuel system and restraint system.

### **ABDY 131 Introduction to Refinishing Principles**

**6 cr. (3 lec/6 lab/wk) (Sp)**

Provides the student with entry level training in job safety, refinishing basic application techniques, tools and equipment, and the skills necessary to prepare a vehicle for the refinishing process.

### **ABDY 132 Introduction to Automotive Undercoats and Plastics**

**6 cr. (2 lec/4 lab/6 shop/wk) Prerequisite: ABDY 131. (Sp)**

Provides the student with entry level access to knowledge in automotive refinishing undercoats: types,

specific usages, and application. The course also provides the student with automotive plastic identifications, alternate repair procedures, and refinishing.

### **ABDY 141 Advanced Automotive Refinishing**

**6 cr. (2 lec/4 lab/6 shop/wk) Prerequisites: ABDY 131 and ABDY 132. (F)**

Provides the student with training in application and paint makeup of current automotive finishes. Causes and the possible cures of surface defects and the art of finesse polishing are also studied. The student is exposed to the latest techniques in duplicating original factory paint finishes.

### **ABDY 142 Introduction to Automotive Paint Blending and Color Matching**

**7 cr. (3 lec/2 lab/6 shop/wk) Prerequisites: ABDY 131, ABDY 132 and ABDY 141. (F)**

Develops mental and optical skills in the art of color matching. Alternate processes in spot repairing solid, metallic, and MICA finishes are also covered. Skills in equipment adjustment and techniques provide for blendable repair procedures.

### **ABDY 292 Seminar**

**V1-3 cr.**

Provides students an opportunity to investigate intensively topics pertinent to the field of automobile collision repair and refinishing technology.

### **ABDY 293 Workshop**

**V1-3 cr.**

Provides an opportunity for experimental study in an area of automobile collision repair and refinishing.

### **ABDY 296 Cooperative Education/Internship**

**V1-9 cr. (45 hours/credit)**

Provides university credit for a sophomore work experience in the area of Automobile Collision Repair and Refinishing Technology, supervised by faculty. Learning agreement must be completed prior to registration (restricted).

## Accounting

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### **∇ ACTG 101 Accounting Procedures I**

**[formerly CTBU 108 Applied Accounting I]**

**3 cr. (3 lec/wk) (F, Sp)**

Introduces fundamental double-entry accounting concepts and terminology. Emphasis on analyzing and recording business transactions and completing,

adjusting, and closing entries for the accounting cycle of a service business. Includes procedures for banking, cash funds, and calculating and recording payroll.

**▽ ACTG 102 Accounting Procedures II**

**[formerly CTBU 109 Applied Accounting II]**

**3 cr. (3 lec/wk) Prerequisite: ACTG 101. (F, Sp)**

Studies accounting for a merchandising concern through the use of special journals including adjusting and closing entries and financial statements. Introduces accounting for notes payable and receivable as well as valuation for receivables, inventories, and plant assets.

**▽ ACTG 103 Accounting Procedures III**

**[formerly CTBU 201 Applied Accounting III]**

**3 cr. (3 lec/wk) Prerequisite: ACTG 102. (F, Sp)**

Introduces advanced accounting topics. Includes voucher systems, accounting procedures for partnerships and corporations, statement of cash flows, analysis of financial statements, and an overview of departmental and manufacturing accounting.

**▽ ACTG 125 QuickBooks**

**[formerly CTBU 106 QuickBooks]**

**3 cr. (3 lec/wk) Prerequisite: ACTG 101, ACTG 102.**

Studies QuickBooks, an accounting system for small-business owners and bookkeepers. Topics of this course include creating a company, setting up company lists, editing a preset chart of accounts, entering opening balances, entering sales and invoices, receiving payments and making deposits, handling expenses and bills, working with bank accounts, analyzing financial data, tracking and paying sales tax, managing inventory, and preparing payroll.

**▽ ACTG 180 Payroll Accounting**

**[formerly CTBU 103 Payroll Accounting]**

**3 cr. (3 lec/wk) Prerequisite: ACTG 101. (F, Sp)**

Introduces the various aspects of the Fair Labor Standards Act and other laws that affect payroll operations and employment practices. Emphasizes the methods of computing wages and salaries, the methods of keeping records, and the preparation of government reports. Includes a project requiring students to record all of the payroll information for a business.

**▽ \* ACTG 201 Principles of Financial Accounting**

**[formerly ACCT 233 Principles of Accounting I]**

**3 cr. (3 lec/wk) Corequisite: M 095 or student has tested out of M 095. (F, Sp, Su)**

Introduces the concepts and terminology of accounting and financial reporting for modern business enterprises. The course will focus on analyzing and interpreting accounting information for use in making decisions about organizations. Problem solving, critical thinking,

and communication skills that are necessary to use accounting information, to form conclusions about businesses and to communicate these conclusions to others will be emphasized.

**▽ ACTG 205 Computerized Accounting**

**[formerly CTBU 105 Integrated General Ledger Accounting]**

**3 cr. (3 lec/wk) Prerequisite: ACTG 101, ACTG 102. (F, Sp)**

Studies how computers are used in today's accounting environments through the use of an integrated accounting software package. Uses a hands-on approach to complete the accounting cycle for merchandise or service businesses as well as entries for voucher systems, departmentalized accounting, financial statement analysis, depreciation, inventory, and payroll.

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**Allied Health: Medical  
Coding/Insurance Billing**

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**▽ AHMS 144 Medical Terminology**

**[formerly HLTH 150 Health Occupations Terminology I]**

**3 cr. (3 lec/wk) (F, Sp, Su)**

Introduces the student to the specialized language of the medical profession and builds a background vocabulary in this area using a word-building system which provides a solid foundation for understanding medical terms. Basic word-building concepts are taught with emphasis on spelling, pronunciation, and definitions.

**▽ AHMS 160 Beginning Procedural Coding**

**[formerly CODE 110 CPT-4 Procedure Coding]**

**3 cr. (3 lec/wk) Prerequisite: Health Care Core prerequisites. (F, Sp)**

Develops the knowledge, skills, and abilities necessary for students to correlate a numerical code to a handwritten or typed procedure description generated by clinical staff in the health care setting for insurance purposes utilizing the principles of Current Procedural Terminology 4<sup>th</sup> edition (CPT-4). This course is required for the Medical Coding and Insurance Billing Certificate.

**▽ AHMS 162 Beginning Diagnosis Coding**

**[formerly CODE 120 ICD-9 Diagnosis Coding]**

**3 cr. (3 lec/wk) Prerequisite: Health Care Core prerequisites. (F, Sp)**

Develops the knowledge, skills, and abilities necessary for a student to correlate a numerical code to a handwritten or typed diagnosis description generated by clinical staff in the health care setting for insurance purposes utilizing published ICD-CM. Also emphasizes the standards for accuracy in medical

coding. This course is required for the Medical Coding and Insurance Billing Certificate.

**∇ AHMS 175 Medical Law and Ethics**  
**[formerly HLTH 255 Medical Law and Ethics]**  
**3 cr. (3 lec/wk) (Sp)**

Addresses legal and ethical issues relevant to the healthcare field. Students will learn the importance of a professional code of ethics and the consequences of illegal or unethical behavior in health care. The course will also help the student distinguish among law, ethics, bioethics, etiquette, and protocol.

**AHMS 220 Medical Office Procedures**  
**[formerly HLTH 251 Medical Office Procedures]**  
**3 cr. (3 lec/wk) (F, Sp)**

Emphasizes the standards for accuracy in health insurance claims processing and professional reporting which includes accurate claim form completion, an introduction to national coding requirements, medical ethics and legal responsibilities, and medical and insurance terminology.

**∇ AHMS 250 Advanced Medical Coding**  
**[formerly CODE 150 Advanced Coding and Auditing]**

**3 cr. (3 lec/wk) Prerequisite: Health Care Core prerequisites. (F, Sp)**

Develops the knowledge, skills, and abilities necessary for students to correlate a numerical code to a handwritten or typed procedure description generated by clinical staff in the health care setting for insurance purposes utilizing the principles of CPT-4, ICD-CM, and HCPCS Coding. This course is required for the Medical Coding and Insurance Billing Certificate.

**AHMS 255 Medical Transcription I**  
**[formerly CTBU 153 Medical Transcription]**

**3 cr. (2 lec/2 lab/wk) Prerequisite: TASK 202. (F)**  
Provides students with opportunities to transcribe taped medical reports from chapters organized by medical specialty. Students are required to use medical references skillfully while improving their transcribing skills. The taped material presents realistic report excerpts.

**AHMS 299 Capstone Project**  
**1 cr.**

Evaluates and expands the student's knowledge of medical coding, insurance billing, and individual professionalism through job shadowing with a local coder, completing a resume building session, and attending test preparation sessions with focus on the national coding exam.

## **Allied Health: Radiologic Technology**

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**AHXR 101 Patient Care in Radiology**  
**[formerly RAD 105 Patient Care in Radiology]**  
**3 cr. (3 lec/wk) (F)**

Provides students with an introduction to radiologic technology including the history of radiology, patient care and the radiographer's role in health care, medical ethics, infection control, radiology organizations, and radiologic technology certification.

**AHXR 108 Introduction to Radiologic Physics**  
**[formerly RAD 104 Introduction to Radiologic Physics]**

**3 cr. (3 lec/wk) Corequisites: AHXR 150, 102. (F)**  
Provides the student with an introduction to radiologic physics including electricity, radiation, radiographic equipment, and the processes involved in radiographic imaging. X-ray production and the interaction of radiation with matter are examined in detail.

**AHXR 150 Radiological Technology I**  
**[formerly RAD 101 Radiological Technology I]**  
**3 cr. (3 lec/wk) Corequisite: AHXR 195A & AHXR 151. (F)**

Presents the fundamentals of producing radiographic images, radiation protection, and radiographic equipment. Radiographic positioning and anatomy are included for chest, abdomen, and extremity procedures.

**AHXR 151 Radiology I Positioning Lab**  
**[formerly RAD 103 Radiology I Positioning Lab]**  
**1 cr. (2 lec/wk) Corequisites: AHXR 150 & AHXR 195A. (F)**

Provides laboratory practice in radiographic positioning, anatomy, and patient care for radiographic examinations covered in corequisite course in preparation for competency-based testing at the clinic site.

**AHXR 160 Radiological Technology II**  
**[formerly RAD 151 Radiologic Technology II]**  
**4 cr. (4 lec/wk) Prerequisite: AHXR 150. (Sp)**

Continues examination of the fundamentals of radiographic imaging, radiographic anatomy, pathology, and radiographic procedures including the total spine, bony thorax, fluoroscopic, and other diagnostic imaging procedures.

**AHXR 161 Radiology II Positioning Lab**  
**[formerly RAD 153 Radiology II Positioning Lab]**  
**1 cr. (2 lec/wk) Corequisites: AHXR 160 & AHXR 195B. (Sp)**

Provides laboratory practice in radiographic positioning, anatomy, and patient care for radiographic

examinations covered in corequisite course in preparation for competency-based testing at the clinic site.

**AHXR 181 Radiology III Positioning Lab**  
[formerly RAD 183 Radiology III Positioning Lab]  
**1 cr. (2 lec/wk) Corequisite: AHXR 195C. (Su)**  
Provides laboratory practice in radiographic positioning, anatomy, and patient care for radiographic examinations covered in corequisite course in preparation for competency-based testing at the clinic site.

**AHXR 195 Clinical Radiology Intersession**  
[formerly RAD 108 Clinical Radiology Intersession]  
**1 cr. (40 total) Prerequisites: AHXR 150 & AHXR 195A. (Sp)**  
Provides students the opportunity to perform radiographic examinations on patients at the clinical sites and participate in scheduled clinical assignments under the direct supervision of the clinical instructor or registered technologist.

**AHXR 195A Radiographic Clinical I**  
[formerly RAD 102 Clinical Radiology I]  
**5 cr. (15 clinical/wk) Corequisite: AHXR 150 & AHXR 151. (F)**  
Instructs students in radiographic examinations in the clinical environment. The students are required to perform radiographic examinations on patients and to participate in scheduled clinicals under the direct supervision of the clinical instructor or registered technologist. Students will be oriented into patient care methodologies. CPR certification is required.

**AHXR 195B Radiographic Clinical II**  
[formerly RAD 152 Clinical Radiology II]  
**6 cr. (18 clinical/wk) Prerequisites: AHXR 150 & AHXR 195A. Corequisites: AHXR 160 & AHXR 161. (Sp)**  
Provides sequential clinical instruction on application, critical analysis, integration, synthesis, and evaluation of concepts and theories required to perform radiologic procedures. Patient centered clinical practice labs and professional development will be taught through competency-based assignments in the clinical setting.

**AHXR 195C Radiographic Clinical III**  
[formerly RAD 182 Clinical Radiology III]  
**9 cr. (27 clinical/wk) Prerequisite: AHXR 195B. Corequisite: AHXR 181. (Su)**  
Continues to provide sequential clinical instruction in radiographic procedures. Patient-centered clinical practice labs and professional development will be taught through competency-based assignments in the clinical setting.

**AHXR 225 Radiobiology/Radiation Protection**  
[formerly RAD 110 Radiation Physics and Biological Principles]  
**3 cr. (3 lec/wk) (Sp)**  
Emphasizes radiation safety and the biological effects of radiation on the human body. Explores the various modalities including equipment requirements, design and quality assurance.

**AHXR 250 Radiologic Technology III**  
[formerly RAD 201 Radiologic Technology IV]  
**4 cr. (4 lec/wk) Prerequisite: AHXR 160. (F)**  
Continues to examine radiographic anatomy, radiographic procedures, and radiographic critique in coordination with clinical radiography courses. Includes fluoroscopic and other diagnostic imaging modalities.

**AHXR 260 Radiologic Technology IV**  
[formerly RAD 251 Radiologic Technology V]  
**2 cr. (2 lec/wk) Prerequisite: AHXR 250. (Sp)**  
Continues to examine radiographic anatomy and diagnostic imaging procedures. Includes a review of program content in conjunction with registry review.

**AHXR 270 Radiographic Registry Review**  
[formerly RAD 271 Registry Review]  
**2 cr. (2 lec/wk) Prerequisite: AHXR 250. (Sp)**  
Provides a comprehensive review of the Radiologic Technology course material in preparation for the national certification examination.

**AHXR 295A Radiographic Clinical IV**  
[formerly RAD 202 Clinical Radiology IV]  
**8 cr. (24 clinical/wk) Prerequisite: AHXR 182. Corequisite: AHXR 250. (F)**  
Provides sequential clinical instruction of the analysis and evaluation of concepts and theories required to perform radiographic procedures. Patient-centered clinical practice labs will be taught through competency-based assignments in the clinical setting.

**AHXR 295B Radiographic Clinical V**  
[formerly RAD 252 Clinical Radiology V]  
**8 cr. (24 clinical/wk) Prerequisites: AHXR 250, 202. Corequisite: AHXR 260. (Sp)**  
Provides the clinical practice and experience necessary for the performance of advanced radiographic procedures. Includes the study of pathology and rotations through the different modalities within radiology.



## Anthropology

### \* ANTY 217 Physical Anthropology and Archaeology

[formerly SOCL 212 Physical Anthropology and Archaeology]

**3 cr.** Study of humans as biological organisms; human evolution; fossil humans; genetics; racial classifications and human variability; primate behavior. Biological bases and emergence of language and culture; development of culture; survey of world prehistory and human migrations. Consideration of method and theory in physical anthropology and archaeology.

### \* ANTY 220 Culture and Society

[formerly SOCL 211 Cultural Anthropology]

**3 cr.** The meaning and significance of culture. Survey of world culture areas and peoples; organization and functioning of societies, their diverse forms and degrees of elaboration. Symbolic behavior systems and expression. Intercultural contacts and relations. Dynamics of cultural change and continuity. History and methods of cultural anthropology.

## Art History

### \* ARTH 150 Introduction to Art History

[formerly ART 132 Art History Survey]

**3 cr. (Lec) (F, Sp, Su)** Surveys world art from prehistory through the present day with the objective of developing a critical understanding of art forms in their historical and cultural context.

### \* ARTH 160 Global Visual Culture

[formerly ART 131 Global Visual Culture]

**3 cr. (Lec) (F, Sp, Su)** Examines visual culture, which includes painting, sculpture, photography, the Internet, performance, cinema, advertising, and television, as our primary means of communication and of understanding our postmodern world. Explores the effects of global visual culture on specific cultures and societies. Special emphasis on the importance of race, ethnicity, gender, sexuality, and the body in visual culture.

## Visual Arts

### \* ARTZ 101 Art Fundamentals

[formerly ART 110 Introduction to Studio Art for Non-Art Majors]

**3 cr. (Stu) (F, Sp)** Encourages enhancement of two- and three-dimensional artistic skills for the general student. Traditional and experimental materials, techniques, and concepts are emphasized. Expect improvement of individual art abilities and understandings. (Lab fee)

### \* ARTZ 105 Visual Language-Drawing

[formerly ART 161 Introduction to Drawing]

**3 cr. (Stu) (F, Sp, Su)** Introduces the beginning student to the basic fundamentals of drawing including line, form, value, composition, and linear perspective. Instruction will include drawing of various subjects and many include the nude figure. Lab fee.

### \* ARTZ 131 Ceramics for Non-Majors

[formerly ART 142 Introduction to Pottery]

**3 cr. (Stu) (F, Sp)** Develops the ability to design three-dimensional clay forms using manual dexterity. Provides the individual with opportunities for creative experiences and an understanding of basic artistic developments in design, process and content of the ceramic object. (Lab fee)

## Auto Service Technician

### AST 106 Automotive Manual Drive Train and Axles

[formerly AUTO 110 Manual Drive Train and Axles]

**2 cr. (2 lec/wk) (F)**

Includes a study of the basic theory and principles of gearing, and reconditioning of automotive power train components. Components covered include clutches, transmissions, differentials, axles, transaxles, and transfer cases.

### AST 107 Automotive Manual Drive Train and Axles Lab

[formerly AUTO 111 Manual Drive Train and Axles Lab]

**2 cr. (4 lab/wk) Corequisite: AST 106. (F)**

Provides a study of the service, repair, and reconditioning of automotive power train components. Components covered include clutches, transmissions, differentials, axles, transaxles, and transfer cases.

### AST 114 Automotive Brakes

[formerly AUTO 160 Automotive Brake Systems]

**2 cr. (2 lec/wk) (Sp)**

Provides a study in the design and operation of today's sophisticated braking and related systems. Subject matter includes brake systems fundamentals, safety, master cylinders, power assist units, hydraulic lines and valves, disk and drum brakes, antilock systems, parking brakes, and brake electrical and electronic components.

### AST 115 Automotive Brakes Lab

[formerly AUTO 161 Automotive Brake Systems Lab]

**2 cr. (4 lab/wk) Corequisite: AST 114. (Sp)**

Provides a study in the diagnosis and service of today's sophisticated braking and related systems. Subject matter includes brake system safety, master cylinders, power assist units hydraulic lines and valves, disk and

drum brakes, antilock systems, parking brakes, and brake electrical/electronic components.

**AST 162 Automotive Engine Diagnostics**  
[formerly AUTO 182 Diagnosis and Tune-Up]  
**3 cr. (3 lec/wk) Prerequisites:** TRID 170 and TRID 180. (Sp)

Studies the theory of fuel systems, emission control systems, ignition systems, and engine mechanical tests. Proper testing with modern diagnostic equipment will also be discussed.

**AST 163 Automotive Engine Diagnostics Lab**  
[formerly AUTO 183 Automotive Diagnosis and Tune-Up Lab]  
**3 cr. (6 lab/wk) Prerequisites:** TRID 170 & TRID 180. **Corequisite:** AST 162. (Sp)

Examines diagnosis, testing, and repair of fuel systems, emission control systems, ignition systems, and engine mechanical tests. This course provides training on the proper uses of modern engine diagnostic equipment.

**AST 175 Engine Rebuild Lab**  
[formerly AUTO 172 Engine Rebuild]  
**5 cr. (2 lec/6 lab/wk) Prerequisite:** TRID 170. (Sp)  
Gives an overview of the design, operation, diagnosis, and service procedures of modern automotive engines. Students participate in the disassembly and re-assembly of engine units. Service and technical engine data are presented to prepare the students for practical experience in engine servicing.

**AST 220 Automotive Steering and Suspension**  
[formerly AUTO 210 Automotive Suspension and Steering Systems]  
**2 cr. (2 lec/wk) Prerequisite:** M 111 or equivalent. (F)

Provides a study in the design and operation of modern automotive suspension, steering, and related systems.

**AST 221 Automotive Steering and Suspension Lab**  
[formerly AUTO 211 Automotive Suspension and Steering Systems Lab]  
**2 cr. (4 lab/wk) Prerequisite:** M 111 or equivalent. **Corequisite:** AST 220. (F)

Provides a practical study in the diagnosis and service of modern automotive suspension, steering, and related systems. Alignments are performed on computerized four-wheel alignment systems. This class is designed to provide the student with the training necessary to perform chassis-related service on automobiles and light trucks.

**AST 230 Electrical/Electronics Systems II**  
[formerly AUTO 220 Automotive Electrical/Electronic Systems]  
**2 cr. (2 lec/wk) Prerequisite:** TRID 180. (F)  
Studies electrical/electronic systems and applications found in today's automotive industry. This course is designed to give the student a strong background in the theory of operation of electrical and electronic systems. Upon completion of this course, the student will have acquired the knowledge necessary to effectively diagnose modern automobiles.

**AST 231 Electrical/Electronics Systems II Lab**  
[formerly AUTO 221 Automotive Electrical/Electronic Systems Lab]  
**2 cr. (4 lab/wk) Prerequisite:** TRID 180. **Corequisite:** AST 230. (F)  
Studies electrical/electronic systems and applications found in today's automotive industry. This course is designed to give the student a strong background in the operation, diagnosis, and repair of electrical/electronic systems. Upon completion of this course, the student will have acquired the knowledge and developed the skills necessary to effectively diagnose and repair the vehicles and equipment presently used in the industry.

**AST 260 Advanced Automotive Diagnostics**  
[formerly AUTO 222 Automotive Engine Performance]  
**3 cr. (3 lec/wk) Prerequisites:** TRID 170, TRID 180, AST 162 and AST 230. (Sp)  
Covers the theory of operation for General Motors, Ford, Chrysler, Toyota, and Bosch computerized systems. The student will obtain the necessary knowledge required to use the specialized test equipment designed for diagnosis and repair of domestic and foreign automotive systems.

**AST 261 Advanced Automotive Diagnostics Lab**  
[formerly AUTO 223 Automotive Engine Performance Lab]  
**3 cr. (6 lab/wk) Prerequisites:** TRID 170, TRID 180, AST 162, AST 230. **Corequisite:** AST 260. (Sp)  
Covers operation and testing for General Motors, Ford, Chrysler, Toyota, and Bosch computerized systems during practical exercises. This course focuses on the diagnosis and repair of computerized engine control systems. The student will obtain the necessary hands-on training required to use the specialized test equipment to diagnose and repair domestic and foreign automotive systems.

**AST 270 Automatic Transmissions and Transaxles**  
**[formerly AUTO 256 Automatic Transmission/Transaxles]****3 cr. (3 lec/wk) Prerequisites: AST 106, TRID 180. (Sp)**

Covers automatic transmissions including theory of operation, design, and construction for the purpose of understanding the functions, servicing, and trouble-shooting procedures of modern automatic transmissions and transaxles.

**AST 271 Automatic Transmissions and Transaxles Lab****[formerly AUTO 257 Automatic Transmission/Transaxles Lab]****3 cr. (3 lab/wk) Prerequisites: AST 106, TRID 180. (Sp)**

Covers automatic transmissions including demonstration and student participation in disassembly and re-assembly of selected transmissions for the purpose of understanding function, construction, operation, servicing, and trouble-shooting procedures of modern automatic transmissions and transaxles.

**AST 280 Applied Lab Experience and Light Repair**  
**[formerly AUTO 255 Applied Automotive Service Operations]****4 cr. (4 lab/wk) Prerequisites: TRID 150, TRID 152, TRID 170, TRID 180, AST 106, AST 114, AST 220, AST 162, AST 230. (Sp)**

Provides in-depth, practical analysis and repair of components related to engine, chassis, power trains systems, and standard power trains systems. This course simulates service department operations as found in industry.

**AST 285 ASE Exam Prep: Section One**  
**[formerly AUTO 202 ASE Exam Preparation]****1 cr. (2 lec/wk for 7 wks) Prerequisites: TRID 170, TRID 150, TRID 180, AST 106, AST 162, AST 175, or consent of instructor. (F, Sp)**

Prepares students for automotive technician ASE exams in the Automobile/Light Truck Test Series including eight certification areas: Engine Repair (A1), Automatic Transmission/Transaxle (A2), Manual Drive Train and Axles (A3), Suspension and Steering (A4), Brakes (A5), Electrical/Electronic Systems (A6), Heating and Air Conditioning (A7), and Engine Performance (A8). Emphasis of certification areas covered will be determined by the general make up of the student body per semester (i.e., if all students are registering for A5-Brakes, the course content will use examples from the brakes area). At the conclusion of this course, students will take four of the automotive technician ASE certification exams.

**AST 294 Seminar/Workshop**  
**[formerly AUTO 292 Seminar]****V1-3 cr.**

Provides students an opportunity to investigate intensively topics pertinent to the field of automotive technology.

**AST 294 Seminar/Workshop**  
**[formerly AUTO 293 Workshop]****V1-3 cr.**

Provides an opportunity for experimental study in an area of automotive technology.

**AST 298 Automotive Internship**  
**[formerly AUTO 296 Cooperative Education/Internship]****V1-9 cr. (45 hours/credit) (F, Sp, Su)**

Provides university credit for a sophomore work experience in the area of Automotive Technology, supervised by faculty. Learning agreement must be completed prior to registration (restricted).

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**Astronomy****\* ASTR 110 Introduction to Astronomy****[formerly PHYS 201 Introduction to Astronomy]****3 cr. (Sp)** Surveys the historical highlights and traditional topics in classical and modern astronomy, such as the solar system, sun, planets, galaxies, and the universe. Examines exotic objects such as quasars, pulsars, and black holes. Presents discussion of recent discoveries, modern cosmological theories, and current unsolved problems. Background in high school algebra is strongly advised.**\* ASTR 111 Introduction to Astronomy Lab****[formerly PHYS 203 Introduction to Astronomy Lab]****1 cr. Corequisite: ASTR 110. (Sp)** Introduces students to the night sky. Illustrates the difference between real and apparent motions in the heavens. Develops useful observational techniques and an appreciation by the student of the broad range of phenomena in the Universe.

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**General Business****▽ BGEN 105 Introduction to Business****[formerly CTBU 171 Introduction to Business]****3 cr. (3 lec/wk) (F, Sp)**

Provides an overall picture of business operations. Specialized fields within business organizations are presented and analyzed. The role of business in today's society is examined and career opportunities in business are explored.

**BGEN 235 Business Law**  
[formerly CTBU 165 Business Law]  
**3 cr. (3 lec/wk) (Sp)**

A broad-based survey approach to the study of business law. Traditional areas of business law are covered. Includes an introduction to law; the creation of contracts; sales, agency, and consumer protection; commercial paper; and emerging topic in law. Presents a basic overview of the concepts and terminology essential to understanding the field of business law.

**BGEN 294 Seminar**

**V1-3 cr.** Provides students an opportunity to investigate topics pertinent to the field of Business.

**BGEN 299 Capstone: Brewing & Fermentation**  
**2 cr. (90 hours) (P/NP)**

Provides students an individual opportunity to engage in education and training not covered by regular coursework. Student will be working directly for a brewery, distillery, or winery. Students, through advising with course instructor, must select either the 90 hour professional internship or professional project option (business, scientific, brew house/mechanical, etc.) in consultation with the site supervisor for their capstone experience.

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## General Biology

**\* BIOB 101 Discover Biology**

[formerly BIOL 101 Survey of Biology]

**3 cr. (F, Sp, Su)** Includes discussion of the most important concepts in biology. Lectures cover cells (structure and physiology), genetics (cellular reproduction, genes, the nature of heredity and evolution), and the diversity of life (plants, animals, microorganisms and their ecological relationships). General Education course for non-science majors.

**\* BIOB 102 Discover Biology Laboratory**

[formerly BIOL 115 Survey of Biology Lab]

**1 cr. Corequisite: BIOB 101. (F, Sp, Su)** Includes laboratory exercises from different areas of Biology. Introduces students to experiments designed to examine major conceptual ideas in Biology such as cells, cell reproduction, metabolism, molecular genetics, evolution, and diversity. Students currently enrolled in an online section of BIOB 101 will be given preferential access to an online section of BIOB 102.

**\* BIOB 160 Principles of Living Systems**

[formerly BIOL 178 Principles of Biology]

**3 cr. Corequisite: BIOB 161. (F, Sp)** Emphasizes principles of biology related to the unity of life. Covers cell structure and function, cellular metabolism and mechanisms of energy trapping, cellular reproduction,

genetics, evolution, and a brief introduction to ecology, classification and biological diversity.

**\* BIOB 161 Principles of Living Systems**

**Laboratory**

[formerly BIOL 188 Principles of Biology Lab]

**1 cr. Corequisite: BIOB 160. (F, Sp)** Includes laboratory exercises related to topics discussed in BIOB 160.

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## Human Biology

**BIOH 101 Foundations of Human Biology**

[formerly HLTH 101 Essentials of Anatomy and Physiology]

**3 cr. (3 lec/wk) (F, Sp, Su)**

Provides students with a basic understanding of human anatomy and physiology. Concepts of the body plan and homeostasis will be introduced. Students will also learn the basic structure, function, and interaction of the integumentary, skeletal, muscular, nervous, endocrine, blood, cardiovascular, lymphatic, respiratory, digestive, urinary, and reproductive systems.

**BIOH 105 Basic Human Biology Lab**

**1 cr. (2 lab/wk) Corequisite: BIOH 104 or BIOH 101. (F, Sp) Offered ONLY Online.**

Introduces the student to the structure and function of the human body in a lab course.

**BIOH 201 Human Anatomy and Physiology I**

[formerly BIOL 213 Human Anatomy and Physiology I]

**3 cr. (3 lec/wk) Corequisite: BIOH 202.**

Introduces functional human anatomy and physiology at the molecular, cellular, tissue, and organ levels. This course is appropriate for those individuals entering allied health fields. Topics include chemistry, cell biology, histology, and a detailed overview of the anatomy and physiology of the integumentary, skeletal, muscular, and nervous systems. Entry is restricted to City College at MSU Billings students only.

**BIOH 202 Human Anatomy and Physiology I**

**Laboratory**

[formerly BIOL 214 Human Anatomy and Physiology I Laboratory]

**1 cr. (2 lab/wk) Corequisite: BIOH 201.**

Supplements concepts of human anatomy and physiology introduced in BIOH 201 with hands-on laboratory experience. Entry is restricted to City College at MSU Billings students only.

**BIOH 211 Human Anatomy and Physiology II**  
**[formerly BIOL 216 Human Anatomy and Physiology II]****3 cr. (3 lec/wk) Prerequisites:** BIOH 201, BIOH 202. **Corequisite:** BIOH 212.

Continues the examination of functional human anatomy and physiology at the molecular, cellular, tissue, and organ levels introduced in BIOH 201. Topics include the sensory, endocrine, blood, cardiovascular, respiratory, lymphatic, digestive, urinary, and reproductive systems. Entry is restricted to City College at MSU Billings students only.

**BIOH 212 Human Anatomy and Physiology II Laboratory**  
**[formerly BIOL 217 Human Anatomy and Physiology II Laboratory]****1 cr. (2 lab/wk) Prerequisites:** BIOH 201, BIOH 202. **Corequisite:** BIOH 211.

Supplements concepts of human anatomy and physiology introduced in BIOH 211 with hands-on laboratory experience. Entry is restricted to City College at MSU Billings students only.

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**Microbiology****BIOM 208 Applied Brewing Microbiology****3 cr. (2 lec/3 lab/wk) (F)**

Introduces the fundamental aspects of yeast fermentation and microbiology relevant to brewing. Some basic microbiological principles will be presented, followed by explanations of the various brewing/quality-impacting processes brought about by biological activity, as well as means of monitoring the brewing process. This course includes laboratory exercises.

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**Business Management****BMGT 102 Business Basics for Brewing and Distillery****3 cr. (3 lec/wk) (Sp)**

Provides an overall picture of business operations in micro-brewing and distillery. Specialized business concepts within brewery business are presented and analyzed. This course will cover functional concepts and fundamentals required to start and operate a craft brewery. Areas of focus include regulations, operations, finance, and marketing.

**▽ BMGT 180 Employment Law and Practices**  
**[formerly HR 180 Employment Law and Practices]****3 cr. (3 lec/wk) (F, Sp)**

Introduces students to laws and practices affecting the employer-employee relationship. Students gain a general knowledge of employment law, diversity

management, equal employment opportunity, record-keeping requirements, and affirmative action.

**▽ BMGT 235 Management**  
**[formerly CTBU 280 Principles of Applied Management]****3 cr. (3 lec/wk)**

Introduces students to the study of management and organizational principles of business firms. Emphasis is on effectively working through others to achieve objectives. This is done by exploring planning, decision making, organizing, leading, staffing, controlling, EEOC requirements, appraising performance, and handling disciplinary problems.

**▽ BMGT 250 Employment and Compensation Strategies**  
**[formerly HR 250 Employment and Compensation Strategies]****3 cr. (3 lec/wk) (F)**

Introduces students to the recruiting and selection process, including interviewing techniques and the legal implications in the recruiting and hiring process. Explores different labor market approaches and organizational recruiting activities. Examines compensation practices and differentiates organizational culture, philosophies, strategies, and objectives that impact compensation.

**▽ BMGT 281 Risk Management, Safety and Security**  
**[formerly HR 281 Risk Management, Safety, and Security]****3 cr. (3 lec/wk) (F, Sp)**

Introduces students to legal and record-keeping requirements affecting health and safety. Students explore safety management activities and policies, workplace health issues, health promotion, workplace violence, and security management.

**▽ BMGT 282 Organizational Training and Development**  
**[formerly HR 282 Organizational Training and Development]****3 cr. (3 lec/wk)**

Introduces students to the training and change management process associated with organizational development and planning. The student will explore training needs and objectives, delivery approaches, levels of training evaluation, adult learning techniques, and coaching strategies.

**BMGT 298 Internship**  
**[formerly HR 296 Cooperative Education/Internship]****V1-9 cr. (45 hours/credit)**

Provides students with an opportunity for experimental study in the varied areas of human resource management. Students complete a specific assignment in a pre-arranged employer setting. Examples of assignments may include developing an Exit Interview, New Employee Orientation Program, or Training Program, auditing records, assisting with personnel files, or writing job descriptions.

**Business Management Information Systems****\* BMIS 150 Computer Literacy****[formerly MIS 150 Information Access and Organization]**

**3 cr. (F, Sp)** Explores access to information, organization of information, retrieval, and decision-making models for analysis and presentation of information in a wide variety of environments and formats.

**Business Marketing****▽ BMKT 225 Marketing****[formerly CTBU 270 Introduction to Sales & Marketing]****3 cr. (3 lec/wk)**

Provides students with the fundamental principles and concepts of sales practices and procedures as well as an introduction into marketing terminology and strategies. Topics covered include: personal selling, product development, the marketing concept, consumer behavior, marketing research, pricing, channels of distribution, and promotion.

**Computer Applications****CAPP 110 Short Courses: MS Outlook****[formerly CMP 121 Introduction to Microsoft Outlook]****1 cr. (1 lec/wk) Prerequisite: CAPP 120.**

Instructs students in the full functional usage of Microsoft Outlook as a tool. Students will learn the special features for the application such as: Scheduling, Managing Contacts and Emails, and Integrating Outlook with other applications.

**▽ CAPP 120 Introduction to Computers****[formerly CMP 105 Introduction to Computers and Applications]****3 cr. (3 lec/wk)**

Instructs students in fundamental computing skills. Concepts include the creation and manipulation of files,

use of a common Operating System, a basic understanding of computer hardware, and a functional knowledge of common business applications such as: word processing, spreadsheets, Internet and email, and presentation software. The course is performed in a lab setting with access to computers and necessary software.

**CAPP 131 Basic MS Office****[formerly MIS 225 Introduction to Productivity Application Software]****3 cr. (3 lec/wk) (F, Sp)**

Provides introductory concepts of computers, Windows operating system, Internet, spreadsheets, and word processing.

**CAPP 153 MS PowerPoint****[formerly CMP 122 Introduction to Microsoft PowerPoint]****2 cr. (1 lec/2 lab/wk) Prerequisite: CAPP 120.**

Instructs students in the features of PowerPoint and its usage as a tool for presentations. Students will learn the full host of features available in PowerPoint to create, modify, and enhance presentations and slide-shows. Further, students will be instructed in design techniques and how to give presentations.

**▽ CAPP 154 MS Word****[formerly CMP 118 Word]****3 cr. (3 lec/wk) Prerequisite: CTBU 112 and CAPP 120.**

Provides hands-on experience in word processing on the microcomputer using Word for Windows software. The process of creating and formatting business documents includes editing, search and replace, pagination, document assembly, merging, macros, printing, headers and footers, columns and file management.

**▽ CAPP 156 MS Excel****[formerly CMP 119 Excel]****3 cr. (3 lec/wk) Prerequisite: CAPP 120.**

Introduces students to business applications using spreadsheets. Emphasis is placed on the essential functions of spreadsheet operation, as well as introduction to some advanced functions such as lookup functions and database management. Content emphasizes mastery of spreadsheet concepts and applications and development of analytical thinking skills.

**▽ CAPP 158 MS Access****[formerly CMP 262 Microsoft Access]****3 cr. (3 lec/wk) Prerequisite: CAPP 120.**

Examines the process of database design using a relational model. Use of applications software focuses

on data query, report generation, multiple file relationships and interface techniques.

**CAPP 172 Advanced Software Applications**  
[formerly DSGN 204 Advanced Software Applications]

**3 cr. (2 lec/2 lab/wk) Prerequisite:** CAPP 120. (F, Sp)

Expands the student's base of technical expertise with discussions and lab exercises utilizing current software applications. Licensing policies, LAN and Internet communication commands and issues, and a broad variety of current software are used to further reinforce and broaden the background of the computer user.

**CAPP 291 Special Topics**  
[formerly CMP 292 Seminar]

**V1-3 cr. Prerequisite:** CAPP 120.

Investigates intensively topics pertaining to an area of data processing.

## Chemistry

**\* CHMY 121 Introduction to General Chemistry**  
[formerly CHEM 104 Fundamentals of General Chemistry]

**3 cr. Prerequisite:** M 095 or equivalent. (F, Sp, Su)

Covers the fundamental definitions of chemistry, structure, chemical equations, solutions, equilibrium, oxidation-reduction, and acid/base chemistry. This is primarily a course for pre-nursing and allied health students.

**\* CHMY 122 Introduction to General Chemistry Laboratory**

[formerly CHEM 105 Fundamentals of General Chemistry Lab]

**1 cr. Corequisite:** CHMY 121. (F, Sp, Su) Provides laboratory experiences that complement and extend the lecture materials.

**\* CHMY 141 College Chemistry I**  
[formerly CHEM 115 General Chemistry I]

**3 cr. Prerequisite:** M 095 or satisfactory math placement score. **Corequisite:** CHMY 142. (F, Su)

Introduces the student to the fundamental concepts of chemistry, including: elements and compounds, the periodic table, atomic structure, chemical equations, stoichiometry, solution concentrations, gas laws, heat and energy, quantum theory, and chemical bonding. Primarily intended for science majors/minors, pre-engineering, and allied health students.

**\* CHMY 142 College Chemistry Laboratory I**  
[formerly CHEM 118 General Chemistry I Lab]

**1 cr. Corequisite:** CHMY 141. (F, Su) Lab to accompany CHMY 141. Introduces the tools and

techniques of experimental chemistry such as weighing, solution preparation, titration and standardization.

**CHMY 170 Applied Brewing Chemistry**  
**3 cr. (2 lec/3 lab/wk) (F)**

Introduces the fundamental aspects of malting and fermentation chemistry. Some basic chemical principles will be presented, followed by explanations of the underlying chemistry of steps in the brewing process and quality control monitoring. This course includes laboratory exercises.

## Computer Applications (CMP)

**CMP 111 Lotus 1-2-3**

**3 cr. Prerequisite:** CAPP 120.

Introduces students to business applications using spreadsheets. Emphasis is placed on the essential functions of spreadsheet operation, as well as introduction to some advanced spreadsheet functions such as macros and database management. Emphasizes mastery of spreadsheet concepts and applications and development of analytical thinking skills.

**CMP 114 Integrated Software Applications**

**3 cr. Prerequisite:** CAPP 120.

Examines the use of an integrated computer software package containing word processor, spreadsheet and database modules for the business environment. Time is spent learning not only the individual programs, but how they can work together to simplify office tasks.

**CMP 115 Introduction to Desktop Publishing**

**3 cr. (3 lec/wk) Prerequisite:** CAPP 120.

Presents the current processes to incorporate text, photographs, and graphics to create eye-catching brochures, ads, catalogs, magazines, newsletters, books, reports, and other printed materials. Students in this hands-on course become proficient with the features of desktop publishing software by learning about page layout, typography, image manipulation, and color management while designing and creating professional quality publications.

**CMP 116 WordPerfect**

**3 cr. Prerequisites:** CTBU 112 and CAPP 120.

Introduces students to word processing using WordPerfect software. Basic and advanced functions used in the office and home are learned including the essentials of editing and formatting a document to desktop publishing.

**CMP 123 Introduction to Microsoft Publisher**

**1 cr. (2 lab/wk) Prerequisite:** CAPP 120.

Instructs students in Desktop Publishing using Microsoft Publisher. Students will learn to integrate

text and graphics in documents to create newsletters, brochures, letterhead, and even web pages.

**CMP 204 Advanced Applied Software and Utilities**  
**3 cr. (3 lec/wk) Prerequisite: CAPP 120.**

Provides the student with exposure to current applications of commonly used software. Licensing policies, communication devices and a variety of software are used to further reinforce and broaden the background of the computer user.

**CMP 205 Computer Skills Aide**

**2 cr. (4 lab/wk) Prerequisite: Approval from the appropriate instructor and department chairperson.**

Allows students the opportunity to enhance their own skills while assisting other students in the development of technical and academic skills as a computer classroom instructional aide. The student must have completed the same course with a grade of "B" or better. Students are allowed to aide in one computer course per semester and only once per course.

**CMP 236 Advanced Web Programming**

**3 cr. (2 lec/2 lab/wk) Prerequisite: CSCI 211.**

Provides students with advanced programming skills to create and maintain dynamic web sites using technologies such as Java Server Pages and languages such as PHP and JavaScript. Students will gain skills in developing interactive web sites that perform both client-side and server-side processing while interacting with databases.

**CMP 293 Workshop**

**V1-3 cr.**

Provides an opportunity for experimental study in an area of data processing.

## Communication

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**▽ COMX 106 Communicating in a Dynamic Workplace**

**[formerly COMT 109 Human Relations]**

**3 cr. (3 lec/wk) (F, Sp, Su)**

Offers a theoretical and practical understanding of communication processes in the working environment, self-awareness in that environment, and the individual's participation in these relationships. The course aims to develop the student's perception and expression skill to communicate successfully in a variety of work contexts.

**▽ COMX 111 Introduction to Public Speaking**

**[formerly COMT 130 Introduction to Public Speaking]**

**3 cr. (F, Sp, Su)** Develops the student's speaking abilities. Students acquire an understanding of basic rhetorical theory and its application in a variety of speech situations. Listening, speaking and critiquing

abilities are emphasized. This course addresses the following topics: speech preparation and delivery, forming and fielding questions, audience analysis, listening skills, critiquing and speaker anxiety.

**\* COMX 115 Introduction to Interpersonal Communication**

**[formerly COMT 110 Interpersonal Communication]**

**3 cr. (F, Sp)** Empowers students to understand and apply effective interpersonal skills to improve their communication and bolster relationships. This course examines several vital areas of communication and relationships, including self-concept, perception, listening, language, nonverbal communication, conflict management, and culture.

**\* COMX 212 Introduction to Intercultural Communication**

**[formerly COMT 160 Introduction to Intercultural Communication]**

**3 cr. (F, Sp)** Examines communicative encounters among people of different cultural, ethnic, and minority groups. Local, national, and global in scope, the course also analyzes identity, verbal and nonverbal communication, popular culture, intercultural relationships, and multicultural communication in applied settings. Practical guidelines for enhancing intercultural interactions will be offered while noting the layers of complexity in communicating across cultural boundaries.

**CTCM 293 Workshop**

**V1-3 cr.**

Provides an opportunity for experimental study in an area of communication.

## Creative Writing

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**\* CRWR 240 Introductory Creative Writing Workshop**

**[formerly ENGL 204 Fundamentals of Creative Writing]**

**3 cr. Prerequisite: WRIT 101. (F, Sp)** Introduces the principles and techniques of various kinds of creative writing, ranging from personal expression in simple narrative and description to basic elements of fiction and poetry.

## Computer Science/Programming

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**CSCI 109 Introduction to Programming Lab**

**[formerly CST 244 Introduction to Programming Lab Companion Course]**

**2 cr. (4 lab/wk) Corequisite: CSCI 100.**

Applies and practices the concepts learned in CSCI 100 through the use of exercises and case problems.



**CSCI 111B Programming with Java I**  
[formerly CST 220 Applied Introduction to Java]  
**4 cr. (3 lec/2 lab/wk) Prerequisite:** CAPP 120.

Demonstrates the power of Object-Oriented programming through the use of the Java Programming language. Students will learn specifics about the Java programming language and how to use that programming language to create objects, Graphical User Interfaces, Applets, and other basic Java applications.

**CSCI 113 Programming with C++ I**  
**3 cr. (2 lec/2 lab/wk) (Sp)**

Provides students with understanding of the logical structures, control structures, functions, arrays, points, and pointers in the C++ language. Students will also apply the principles of object-based programming in the development of C++ programs. In addition, students will learn how to interface external data logging devices to acquire, store, and manipulate data in C++ programs.

**CSCI 114 Programming with C#**  
**3 cr. (2 lec/2 lab/wk) Prerequisite:** Instructor approval. (Sp)

Provides students with the knowledge and skills required to program in the high-level, strongly-typed "C" language family. The course provides the skills required to compile program code, work with .NET framework class library, and create user-defined types. The course also teaches students how to troubleshoot coding errors, logic errors, and run-time errors. Students will also develop skills to work with built-in numeric types as well as more complex types that represent a wide variety of logical constructs, such as the file system, network connections, collections and arrays of objects, and dates.

**CSCI 116 Introduction to Python Programming**  
**3 cr. (2 lec/2 lab/wk) (F)**

Provides instruction for students in a scripting language that is being used to work with major application such as network applications, robotics, machine interfaces, geographic information systems, and document imaging.

**CSCI 121 Programming with Java II**  
[formerly CST 221 Applied Intermediate Java]  
**4 cr. (3 lec/2 lab/wk) Prerequisite:** CSCI 111B or consent of instructor.

Consolidates students' knowledge concerning Java and then proceeds into more advanced areas. The course begins with a rapid review of concepts covered in CSCI 111B, then dives into more advanced subjects such as Swing, Java Database Connectivity (JDBC), Java

Server Pages (JSP), Sevlets, Advanced Collections, Networking, and Java Utilities.

**CSCI 124 Advanced C#/.NET**  
**3 cr. (2 lec/2 lab/wk) Prerequisite:** CSCI 114 or consent of instructor. (Sp)

Provides students with an understanding of basic data structures such as arrays and array lists and their usefulness in manipulating data. This course will provide students with learning experiences in connecting to database applications and external measurement devices and manipulating, analyzing, and displaying the data acquired by those means to develop C#/.NET dynamic applications.

**CSCI 181 Web Design & Programming**  
[formerly CMP 135 Introduction to Web Design]  
**3 cr. (3 lec/wk)**

Provides students with the necessary skills to design, create, and maintain a complete website on a server. The class will cover many of the elements of web design, including HTML5, CSS, scripting, visual information design, and usability/information architecture techniques. This course also covers basic tools for developing websites such as Notepad++ and Dreamweaver.

**CSCI 211 Client Side Programming**  
[formerly CMP 235 Advanced Web Design and Development]

**3 cr. (3 lec/wk) Prerequisite:** CSCI 181 or consent of instructor.

Provides students with scripting skills required to create and maintain interactive and dynamic web content, data validation, and management of CSS scripts using the Javascript language along with AJAX, jQuery, and other javascript extensions.

**CSCI 214 Server-Side Web Programming & Administration**

**3 cr. (2 lec/2 lab/wk) Prerequisite:** CSCI 181 or consent of instructor. (Sp)

Provides students with a working knowledge of the PHP Web Server language, including logic structures, control structures, include statements, database connectivity, registration forms, password encryption, and web server administration.

**CSCI 223 Software Development**  
[formerly CST 231 Software Development and Documentation]

**3 cr. (3 lec/wk) Prerequisite:** CST 230.

Examines standard methodologies for developing software and documenting that software. This course will instruct students how to model and diagram applications using Unified Modeling Language, how to

decompose problems into base pieces, and how to manage projects. Further, the course will also focus on maintaining solid documentation of any program developed.

### **CSCI 240 Databases and SQL**

**[formerly CST 233 Deploying Databases with Microsoft SQL Server]**

**3 cr. (2 lec/2 lab/wk) Prerequisite:** CAPP 158 or CSCI 114 or CSCI 116 or NTS 104 or consent of instructor.

Initiates the student into the art of deploying database applications. The class will focus on designing and creating databases, Structured Query Language, integration with Visual Basic .NET applications, deployment of such databases, and various maintenance and setup issues. Coursework relies heavily on hands-on projects and working within the SQL Server and Visual Basic .NET environments.

### **CSCI 241 PL/SQL**

**3 cr. (2 lec/2 lab/wk) Prerequisites:** CAPP 158 or CSCI 240 or consent of instructor. (Sp)

Provides students with experience in developing Oracle database applications, including an understanding of the general structure of PL/SQL statements, designing forms and reports, and understanding Oracle decision making and looping constructs.

### **CSCI 299 Thesis/Capstone**

**[formerly CST 211 Programming Capstone Project]**

**3 cr. (1 lec/4 lab/wk) Prerequisite:** CSCI 120.

Strives to grant students real-world experience by requiring that they create a fully functioning application that meets specified criteria. This course will cover most every aspect of programming from requirements gathering to design to actual coding and testing of the application.

## **Computer Systems Technology**

**CST 111 Applied Intermediate Programming Concepts Using Visual Basic .NET**

**5 cr. (2 lec/6 lab/wk) Prerequisite:** CSCI 110.

Instructs students in more advanced programming techniques using the Visual Basic .NET programming language. This course will strengthen the students' skill in Visual Basic .NET programming and will further enhance that skill through the creation of web-based applications.

### **CST 169 Administering Web Servers**

**3 cr. (2 lec/2 lab/wk)**

Examines and instructs students in the tasks and concerns for deploying, administering, and maintaining web servers. Students will work with Apache and

Internet Information Server web servers applying techniques learned in class and gaining familiarity with both. Topics will include setting up servers, securing servers, optimizing services, and managing access and logs.

### **CST 217 Microsoft Certified Applications Developer Exam Preparation**

**2 cr. (2 lec/wk) Prerequisite:** CSCI 120.

Prepares the student to take the three exams required to gain Microsoft's Certified Applications Developer certification. The class will review the topics for the test and take many practice tests.

### **CST 227 Sun Certified Java Programmer Exam Preparation**

**1 cr. (1 lec/wk) Prerequisite:** CSCI 121.

Prepares the student to take Sun's Java Programmer examination. The class will review the topics for the test and take many practice tests.

### **CST 230 Systems Analysis and Design**

**3 cr. (3 lec/wk) Prerequisite:** ITS 160.

Provides a thorough introduction to the features and methodologies of structures systems analysis and design. A variety of techniques and disciplines are explored in the course.

### **CST 252 Microcomputer Hardware Maintenance – Lab**

**3 cr. (6 lab/wk) Prerequisite:** CAPP 120 or Instructor Approval. **Corequisite:** ITS 280.

Provides students with a supporting lab course designed to provide students with the skills necessary to install and troubleshoot hardware devices. Topics include system setup, RAM, hard and floppy drives, data buses, power supplies, IO cards, and diagnostic tools.

### **CST 263 Planning, Implementing, and Maintaining a Microsoft Windows Server 2003 Active Directory Infrastructure**

**3 cr. (2 lec/2 lab/wk) Prerequisite:** ITS 162.

Provides students with the knowledge and skills necessary to install, configure, and administer Microsoft Windows Active Directory directory services. The course also focuses on implementing Group Policy and understanding the Group Policy tasks required to centrally manage users and computers.

### **CST 268 Designing a Microsoft Windows Server 2003 Active Directory and Network Infrastructure**

**3 cr. (2 lec/2 lab/wk) Prerequisite:** ITS 210.

Provides students with the knowledge and skills necessary to design a Microsoft Windows networking services solution for enterprise networks.

**CST 280 Integration of Microsoft Windows 2000, Novell NetWare and Unix****3 cr. (2 lec/2 lab/wk)**

Provides students with the knowledge and skills required to integrate the Microsoft Windows 2000 Server network operating system with a Novell NetWare network; migrate users, files, directories, and permissions from a NetWare environment to a Windows NT Server-based domain, and implement a single network login for NetWare users in a multiple-server network. This course also provides students with the knowledge and skills required to integrate the Microsoft Windows 2000 Server network operating system with a UNIX network, as it applies to working in mixed (UNIX and Windows 2000) environment. This will be accomplished by comparing the two operating systems, services, tasks, and concepts.

**CST 281 Computerized Inventory and Asset Tracking****3 cr. (2 lec/2 lab/wk) Prerequisites: CAPP 158.**

Introduces the student to applications in Auto ID technology, including bar coding and magnetic striping, for use in inventory control and asset tracking in all organizations.

**CST 296 Cooperative Education/Internship V1-9 cr. (45 hours/credit)**

Provides university credit for a sophomore work experience in the area of Computer Systems Technology, supervised by faculty. Learning agreement must be completed prior to registration (restricted).

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**Construction/Carpentry****CSTN 100 Fundamentals of Construction Technology****[formerly TRID 110 Fundamentals of Construction Technology]****3 cr. (1 lec/4 lab/wk)**

Introduces basic concepts in using construction-related safety equipment. Presents proper safety procedures in the operation of hand and power tools. Reviews and applies construction-related math.

**CSTN 101 Introduction to Concrete [formerly TRID 120 Introduction to Concrete]****2 cr. (1 lec/2 lab/wk) Prerequisite: CSTN 100 or instructor's approval.**

Provides students with basic skills and knowledge in the area of concrete and reinforcing materials. The course will also provide a limited opportunity for students to be involved in hands-on experience in the forming, reinforcing, handling, and placing of concrete.

**CSTN 108 Introduction to Flooring Installation [formerly TRID 125 Introduction to Flooring Installation]****4 cr. (2 lec/4 lab/wk)**

Introduces basic concepts, practices, and procedures related to the floor covering installation trade. It covers proper safety procedures in the operation of hand and power tools that are related to the trade. This course also reviews and applies math related to floor covering installation.

**CSTN 120 Carpentry Basics and Rough-in Framing [formerly CARP 120 Carpentry Basics and Rough-in Framing]****5 cr. (2 lec/6 lab/wk) Corequisites: CSTN 160, CSTN 100, CSTN 147.**

Introduces the carpentry trade, including history, career opportunities, and requirements. This course covers a variety of building materials, fasteners, and adhesives. It also covers installation procedures for windows and exterior doors. Skills required for framing a simple structure are studied and practiced.

**CSTN 145 Exterior Finishing, Stair Construction, and Metal Stud Framing****[formerly CARP 130 Exterior Finishing, Stair Construction, and Metal Stud Framing]****5 cr. (2 lec/6 lab/wk) Prerequisites: CSTN 120, CSTN 160, CSTN 147. Corequisite: CSTN 161.**

Introduces students to materials and methods for sheathing, exterior siding, stairs, and roofing. Students will lay out and build a simple stair system as well as a metal stud wall with door and window openings.

**CSTN 147 Blueprint Reading****[formerly TRID 112 Blueprint Reading for Construction]****3 cr. (3 lec/wk)**

Concentrates on concepts associated with blueprint reading, sketching, and interpreting light commercial and residential drawings. It includes instruction in the recognition of construction materials, procedures, specifications, and methods of estimating construction costs from blueprints. This course also covers trade-specific symbols found on construction drawings.

**CSTN 148 Blueprint Codes and Estimating [formerly DSGN 107 Quantity Estimating]****2 cr. (2 lec/lab/wk) Prerequisites: DDSN 110 or DDSN 111, and M 065 and M 114. (F)**

Studies estimates, specifications and plans of residential and light commercial structures. Estimates of excavation and backfill, structural, finish and other construction materials are prepared.

**CSTN 160 Construction Concepts and Building Laboratory****[formerly CARP 150 Carpentry Basics Laboratory]****4 cr. (8 lab/wk) Corequisite: CSTN 120.**

Provides hands-on experience in which the student applies, with direct supervision, the basic skills and knowledge presented thus far in the NCCER Carpentry Program. The course is designed as a practical task-oriented application utilizing the skills covered in prerequisites as well as in parts of CSTN 145.

**CSTN 161 Construction Concepts and Building Laboratory II****[formerly CARP 152 Intermediate Carpentry Laboratory]****4 cr. (8 lab/wk) Prerequisites: CSTN 120, CSTN 160, CSTN 100, CSTN 147. Corequisite: CSTN 145.**

Provides hands-on experience in which the student applies, with direct supervision, the basic skills and knowledge presented thus far in the NCCER Carpentry Program. The course is designed as a practical task-oriented application utilizing the basic skills learned in CSTN 120 and CSTN 145. The course will emphasize basic application in the areas of exterior finishing and interior finishing.

**CSTN 171 Site Prep, Foundations, and Concrete Installation****[formerly CARP 140 Introduction to Site Layout]****3 cr. (1 lec/4 lab/wk) Prerequisite: CSTN 100 or instructor's approval.**

Introduces the process of distance measurement as well as differential and trigonometric leveling for site layout. It covers the principles, equipment, and methods used to perform the site layout tasks that require making angular measurements. This course is designed to let students apply the blueprint reading skills learned so far to a practical exercise.

**CSTN 220 Interior Finishing****[formerly CARP 220 Interior Finishing]****5 cr. (2 lec/6 lab/wk) Prerequisites: CSTN 230 and CSTN 295. Corequisite: CSTN 299.**

Covers materials and installation techniques for interior trim, countertop, base cabinet, and wall cabinet. It also covers suspended ceiling materials, layout, and installation as well as wood and metal door installation.

**CSTN 230 Advanced Roof, Floor, Wall, and Stair Systems****[formerly CARP 230 Advanced Roof, Floor, Wall, and Stair Systems]****5 cr. (2 lec/6 lab/wk) Prerequisites: CSTN 120,****CSTN 145, CSTN 160, CSTN 161, or instructor's approval. Corequisite: CSTN 295.**

Covers the installation methods and materials for various roofing systems. It covers a variety of flooring applications as well as interior wall construction for residential and commercial structures. It also covers advanced staircase construction.

**CSTN 270 Foundations of Construction Project Management****3 cr. (3 lec/wk) Corequisite: CSTN 272. (Sp)**

Introduces topics including licensing, code jurisdictions, building inspection, record keeping, timelines, project development, ordering materials, supervision of construction, OSHA, employee rights, safety requirements, subcontractors, construction loans, fundamentals of cost and profit estimating, advertising, marketing, insurance, contracts, and construction finance. Also includes the topics of general contractor requirements and registration procedures for the State of Montana Department of Labor, and business name selection and registration with the Montana Secretary of State. Students will learn and be able to interpret zoning maps and identify trends through current and future growth projections, covenants, and restrictions. Course will culminate with students presenting a personal business and project plan from inception to end of project.

**CSTN 272 Construction Estimating Using Databases****1 cr. (1 lec/wk) Corequisite: CSTN 270. (Sp)**

Provides the student with an appropriate professional set of tools for executing takeoffs and cost projections/estimates. The course is aligned with CSTN 270 to model a complete business plan including bidding, time management, projected costs, overhead, profit, taxes, and required fees. This course furthers the transformation of the student as a competent and professional business person.

**CSTN 295 Construction Concepts and Building Laboratory III****[formerly CARP 250/CSTN 260 Advanced Carpentry Laboratory]****6 cr. (12 lab/wk) Prerequisites: CSTN 145, CSTN 161, or instructor's approval. Corequisite: CSTN 230.**

Provides hands-on experience in which the student applies with supervision the skills and knowledge presented thus far in the NCCER Carpentry Program. The course is designed as a practical task-oriented application emphasizing the advanced applications in floor, wall, roof, and stair systems learned in CSTN 230.

**CSTN 299 Capstone: Carpentry**  
**[formerly CARP 252 Capstone Carpentry Laboratory]****6 cr. (12 lab/wk) Prerequisites: CSTN 230 and CSTN 295. Corequisite: CSTN 220.**

Provides hands-on experience in which the student applies with supervision the skills and knowledge presented thus far in the NCCER Carpentry program. The course is designed as a practical task-oriented application emphasizing the applications of interior finishing learning in CSTN 220.

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**Business****CTBU 111 Basic Keyboarding****2 cr. (1 lec/2 lab/wk)**

Provides intense practice in basic keyboarding skills. Students with no previous training on the keyboard or who have difficulty with keyboarding tasks should complete this course before attempting TASK 115 Keyboard Applications/Ten Key.

**CTBU 166 Principles of Applied Supervision****3cr. (3 lec/wk) Prerequisite: CAPP 120 or consent of instructor.**

Introduces students to supervision functions, principles, and contemporary issues in the modern workplace. Emphasis will be placed on practical applications and insights regarding supervisory applications, individual and group performance, workplace dynamics and change, and team-oriented environments. Students will explore key skills needed for effective supervision, supervisory challenges of the 21<sup>st</sup> century, and how supervisors operate in real situations.

**CTBU 167 Organizational Leadership Applications**  
**3 cr. (3 lec/wk) Prerequisite: CAPP 120 or consent of instructor.**

Introduces students to leadership principles and the application thereof. The course will focus on various dimensions of leadership, including leadership styles; leadership components; and the development of an understandable, usable definition of leadership. Students will discover how these principles will apply to work and life by engaging the theories of leadership and organizational culture in life-like simulations.

**CTBU 175 Current Issues in Business****3 cr. (3 lec/wk) Prerequisite: CAPP 120.**

Focuses on contemporary issues in business from emerging concerns to more controversial problems. Various instructional formats, including guest speakers, print media, the Internet, and discussion groups will be used to gather information and research business issues.

**CTBU 267 Applied Organizational Planning****3 cr. (3 lec/wk) Prerequisite: CAPP 120 or consent of instructor.**

Introduces students to three different types of organizational planning: 1) workforce planning and scheduling to meet current business needs, 2) project planning and management, and 3) strategic planning. Emphasis will be placed on practical applications regarding the contemporary issues regarding workforce planning, the project management process, and the strategic management process. The student will explore key skills and tools needed for effective planning to meet current needs and future goals, various ways in which technology is used for planning, and current planning challenges facing supervisors.

**CTBU 268 Customer Service****2 cr. (2 lec/wk) Prerequisite: CAPP 120 or consent of instructor.**

Introduces students to customer service strategies, practices, and systems which are required in the 21<sup>st</sup> century business environment. Emphasis will be placed on practical applications regarding customer service strategies. The student will explore strategic customer service, internal and external customers, work processes and customer/supplier relationships within a work process, the impact of technologies, current trends, and best practices.

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**Drafting Design****DDSN 110 Technical Drawing Lecture****[formerly DRFT 109 Introduction to Technical Drawing]****4 cr. (4 lec/wk) (F, Sp)**

Presents basic mechanical drafting principles and techniques in a lecture format. Topics covered include geometric figures, multi-view working drawings, auxiliary views, sectional drawings, pattern drawings, and pictorial drawings. Correct application of CAD techniques and commands are also emphasized and integrated through the course to provide a solid foundation for future CAD classes. These CAD techniques include layer control, dimensioning techniques, file management, and the use of prototype drawings.

**DDSN 111 Technical Drawing Lab****[formerly DRFT 110 Technical Drawing Lab]****3 cr. (3 lab/wk) (F, Sp)**

Uses computers to apply the mechanical drafting principles and techniques from DDSN 110 to specific assignments. Utilizing a CAD station, students create geometric figures, multi-view working drawings, auxiliary drawings, sectional drawings, pattern drawings, and pictorial drawings. Students then reproduce assigned drawings on a variety of output

devices. Correct application of CAD techniques and commands are emphasized as additional subject matter is presented.

**DDSN 114 Introduction to CAD**  
**[formerly DRFT 108 Introduction to CAD]**  
**3 cr. (2 lec/2 lab/wk) (F, Sp)**

Introduces the student to CAD software. Commands relating to settings, drawing, editing, dimensioning, and viewing are used to create two-dimensional working drawings.

**DDSN 116 3D CAD**  
**[formerly DRFT 128 3D Applications]**  
**3 cr. (2 lec/2 lab/wk) (F, Sp)**

Introduces the student to the concepts of 3-dimensional drafting and design. The topics of viewing, coordinate systems, and object creation are applied to the construction of models and working drawings.

**DDSN 135 SolidWorks**  
**[formerly DSGN 214 SolidWorks]**  
**3 cr. (2 lec/2 lab/wk) Prerequisite: DDSN 114 or DDSN 110 and DDSN 111. (F, Sp)**

Utilizes the SolidWorks software to produce three-dimensional models of mechanical objects and assemblies. Topics include sketching a part feature, providing dimensions and constraints to tie the features together, converting a sketch into a solid object, and creating and editing full assemblies. Working drawings are created from the part design, including a variety of views and dimension styles.

**DDSN 145 Structural Drafting**  
**[formerly DRFT 138 Structural Drafting]**  
**3 cr. (2 lec/2 lab/wk) Prerequisites: DDSN 110 and CAPP 120. (Sp)**

Prepares the student to enter the discipline of structural drafting. The structural drafting areas of concrete, steel, joist and deck roof systems, structural wood, and emerging systems are explored through the creation of working drawings. Communication interaction between construction entities is also incorporated.

**DDSN 160 Architectural Lecture**  
**[formerly DRFT 102 Building Construction]**  
**2 cr. (2 lec/wk) Prerequisites: DDSN 110 or DDSN 111. (F)**

Studies methods and materials of construction for residential, light commercial and commercial buildings along with mechanical systems, electrical systems and specifications.

**DDSN 161 Architectural Lab**  
**[formerly DSGN 112 Architectural Lab]**  
**5 cr. (10 lab/wk) Prerequisites: DDSN 110 or DDSN 111. (F)**

Prepares architectural, electrical and mechanical working drawings for residential, light commercial and commercial buildings.

**DDSN 186 CAD 2**  
**[formerly DSGN 148 CAD Customization]**  
**3 cr. (2 lec/2 lab/wk) Prerequisite: DDSN 110 and CAPP 120. (Sp)**

Familiarizes the student with the rationale and sequence for customizing a major CAD software. The topics of discipline-oriented customization, symbol libraries, symbol library access, data creation and data exchange methods are explored and applied to the creation of a custom overlay.

**DDSN 240 Civil Lecture**  
**[formerly DRFT 104 Civil Technology]**  
**2 cr. (2 lec/wk) Prerequisites: DDSN 110 or DDSN 111. (Sp)**

Field notes from surveys are reduced using calculators, traverses balanced, elevations determined, contours interpolated and areas determined. U.S. Public Land surveys are studied. Legal descriptions are written. Earthwork quantities are calculated from roadway cross-sections. Transportation and utility plans are studied.

**DDSN 241 Civil Lab**  
**[formerly DSGN 114 Civil Lab]**  
**5 cr. (10 lab/wk) Prerequisites: DDSN 110 or DDSN 111. (Sp)**

Land surveys, contour maps, plats, drainage and grading plans, roadway plans, utility plans, profiles and cross-sections are drawn using a standard CAD station. GIS and GPS data is incorporated into drawings. Field surveys are performed.

**DDSN 244 GIS Mapping**  
**[formerly DSGN 116 GIS for Civil Applications]**  
**2 cr. (1 lec/2 lab/wk) Prerequisites: DDSN 110, DDSN 111, and M 114. (Sp)**

Occupationally-related problems are solved using geographic information systems (GIS) and cartographic principles integrated with computer aided design (CAD).

**DDSN 256 SDS/2 Structural Detailing**  
**[formerly DSGN 218 SDS/2 Structural Detailing]**  
**3 cr. (2 lec/2 lab/wk) Prerequisite: DDSN 145. (F, Sp)**

Prepares the student to use the SDS/2 structural detailing software in the professional environment.

Setup procedures, connection types, frame input, erection and detail sheet creation, and editing processes are covered.

**DDSN 294 Seminar**  
**[formerly DRFT 292 Seminar]**

**V1-3 cr.**

Provides students an opportunity to investigate intensively topics pertinent to the field of drafting technology.

**DDSN 294 Workshop**  
**[formerly DRFT 293 Workshop]**

**V1-3 cr.**

Provides an opportunity for experimental study in an area of drafting technology.

**DDSN 294 Seminar**  
**[formerly DSGN 292 Seminar]**

**V1-3 cr.**

Provides students an opportunity to investigate intensively topics pertinent to the field of drafting technology.

**DDSN 294 Workshop**  
**[formerly DSGN 293 Workshop]**

**V1-3 cr.**

Provides an opportunity for experimental study in an area of drafting technology.

**DDSN 294A Project Development Lecture**  
**[formerly DSGN 230 Project Development Lecture]**  
**3 cr. (3 lec/wk) Prerequisite: All 100-level Drafting and Design classes or permission of instructor.**

**Corequisites: DDSN 295A, DDSN 299. (F, Sp)**

Provides an advanced level of CAD application interaction relating to major drafting disciplines. An emphasis on 3D inclusion and multiple CAD software brand interaction is used to prepare drawings in the areas of mechanical, civil, and architectural commercial drafting. A team approach is used for the development of major projects.

**DDSN 295A Project Development Lab**  
**[formerly DSGN 229 Project Development Lab]**  
**3 cr. (6 lab/wk) Prerequisite: All 100-level Drafting and Design classes or permission of instructor.**

**Corequisites: DDSN 294A, DDSN 299. (F, Sp)**

Companion lab for DDSN 294A.

**DDSN 298 Cooperative Education/Internship**  
**[formerly DRFT 296 Cooperative Education/Internship]**

**V1-9 cr. (45 hours/credit)**

Provides university credit for a sophomore work experience in the area of Drafting Technology,

supervised by faculty. Learning agreement must be completed prior to registration (restricted).

**DDSN 298 Cooperative Education/Internship**  
**[formerly DSGN 296 Cooperative Education/Internship]**

**V1-9 cr. (45 hours/credit)**

Provides university credit for a sophomore work experience in the area of Drafting Technology, supervised by faculty. Learning agreement must be completed prior to registration (restricted).

**DDSN 299 Capstone: Project Development**  
**[formerly DSGN 231 Project Development Capstone]**

**1 cr. (3 lab/wk) Prerequisite: All 100-level Drafting and Design classes or permission of instructor.**

**Corequisites: DDSN 295A, DDSN 294A. (F, Sp)**

Prepares the student for employment through the exploration of off-campus applications in their discipline while compiling their portfolio and preparing for employment. Students are also evaluated against program, state, and national standards through the National Occupational Certification Testing Institute (NOCTI) exam.

**CTDR 206 Programming Calculators**

**2 cr. Prerequisite: M 065.**

Programmable hand-held calculators are used to solve a variety of mathematical problems ranging from moderate to advanced. Keystroke, programming and printing functions are covered as programs are created involving geometry and trigonometry. Documentation techniques are also reviewed.

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## Diesel Service Technician

**DST 101 Power Trains**

**[formerly DIES 101 Powertrains]**

**2 cr. (1 lec/2 lab/wk) (Sp)**

Instructs students in the design and operation of manual transmissions. Emphasis will be placed on diagnosis and service procedures for clutches, transmissions, drivelines, and differentials in on and off highway trucks, heavy equipment, and agricultural applications. Students will be expected to perform service tasks on clutches, transmissions, differentials, and drivelines using supplied training equipment.

**DST 117 Introduction to Diesel Fuel Systems**  
**[formerly DIES 117 Introduction to Diesel Fuel Systems]**

**4 cr. (1 lec/6 lab/wk) Prerequisite: DST 140 and DST 141. (Sp)**

Introduces students to diesel fuel hydromechanical injection systems. Students are required to disassemble and reassemble assorted diesel fuel system components.

Students will be exposed to mechanical inline and distributor pumps, unit, poppet, and pintle injectors and nozzles, and basic electronic control methods. The course will also cover manufacturer-specific systems including Detroit, Caterpillar, Cummins PT, and John Deere pumps, injectors, and governors.

**DST 132 Diesel Engine Overhaul****[formerly DIES 132 Diesel Engine Overhaul]****6 cr. (3 lec/6 lab/wk) Prerequisite: TRID 170. (F)**

Provides a detailed overview of the design, operation, and repair procedures for diesel engines. The lecture portion of this class covers procedures for overhauling, machining, and dynamometer performance testing. Students are then required to apply lectured topics in the lab portion of this class.

**DST 140 Introduction to Hydraulics****[formerly DIES 113 Introduction to Hydraulics]****2 cr. (2 lec/wk) Corequisite: DST 141. (F)**

Presents the theories of basic hydraulic principles and their uses in heavy-duty truck, heavy equipment, and agricultural applications. Students are exposed to the application of standard fluid power schematic symbols.

**DST 141 Introduction to Hydraulics Lab****[formerly DIES 114 Introduction to Hydraulics Lab]****2 cr. (4 lab/wk) Corequisite: DST 140. (F)**

Provides students a means to demonstrate knowledge of basic principles on live work stations, as well as disassemble and reassemble components. Students will work with linear and rotary actuators, directional valves, fixed displacement gear pumps, and pressure controls.

**DST 155 Advanced Hydraulics and Pneumatics****[formerly DIES 155 Advanced Hydraulics and Pneumatics]****4 cr. (2 lec/4 lab/wk) Prerequisite: DST 140 & DST 141. (Sp)**

Instructs students on fluid power system pressure, flow, and directional controls. Students receive training on fluid conductors, seals, and fixed and variable displacement pumps. Diagnosis and repair of controls, conductors, seals, and pumps are also covered. Students will be required to understand, describe, and design fluid power systems using standard schematic symbols.

**DST 202 Advanced Power Trains****[formerly DIES 202 Advanced Powertrains]****2 cr. (1 lec/3 lab/wk) Prerequisites: DST 141, DST 140. (Sp)**

Instructs students in the design and operation of automated twin counter shafts, automatic, and powershift transmissions. Emphasis will be placed on

diagnosis and service procedures for twin counter shaft, powershifts, and automatic transmissions in on and off highway truck, heavy equipment, and agricultural applications. Students will be expected to perform service tasks on twin counter shafts, powershifts, and automatic transmissions using supplied training equipment.

**DST 250 Heavy Duty Chassis****[formerly DIES 250 Heavy Duty Chassis]****6 cr. (2 lec/8 lab/wk) Prerequisites: DST 140 & DST 141, TRID 150. (F)**

Instructs students on suspension and braking systems for on- and off-road truck, heavy equipment, and agricultural applications. Studies will include heavy duty truck suspension diagnosis, repair, and alignment procedures, as well as hydraulic and pneumatic braking systems.

**DST 256 Applied Diesel Service Operation I****[formerly DIES 256 Applied Diesel Service Operations I]****2 cr. (4 lab/wk) (F)**

Applies diagnosis and repair procedures for chassis, powertrains, preventative maintenance, and engine systems for on and off road trucks and heavy equipment. The course will simulate an actual shop environment.

**DST 257 Applied Diesel Service Operation II****[formerly DIES 257 Applied Diesel Service Operations II]****2 cr. (4 lab/wk) (Sp)**

Applies diagnosis and repair procedures for chassis, powertrains, preventative maintenance, and engine systems for on and off road trucks and heavy equipment. The course will simulate an actual shop environment.

**DST 260 Diesel Engine Diagnosis and Troubleshooting****[formerly DIES 260 Diesel Engine Diagnosis and Troubleshooting]****5 cr. (2 lec/8 lab/wk) Prerequisites: DST 140 & DST 141, DST 117, DST 132, TRID 170, TRID 180. (F)**

Coordinates diagnosis and testing of diesel engine problems using electrical test equipment and an engine dynamometer. This course will expand on engine assembly and startup procedures, as well as tuning and performance testing.

**DST 277 Advanced Fuel Systems and Diesel Engine Controls****[formerly DIES 277 Advanced Fuel Systems and Diesel Engine Controls]**



**6 cr. (2 lec/8 lab/wk) Prerequisites: DST 140 & DST 141, DST 117, DST 132, DST 155, DST 260, TRID 180. (Sp)**

Provides an in-depth study of modern diesel fuel systems used in on- and off-road truck, heavy equipment, agricultural, and stationary engine applications. The course will cover engine and powertrain electronic management systems used for common high speed diesel engines. Students will also be exposed to stationary industrial engine electronic control systems.

**DST 294 Seminar**  
[formerly DIES 292 Seminar]

**V1-3 cr.**

Provides students an opportunity to investigate intensively topics pertinent to the field of diesel technology.

**DST 294 Workshop**  
[formerly DIES 293 Workshop]

**V1-3 cr.**

Provides an opportunity for experimental study in an area of diesel technology.

**DST 298 Cooperative Education/Internship**  
[formerly DIES 296 Cooperative Education/Internship]

**V1-9 cr. (45 hours/credit) (F, Sp, Su)**

Provides university credit for a sophomore work experience in the area of Diesel Technology, supervised by faculty. Learning agreement must be completed prior to registration (restricted).

## Economics

**\* ECNS 201 Principles of Microeconomics**  
[formerly ECON 200 Principles of Microeconomics]

**3 cr. (F, Sp)** Introduces the analytical tools of economists as they pertain to microeconomic theory and applications. This course emphasizes price theory, production theory, theory of economic organizations, and factor markets.

**\* ECNS 202 Principles of Macroeconomics**  
[formerly ECON 201 Principles of Macroeconomics]

**3 cr. (F, Sp, Su)** Introduces the analytical tools of economists as they pertain to macroeconomic theory and applications. This course emphasizes the behavior of markets in the context of a national economy. Introduces theories of national income and employment, economic growth and stabilization theory, money and banking, and international economics.

## Emergency Care Provider and Paramedic

**∇ ECP 200 Transition to Paramedic Care**  
[formerly PARA 101 Transition to Paramedicine]  
**3 cr. (3 lec/wk) (Sp)**

Provides an opportunity to start learning the cognitive, psychomotor, and behavioral differences between an EMT and paramedic. Topics covered include roles and responsibilities of the paramedic, EMS systems, licensure/recertification requirements, medical legal, patient evaluation, radio communication, documentation, and current issues that impact the EMS profession.

**ECP 201 Paramedic Fundamentals**  
[formerly PARA 130 Paramedic Fundamentals]  
**3 cr. (3 lec/wk) (F)**

Prepares the paramedic student in the basic knowledge and skills needed in the pre-hospital environment. Topics covered include roles and responsibilities of the paramedic, medical legal considerations, communications, rescue and disaster operations, initial patient assessment and management, airway management and ventilation, pathophysiology of shock, and emergency pharmacology.

**ECP 202 Paramedic Fundamentals Lab**  
[formerly PARA 131 Paramedic Fundamentals Skills Lab]

**1 cr. (2 lab/wk) (F)**

Practices and gains the manipulative skills necessary to effectively manage the tasks in ECP 201.

**ECP 206 EMS Case Studies**  
[formerly PARA 120 EMS Case Studies]  
**4 cr. (4 lec/wk) (F)**

Provides an opportunity to study and manage trauma and respiratory emergencies from a case study perspective. Trauma topics covered include shock, head, spinal, thoracic, abdominal, burns, and environmental. Respiratory topics covered include asthma, emphysema, chronic bronchitis, pneumonia, pulmonary edema, and embolism.

**ECP 207 Cardiology**  
[formerly PARA 240 Cardiology]  
**4 cr. (4 lec/wk) (F)**

Provides an in-depth study in the pathophysiology and management of cardiovascular disease and related emergencies. Topics include anatomy and physiology of the heart and circulatory system, basics of electrophysiology, assessment of the cardiac patient, pathophysiology of atherosclerosis, specific conditions resulting from atherosclerotic heart disease, peripheral vascular emergencies, pharmacologic intervention,

dysrhythmia recognition, and specific management of cardiac emergencies.

**ECP 208 Cardiology Lab and ACLS**  
**[formerly PARA 241 Cardiology Lab & (ACLS)]**  
**1 cr. (2 lab/wk) Corequisite: ECP 207. (Sp)**

The student practices and gains manipulative skills to satisfactorily manage the task in ECP 207. Upon completion, the student receives provider certification in Advanced Cardiac Life Support.

**ECP 216 Hospital Clinical I**  
**[formerly PARA 135 Hospital Internship I]**  
**5 cr. (15 clinical/wk) Prerequisites: ECP 201, ECP 202, ECP 230, ECP 232 and ECP 233. (F)**

Provides the opportunity to apply, in a clinical setting, the didactic knowledge and skills developed in the classroom and lab. Serves as the first stage in assisting the student to become an employable EMS provider. Clinical skills addressed include patient assessment and evaluation, vital signs management, development of airway management skills, autopsy observation, development of communication skills, introduction to various skills necessary for patient care, and development of safety practices.

**ECP 220 Special Considerations**  
**[formerly PARA 244 Special Considerations]**  
**1 cr. (1 lec/wk) (Sp)**

Provides an opportunity to study and manage behavioral emergencies. Students are taught to recognize symptoms of abnormal behavior and responses. Students learn techniques to manage the suicide patient.

**ECP 221 OB/Neonate/Pediatrics**  
**[formerly PARA 245 OB/Neonate/Pediatrics]**  
**2 cr. (2 lec/wk) (Sp)**

Provides the student with the opportunity to participate in normal and abnormal obstetrical problems. Anatomy and physiology of the female reproductive system, assessment of the gynecologic patient, deliveries (normal, abnormal and complicated), routine care of the neonate, care of the distressed infant, neonatal emergencies, and neonatal transport are addressed.

**ECP 222 OB/Neonate/Pediatrics Lab and NRP and PALS**  
**[formerly PARA 246 OB/Neonate/Pediatrics Lab & (NRP) & (PALS)]**

**1 cr. (2 lab/wk) Corequisite: ECP 221. (Sp)**  
Practices and gains the manipulative skills necessary to effectively manage the tasks in ECP 221. Upon completion, the student receives provider certification in Neonatal Resuscitate Program (NRP) and Pediatric Advanced Life Support (PALS).

**ECP 230 Trauma**  
**[formerly PARA 132 Trauma]**  
**2 cr. (2 lec/wk) (F)**

Provides an intense course in the pathophysiology and the management of trauma to include assessment of the trauma patient, management of head injuries, chest injuries, abdominal injuries, spinal injuries, orthopedic injuries, management of the multi-trauma patient, management of special airway problems, and current trends in trauma management.

**ECP 232 Pulmonary**  
**[formerly PARA 133 Pulmonary]**  
**2 cr. (2 lec/wk) (F)**

Provides an in-depth study of the anatomy of the respiratory system, its relationship to the other systems of the body, the pathophysiology of diseases of the respiratory system, and treatment modalities of pulmonary disease. Topics included are anatomy of the respiratory system, measurements of pulmonary function, respiration and gas exchange, assessment of the respiratory system, pathophysiology and management of respiratory disorders, and principles and management of acute respiratory insufficiency.

**ECP 233 Trauma/Pulmonary Lab and PHTLS**  
**[formerly PARA 134 Trauma/Pulmonary Lab & (PHTLS)]**

**1 cr. (2 lab/wk) (F)**  
Practices and gains the manipulative skills necessary to effectively manage the tasks in ECP 230 and ECP 232. Upon completion, the student receives provider certification in Pre-Hospital Trauma Life Support.

**ECP 242 Medical**  
**[formerly PARA 242 Medical]**  
**2 cr. (2 lec/wk) (Sp)**

Provides an intense course in the pathophysiology and management of medical emergencies to include endocrine, nervous system, the acute abdomen, anaphylaxis, toxicology and substance abuse, infectious diseases, environmental, geriatric and pediatric emergencies.

**ECP 243 Medical Lab**  
**[formerly PARA 243 Medical Lab]**  
**1 cr. (2 lab/wk) Corequisite: ECP 242. (Sp)**

Practices and gains the manipulative skills necessary to effectively manage the tasks in ECP 242.

**ECP 246 Hospital Clinical II**  
**[formerly PARA 247 Hospital Internship II]**  
**6 cr. (18 clinical/wk) Prerequisites: ECP 201, ECP 202, ECP 230, ECP 232, ECP 233, ECP 207, ECP 208, ECP 242, ECP 243, ECP 220, ECP 221, ECP**

**222. (Sp)**

A continuation of the clinical skills initiated in ECP 216. Provides the opportunity to apply in the clinical setting, the didactic knowledge and skills developed in the classroom and lab. Serves as a final stage in assisting the student to become an employable EMS provider. Clinical skills addressed include electrocardiology, assessment and management of acute and chronic disease, pediatric advanced life support skills, obstetrical and neonatal care, and behavioral intervention techniques.

**ECP 250 NREMT Exam Preparation**  
**[formerly PARA 252 National Registry Exam Preparation]**

**3 cr. (3 lec/wk) Corequisite: ECP 251. (Su)**  
 Prepares the paramedic student for the national registry paramedic exam. It is a review of the core curriculum taught throughout 2nd and 3rd semester of the paramedic program.

**ECP 251 NREMT Exam Preparation Lab**  
**[formerly PARA 253 National Registry Exam Preparation Lab]**

**1 cr. (2 lab/wk) Corequisite: ECP 250. (Su)**  
 Prepares the paramedic student for the national registry paramedic exam. It is a review of the psychomotor skills taught throughout 2nd and 3rd semester of the paramedic program.

**ECP 291 Special Topics**  
**[formerly PARA 291 Special Topics]**  
**V1-3 cr.**

Provides an opportunity for students to investigate intensively in an area of Paramedicine.

**ECP 294 Seminar/Workshop**  
**[formerly PARA 294 Seminar/Workshop]**  
**V1-6 cr.**

Provides students an opportunity for experiential study on topics pertinent to the field of Paramedicine.

**ECP 295 Field Internship**  
**[formerly PARA 254 Field Internship]**

**8 cr. (24 clinical/wk) Prerequisites: ECP 201, ECP 202, ECP 230, ECP 232, ECP 233, ECP 216, ECP 207, ECP 208, ECP 242, ECP 243, ECP 220, ECP 221, ECP 222, ECP 246. (Su)**

Provides the opportunity to apply in the clinical setting, the didactic knowledge and skills developed in the classroom and lab. It serves as the final stage in assisting the student to become an employable EMS provider. Cognitive, psychomotor, and affective evaluation skills addressed include patient assessment, history gathering, treatment prioritizing, diagnostic impression, protocol knowledge, radio communication,

written documentation, airway management, fluid/drug management, cardiac management, trauma/medical management, attitude, professionalism, assertiveness, team leader qualities.

## Education

**\* EDU 105 Education and Democracy**

**[formerly EDF 100 Education and Democracy]**

**3 cr. (F, Sp, Su)** Explores what it means to be an educated person in a democratic society. Although schooling is generally the primary formal means whereby societies educate citizens, this course focuses on education broadly to examine a) the ways people create and share knowledge, b) society's responsibilities to provide the rich and varied opportunities needed by all citizens who would be educated, c) the consequences of disenfranchising anyone from those opportunities, and d) the critical link between democratic society and education.

## Electrical Technology

**ELCT 130 Electric Motors and Generators**

**[formerly SET 170 Electric Motors and Generators]**

**3 cr. (2 lec/2 lab/wk) Prerequisite: ETEC 101.**  
 Introduces terminology and basic principles of DC and AC motors and generators. Students will study single-phase and three-phase motors and generators and operational controls. Common AC and DC power generation equipment and testing techniques will also be covered.

**ELCT 241 Electric Motor Controls**

**3 cr. (2 lec/2 lab/wk) Prerequisite: ELCT 130 (F)**  
 Orients students to the study of electromechanical control system concepts. Experiments are designed to illustrate the principles, applications, connection, and installation procedures of electrical controllers. Special emphasis is placed on the analysis and development of control circuits.

**ELCT 250 Programmable Logic Controllers**  
**[formerly SET 280 Programmable Logic Controllers]**

**3 cr. (3 lec/wk) Prerequisite: ETEC 103.**  
 Introduces a variety of programmable logic controllers (PLCs). The application, operation, and programming of PLCs will be covered, with an emphasis on programming. Computers and manual methods will be used to program PLCs.

## Electronics Technology

**ETEC 101 AC/DC Electronics I**

**[formerly SET 160 AC/DC Electronics I]**

**3 cr. (2 lec/2 lab/wk) (Sp)**  
 Introduces safety rules, concepts, and operating

characteristics of direct current (DC) and alternating current (AC) electrical circuits. Selection, inspection, use, and maintenance for common electrical test equipment are also covered.

**ETEC 103 AC/DC Electronics II**

**[formerly SET 180 AC/DC Electronics II]**

**3 cr. (2 lec/2 lab/wk) Prerequisite: ETEC 101.**

Expands the students' knowledge of AC/DC electronics. Safety rules, concepts, and operating characteristics of electrical circuits will be emphasized. Capacitors, inductors, low voltage power supplies, diodes, transistors, and triodes will be introduced and analyzed.

**ETEC 192 Fundamentals of Energy Technicians I**

**4 cr. (2 lec/4 lab/wk) (F)**

Introduces students to the National Electrical Code, device boxes, hand bending, raceways and fittings, conductors and cables, basic electrical construction drawings, residential electrical services, and electrical test equipment. Upon successful course completion, students will receive National Center for Construction Education and Research Electrical Level 1 certification.

**ETEC 193 Fundamentals of Energy Technicians II**

**4 cr. (2 lec/4 lab/wk) (Sp)**

Expands on the content covered in Fundamentals of Energy Technicians I. The course covers electrical lighting, conduit bending, pull and junction boxes, conduit installations, cable tray, conductor terminations and splices, grounding and bonding, and circuit breakers and fuses. Upon successful course completion, students will receive NCCER Electrical Level 2 certification.

**ETEC 220 Electrical Power and Distribution I**

**[formerly SET 260 Electrical Power and Distribution I]**

**3 cr. (3 lec/wk) Prerequisite: ETEC 103.**

Introduces generation of electrical power and moving that power through a local transmission system to a substation where a customer will purchase the generated power. Safely working with components of a high voltage transmission system will also be covered.

**ETEC 230 Electrical Power and Distribution II**

**[formerly SET 264 Electrical Power and Distribution II]**

**3 cr. (3 lec/wk) Prerequisite: ETEC 220.**

Expands content covered in the Electrical Power and Distribution I course. This course covers the generation of electrical power and moving that power through a local transmission system to a substation where a customer will purchase the generated power.

**ETEC 231 Electronic Drive Systems**

**[formerly SET 270 Electronic Drive Systems]**

**3 cr. (2 lec/2 lab/wk) Prerequisite: ETEC 103.**

Exposes students to advanced electronic drive systems used in industrial applications. Electronic control of DC and AC motors, transmission and solid-state controllers, and electronic control of power generation equipment will be discussed.

**ETEC 284 Digital Electronics**

**[formerly SET 284 Digital Electronics]**

**4 cr. (2 lec/4 lab/wk) Prerequisite: ETEC 103.**

Introduces basic digital circuits and their use in microprocessors and other digital devices. Reading digital logic schematics and building, testing, and troubleshooting digital circuits are also covered.

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**Film**

**\* FILM 160 Introduction to World Cinema**

**[formerly COMT 155 Global Cinema]**

**3 cr. (F)** Offers students an artistic appreciation of the diversity of cinema around the world. Develops a broadened multicultural perspective through surveying films from Asia, Europe, North and South America. Encourages students to view cinema as a means of interpreting culture. (Special fee).

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**Fire Science**

**FIRE 105 Fire Apparatus, Equipment and Hydraulics**

**3 cr. (3 lec/wk) Prerequisite M 114.**

Acquire the basic knowledge of various types of fire apparatus used in the fire service and their unique requirements needed to provide emergency services. Assess the equipment and its applications used for suppressing fires and applications to other emergency responses. Learn to apply the principles used in hydraulics for the delivery of water in fire protection and supply systems. Demonstrate proficiency of this knowledge by using applied field operational hydraulics.

**FIRE 115 Fire Fighter I Essentials**

**3 cr. (2 lec/2 lab/wk) (F)**

Introduces the students to the fire service career. Through lecture and practice, the course provides a history of fire service skills and illustrates all the basic requirements of the firefighter in the performance of his/her duty from suppression, code enforcement, technical rope rescue through basic hazardous materials training.

**FIRE 130 Fire Service Management and Law**

**3 cr. (3 lec/wk) Prerequisite: COMPASS test proficiency/WRIT proficiency for placement into**

**WRIT 101, 122, or 123.**

Acquire a basic knowledge and overview of the organization and management used in the fire service. Review relationships with other governmental agencies and departments. Analyze federal, state, and local laws relating to emergency services and responses. Learn standards of care, torts, liability, and review of federal and state court cases affecting the fire service.

**FIRE 172 Wildlands Standards for Survival****3 cr. (3 lec/wk) (Sp)**

Directs the students in the identification, description, and reaction to situations and conditions that would be considered dangerous to the wildland firefighter. The course content will also provide the student with a better understanding of fire behavior. The course includes federal requirement qualifications needed for beginning wildland firefighting.

**FIRE 180 Incident Command****3 cr. (3 lec/wk) (Sp)**

Acquaints the student with basic principles of emergency incident management. The components of management and chain of command will be emphasized. A computer simulator will be used to give hands-on training with incident success as the goal.

**FIRE 214 Inspection Codes and Practice****3 cr. (3 lec/wk) (F)**

Provides essential information concerning the background and evolution of fire prevention, code interpretation and applicability, hazard identification and abatement, risk assessment, operation of a fire prevention bureau, design and operation of fire protection systems and equipment, and the basic concepts of fire investigation. Emphasizes building construction and associated hazards.

**FIRE 255 Cause and Origin****2 cr. (2 lec/wk) (F)**

Instructs students in basic investigative techniques for fire causes and origin. Fire behavior in structures is discussed as well as legal requirements of fire service personnel for evidence preservation.

**FIRE 275 Fire Service Instructor****3 cr. (3 lec/wk) (Sp)**

Develops the student's speaking and creative skills as well as the ability to use instructional tools and various media in an educational environment. Emphasis will be placed on developing lesson plans and evaluation instruments. Students will give instructional presentations using the aforementioned tools.

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**Geoscience: Geology**

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**\* GEO 101 Introduction to Physical Geology****[formerly EASC 100 Lithosphere and Hydrosphere]**

**3 cr. Corequisite: GEO 102. (F)** Presents an introduction to the study of the earth through a study of its materials and composition, structure, geologic processes, surface and ground waters, physical, chemical and biological oceanography.

**\* GEO 102 Introduction to Physical Geology****Laboratory****[formerly EASC 101 Lithosphere and Hydrosphere Lab]**

**1 cr. Corequisite: GEO 101. (F)** Enhances the lecture material of GEO 101 through the usage of experiential activities.

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**Geoscience: Geography**

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**\* GPHY 111 Introduction to Physical Geography****[formerly GEOG 101 Physical Geography]**

**3 cr. (F)** Stresses the understanding of the broad concepts of physical geography. Includes topography, climate and other geographic aspects of the earth's environment. Laboratory required.

**\* GPHY 112 Introduction to Physical Geography****Laboratory****[formerly GEOG 100 Physical Geography Lab]**

**1 cr. Corequisite: GPHY 111. (F)** Enhances the lecture material of GPHY 111 through the use of experiential activities.

**\* GPHY 121 Human Geography****[formerly GEOG 120 Environment and Culture]**

**3 cr. (F, Sp)** Analyzes the interrelationships between man and his environment, including such topics as race, origin and dispersal of technology, livelihood patterns and settlement.

**\* GPHY 141 Geography of World Regions****[formerly GEOG 102 World Geography]**

**3 cr. (F, Sp)** Covers the regions of the world as the home of mankind, showing people's adaptation to their physical environment.

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**Health Information Technology**

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**HIT 101 Introduction to Health Care Informatics****3 cr. (3 lec/wk) (F, Sp)**

Introduces how multidisciplinary fields use health information technology. This course provides an overview of the subject including history, basic knowledge of health care technology, and information and tools as applied in support of health care delivery. Students will gain an introduction to the complexities of

health care and how information technology fits within the U.S. health care system.

## Health Science

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### **HLTH 100 Survey of Health Occupations** **1 cr. (1 lec/wk)**

Introduces the student to health occupations career options by providing an overview of each career path offered by City College at MSU Billings. After completion of this course, students will be able to make an informed decision regarding the health care path most appropriate to their interests.

### **HLTH 104 Introduction to Nursing Skills** **2 cr. (2 lec/wk)**

Introduces the health care system, the health care team, and basic health care skills. Classroom theory and basic skills are integrated and practiced in the campus laboratory.

### **HLTH 105 Drug Dosage Calculations** **1 cr. (1 lec/wk) Prerequisites: Successful completion of M 065 or appropriate math placement test score.**

Prepares the health occupations student for the mathematics required by the profession. Topics presented include working with English, apothecary and metric measurement systems and conversions, and the calculation of adult and pediatric dosages (using dimensional analysis) for oral, parenteral and intravenous orders.

### **HLTH 112 Math Fundamentals for Health Occupations** **3 cr. Prerequisites: Passing M 065 or appropriate placement test score.**

Prepares the health occupations student for the mathematics required by the profession. Topics presented include working with whole numbers; proportions; English, Apothecary, and Metric measurement systems; conversions; and dosage calculation (dimensional analysis) for the adult and child. Emphasizes the skills and knowledge necessary to prepare and administer drugs safely.

### **HLTH 252 Medical Coding** **3 cr. (3 lec/wk) Prerequisites: BIOH 101, AHMS 144, or permission of instructor.**

Develops the knowledge, skills, and abilities necessary to code medical documentation for insurance purposes. Emphasizes standards of accuracy required in medical coding. This course will be taught fall semester only.

### **HLTH 292 Seminar: Special Projects** **Credit varies. Prerequisite: Student must be in last semester of the Practical Nurse Program or have**

**successfully completed a practical nursing course.** Special projects and independent study are available for students by special arrangements. Such projects are classified as advanced studies and prerequisites might be required.

### **HLTH 293 Workshop** **V1-3 cr.**

Provides an opportunity for experimental study in an area of health occupation.

## Honors

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### **\* HONR 111 Perspectives and Understanding** **[formerly HON 121 Perspectives and Understanding]**

**3 cr.** Explores classic and contemporary works of literature, art, and philosophy with an emphasis on cultural and historical contexts in order to develop critical and multi-disciplinary analytical skills. This course will serve as an introduction to Honors and will be required for University Honors students.

## Human Resources

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### **HR 285 Collective Bargaining and Labor Relations** **1 cr. (1 lec/wk)**

Introduces students to labor relations, the bargaining process itself, major provisions of collective bargaining agreements, and current labor relations issues. Emphasis will be placed on the legal framework of collective bargaining, labor management interactions, various approaches to labor management relations, trends in union membership, and how changes in competition and globalization are influencing labor-management interactions.

## American History

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### **\* HSTA 101 American History I** **[formerly HIST 204 United States History to 1877]**

**3 cr. (F, Sp)** Surveys American history from the establishment of the colonies to the end of the Reconstruction period after the Civil War. Includes such topics as the English political and cultural heritage, independence, creation of the Constitution, early national period, increasing democracy, economic problems, manifest destiny, slavery, sectionalism, disunion, war, and reunion.

### **\* HSTA 102 American History II** **[formerly HIST 205 United States History Since 1877]**

**3 cr. (F, Sp)** Surveys the political, economic, and social development of the U.S. since Reconstruction. Deals with industrialization and the agrarian reaction, Progressive Era, U.S. reaction to World War I, 1920s, Depression and New Deal, background to involvement

in World War II, Cold War leadership (including Korea and Vietnam), and domestic changes since WWII.

## World History

**\* HSTR 101 Western Civilization I**  
[formerly HIST 104 The West and the World to 1648]

**3 cr. (F, Sp)** Examines the development of western civilization from its origins through the Middle Ages, and the mutual influence western civilization and world civilizations had on each other. Particular attention is paid to the social, economic, political, religious, and cultural issues which shape the world today.

**\* HSTR 102 Western Civilization II**  
[formerly HIST 105 The West and the World since 1648]

**3 cr. (F, Sp)** Examines the development of western civilization since the early modern era, and the mutual influence western civilization and world civilizations had on each other. Particular attention is paid to the social, economic, political, religious, and cultural issues which shape the world today.

**\* HSTR 103 Honors Western Civilization I**  
[formerly HIST 106 Honors: History of Western Civilization to 1500]

**3 cr. Prerequisite: Consent of instructor.** Covers the development of Western Civilization from its origins through the Middle Ages. Particular attention is paid to the social, economic, political, and cultural issues which shape the western world today.

**\* HSTR 104 Honors Western Civilization II**  
[formerly HIST 107 Honors: History of Western Civilization Since 1500]

**3 cr. Prerequisite: Consent of instructor.** Covers the development of Western Civilization from the Italian Renaissance to the present. Particular attention is paid to the social, economic, political, and cultural issues which shape the western world today.

## Health

**\* HTH 110 Personal Health and Wellness**  
[formerly HHP 101 Health Sciences]

**3 cr. (F, Sp)** Covers contemporary health issues and explores individual and community based solutions. Content areas to include: medical self-care, culture and health behavior, alcohol, tobacco and other drugs, mental and emotional health, consumer health, nutrition, physical fitness, environmental health, human sexuality, chronic degenerative and communicable diseases, aging, violence and personal safety, health care, and death and dying.

**\* HTH 270 Global Health Issues**  
[formerly HHP 270 Global Health Issues]

**3 cr. (F)** Explores the relationships between human behavior, economics, history, culture, politics, policy formation, and the environment, while investigating the impact of these elements on the quality of health within our global community. Class sessions will focus on the interdisciplinary nature of health issues that impact on daily human existence. The objective of seminar based class meetings will be to study these issues, contrasting their origins, manifestations, and possible resolutions in developed and less developed nations.

## Heating, Ventilating, Air Conditioning, and Refrigeration Maintenance Technology

**HVC 110 Introduction to HVAC**  
[formerly HVAC 110 Introduction to HVAC]  
**4 cr. (4 lec/wk)**

Exposes students to theories and concepts of the HVAC industry. Topics covered will include principles of thermodynamics, the study and nature of air, and an introduction to heating and cooling loads.

**HVC 111 Heating Fundamentals**  
[formerly HVAC 111 Heating Fundamentals]  
**2 cr. (1 lec/2 lab/wk) Prerequisite: HVC 110.**

Introduces the student to basic theories of heating and their applications to heating equipment. Operation, maintenance and troubleshooting procedures of gas, fuel oil and electric furnaces will be studied.

**HVC 125 Air Handling**  
[formerly HVAC 125 Air Handling]  
**3 cr. (2 lec/2 lab/wk) Prerequisite: HVC 110.**

Exposes students to load calculations, psychrometrics, principles of air flow, and duct design. Students will create diagrams providing adequate heating and cooling in accordance with local and national codes.

**HVC 130 HVAC Electrical**  
[formerly HVAC 141 HVACR Basic Electricity]  
**4 cr. (3 lec/2 lab/wk)**

Introduces the student to basic electricity concepts, electrical test instruments, electrical devices used on heating, air conditioning and refrigeration systems, and the different types of AC electrical motors. Students learn how to measure voltage, ohms, watts and amperage on series/parallel circuits.

**HVC 135 Air Conditioning**  
[formerly HVAC 135 Air Conditioning]  
**2 cr. (1 lec/2 lab/wk) Prerequisite: HVC 110.**  
Exposes students to residential and commercial air

conditioning applications, installation, troubleshooting, and design.

**HVC 175 HVAC Controls**

[formerly HVAC 175 HVAC Controls]

**4 cr. (3 lec/2 lab/wk) Prerequisite:** TRID 180.

Introduces students to concepts of control and automation in HVAC systems. Students will also learn to troubleshoot systems using diagrams and test equipment.

**HVC 182 Hydronics**

[formerly HVAC 182 Hydronics]

**2 cr. (1 lec/2 lab/wk) Prerequisite:** HVC 111.

Introduces the student to hot water heating principles and systems. Students will learn to install, maintain, and troubleshoot these systems.

**HVC 200 Refrigeration Technicians E.P.A. Certification Review**

[formerly HVAC 200 Refrigeration Technicians E.P.A. Certification Review]

**1 cr. (1 lec/wk)**

Exposes the student to requirements and criteria needed for passing the Section 608 E.P.A. exam certification for refrigeration technicians.

**HVC 201 Advanced Refrigeration**

[formerly HVAC 201 Advanced Refrigeration]

**3 cr. (2 lec/2 lab/wk) Prerequisite:** HVC 111.

Exposes the student to the selection, installation, adjustment, maintenance and repair of refrigeration systems.

**HVC 203 Advanced Air Conditioning**

[formerly HVAC 203 Advanced Air Conditioning]

**2 cr. (1 lec/2 lab/wk) Prerequisite:** HVC 135.

Exposes students to the selection, installation, adjustment, maintenance, and repair of air conditioning systems. Students will recover, charge, and troubleshoot residential and light commercial systems.

**HVC 210 Heat Pumps**

[formerly HVAC 210 Heat Pumps]

**2 cr. (1 lec/2 lab/wk) Prerequisite:** HVC 135.

Exposes the student to the selection, installation, adjustment, maintenance, and repair of heat pumps.

**HVC 212 Sheet Metal Technology and Blueprint Reading**

[formerly HVAC 212 Sheet Metal Technology and Blueprint Reading]

**2 cr. (2 lec/wk)**

Introduces the student to basic sheet metal terms and fittings, how to use the sheet metal hand tools, equipment, and procedures for duct layout. They also

will learn to read blueprints for residential and commercial buildings.

**HVC 235 Residential and Light Commercial Heating & Ventilation Systems**

[formerly HVAC 231 Residential and Light Commercial Heating & Ventilation Systems]

**3 cr. (2 lec/2 lab/wk) Prerequisite:** HVC 111.

Exposes the student to the selection, installation, adjustment, maintenance and repair of residential and small commercial heating and ventilating systems.

**HVC 243 Steam Systems**

[formerly HVAC 243 Steam Systems]

**3 cr. (2 lec/2 lab/wk) Prerequisite:** HVC 182.

Introduces students to design, installation, adjustment, maintenance, and repair of small commercial steam systems.

**HVC 255 Advanced Controls**

[formerly HVAC 255 Advanced Controls]

**3 cr. (2 lec/2 lab/wk) Prerequisite:** HVC 175.

Introduces students to commercial control systems such as digital direct, programmable logic, and pneumatic controls. Students will install, diagnose, and repair all types of pneumatic systems using test equipment, diagrams, and computer simulators.

**HVC 294 Seminar**

[formerly HVAC 292 Seminar]

**V1-3 cr.**

Provides students an opportunity to investigate intensively topics pertinent to the field of heating, ventilation and air conditioning or major appliance repair.

**HVC 294 Workshop**

[formerly HVAC 293 Workshop]

**V1-3 cr.**

Provides an opportunity for experimental study in an area of heating, ventilation and air conditioning or major appliance repair.

**HVC 298 Cooperative Education/Internship**

[formerly HVAC 296 Cooperative Education/Internship]

**V1-9 cr. (45 hours/credit)**

Provides university credit for a sophomore work experience in the area of Heating, Ventilation, Air Conditioning and Refrigeration Technology, supervised by faculty. Learning agreement must be completed prior to registration (restricted).

**HVC 299 Capstone**

[formerly HVAC 275 Capstone]

**1 cr. (1 lec/wk) Prerequisite:** HVC 200.



Introduces students to regulations, codes, and professionalism, while preparing them for the Industry Competency Exams (ICE). A passing grade on the ICE is required to pass this class.

## Information Technology Systems

### **ITS 163 MS Windows 8 Configuration**

**3 cr. (2 lec/2 lab/wk) Prerequisite:** CAPP 120 or instructor approval. (F)

Provides students with the knowledge and skills required to set up and administer a computer running Microsoft Windows 8 operating system as a single workstation and also a member of a domain. The course provides the skills required to perform basic installation, configuration tasks, and day-to-day administration tasks in a Windows 8-based network. The course also provides instruction to students on troubleshooting basic installation, configuration, and resolving administration problems.

### **ITS 166 Configuring MS Windows 10**

**3 cr. (2 lec/2 lab/wk) Prerequisite:** CAPP 120. (F)

Provides students with the knowledge and skills required to set up and administer a computer running Microsoft Windows 10 operating system as a single workstation and a member of a domain. The course provides the skills required to perform basic installation, configuration tasks, and day-to-day administration tasks in a Windows-based network. The course also teaches students how to troubleshoot basic installation, configuration, and administration problems.

### **ITS 170 MS Windows Server 2012**

**3 cr. (2 lec/2 lab/wk) Prerequisite:** ITS 163. (Sp)

Provides students with the knowledge and skills required to set up and administer a computer running Microsoft Windows 2008 operating system in a single domain environment. The course provides the skills required to perform basic installation, configuration tasks, and day-to-day administration tasks in a Windows 2008-based network. The course also teaches students how to troubleshoot basic installation, configuration, and administration problems. The course content applies to the Windows 2012 Server network operating system and the Windows client operating system.

### **ITS 171 Configuring MS Server 2016**

**3 cr. (2 lec/2 lab/wk.) Prerequisite:** ITS 166. (F)

Provides students with the knowledge and skills required to set up and administer a computer running Microsoft Server 2016 operating system in a single domain environment. The course provides the skills required to perform basic installation, configuration tasks, and day-to-day administration tasks in a

Microsoft-based network. The course also teaches students how to troubleshoot basic installation, configuration, and administration problems. The course content applies to the Windows 2016 Server network operating system and the Windows client operating system.

### **ITS 182 Help Desk Support**

**[formerly CST 182 Help Desk Support]**

**3 cr. (2 lec/2 lab/wk)**

Provides an overview of topics relevant to working a help desk. Included are sections on people, processes, technology, and information, and how these components come together to instruct the student on how the Help Desk functions to support business operations.

### **ITS 200 CCNA Exam Preparation**

**1 cr. (1 lec/wk) Prerequisite:** NTS 205. (Sp)

Prepares students to successfully pass the Cisco CCNA exam by reviewing current exam requirements and topics and building students' self-confidence as they prepare for the exam.

### **ITS 217 Network Operating System – Server Admin/Apps**

**3 cr. (2 lec/2 lab/wk) Prerequisites:** ITS 161 & ITS 162. (F)

Provides students with the knowledge and skills to configure and troubleshoot a Windows Server 2008 network infrastructure. Students will learn to implement and configure secure network access and implement fault tolerant storage technologies. Students will gain an understanding of the networking technologies most commonly used with Windows Server 2008 and IP-enabled networks. Students will also learn how to secure servers and maintain update compliance.

### **ITS 220 Fundamentals of Wireless LANs**

**[formerly CST 277 Fundamentals of Wireless LANs]**

**3 cr. (2 lec/2 lab/wk) Prerequisite:** NTS 205 or consent of instructor.

Teaches students to design, plan, implement, operate, and troubleshoot wireless LANs. The course covers a comprehensive overview of technologies, security, and design best practices with particular emphasis on hands-on skills in the following areas: wireless LAN setup and troubleshooting, 802.11a & 802.11b/g wireless networking technologies, wireless hardware and solutions, radio technologies, WLAN applications and site surveys, resilient WLAN products, design, installation, configuration, and troubleshooting, WLAN security, vendor interoperability strategies, and emerging wireless technologies. This hands-on, lab-oriented course stresses documentation, design, and

installation issues, as well as laboratory safety, on-the-job safety, and working effectively in group environments.

**ITS 224 Introduction to Linux**

**3 cr. (2 lec/2 lab/wk) (F, Sp)**

Provides students with the knowledge and skills required to set up and administer a computer running a Linux operating system. The course provides the skills required to perform basic installation, configuration tasks, and day-to-day administration tasks in a Linux network. The course also teaches students how to troubleshoot basic installation problems and perform system maintenance.

**ITS 256 CCNA Security**

**3 cr. (2 lec/2 lab/wk) Prerequisite: NTS 105. (F)**

Provides students with the technical knowledge required of foundation-level security practitioners. Provides a foundation level of skill and knowledge in general security concepts, communication security, infrastructure security, basics of cryptography, and operational/organizational security.

**ITS 260 CCNP: Routing**

**[formerly CST 270 Advanced Routing Configuration]**

**4 cr. (2 lec/2 lab/wk) Prerequisite: NTS 205.**

Addresses those tasks that network managers and administrators need to perform when managing access and controlling overhead traffic in growing, routed networks once basic connectivity has been established. This course also discusses router capabilities used to control traffic over LANs (local area network) and WANs (wide area network), as well as connecting corporate networks to an Internet Service Provider (ISP).

**ITS 262 CCNP 2: Implementing Secure Converged WAN**

**[formerly CST 272 Remote Access Networks]**

**4 cr. (2 lec/4 lab/wk) Prerequisite: NTS 205.**

Teaches students how to build a remote access network to interconnect central sites to branch offices and home office/telecommuters. Once the network is built, the course further teaches students how to control access to the central site, as well as maximize bandwidth utilization over the remote links.

**ITS 264 CCNP 3: Switching**

**[formerly CST 274 Multi-Layer Switching]**

**4 cr. (2 lec/4 lab/wk) Prerequisite: NTS 205.**

Teaches network administrators how to build campus networks using multi-layer switching technologies over high speed Ethernet. This course addresses how

routing and switching concepts and implementations along with various technologies work together.

**ITS 266 CCNP: Troubleshooting**

**[formerly CST 276 Network Troubleshooting]**

**4 cr. (2 lec/4 lab/wk) Prerequisites: ITS 260, ITS 262, ITS 264.**

Teaches students how to baseline and troubleshoot an environment using Cisco routers and switches for multi-protocol client hosts and servers connected with the following: Ethernet, Fast Ethernet, and Token Ring LANs using Serial, Frame Relay, and ISDN BRI WANs.

**ITS 274 Advanced Hardware/Software Troubleshooting and Support**

**3 cr. (1 lec/4 lab/wk) Prerequisites: ITS 162 & ITS 280. (Sp)**

Studies advanced software applications in order to solve in-depth business cases. Provides students with the skills necessary to troubleshoot computers, networks, and peripheral devices. Students complete software and hardware installation projects to increase competency and hands-on skills and then learn how to troubleshoot common problems associated with each stage of the project.

**ITS 280 Computer Repair and Maintenance [formerly CST 250 Microcomputer Hardware Maintenance]**

**3 cr. Prerequisite: CAPP 120 or Instructor Approval. Corequisite: CST 252.**

Provides students with the skills necessary to install and troubleshoot hardware devices. Topics include system setup, RAM, hard and floppy drives, data buses, power supplies, IO cards, and diagnostic tools.

**ITS 283 Health Information Networking**

**3 cr. (2 lec/2 lab/wk) Prerequisites: CAPP 120, NTS 104, and NTS 105. (Sp)**

Equips students with the knowledge and skills that can be applied toward entry-level specialist careers in healthcare networking. Health Information Networking is a blended curriculum with both online and classroom learning. Health Information Networking aims to develop an in-depth understanding of principles and practicalities needed for information technology professionals wishing to specialize in healthcare network implementations.

**ITS 284 Network Storage**

**3 cr. (2 lec/2 lab/wk) Prerequisite: ITS 217 or consent of instructor. (Sp)**

Provides students with the knowledge and skills required to set up and administer digital information in

traditional media, network media storage devices, and virtual media storage devices.

**ITS 285 Help Desk Infrastructure**  
**[formerly CST 285 Help Desk Infrastructure]**  
**3 cr. (1 lec/4 lab/wk) Prerequisites: WRIT 121 and ITS 182.**

Strengthens student skills in diagnosing and solving user- and software-related problems with on-site projects or in short-term assignments. Students will also engage the topics of technical communication, professional development, and other work place skills. This is a capstone course for the AAS Degree in Desktop Support. A team approach is used for some projects.

**ITS 291 Special Topics**  
**[formerly CST 200 Cisco CCNA Exam Prep]**  
**V1-4 cr.**  
 Prepares students in computer special topics of variable length.

**ITS 294 Seminar/Workshop**  
**[formerly CMP 292 Seminar]**  
**V1-3 cr. Prerequisite: CAPP 120.**  
 Investigates intensively topics pertaining to an area of data processing.

## Literature

**\* LIT 110 Introduction to Literature**  
**[formerly ENGL 160 Reading and Responding to Literature]**  
**3 cr. (F, Sp)** Presents students with the opportunity to experience and analyze short and long fiction; narrative, dramatic and lyric poetry; stage and cinematic drama, and selected audio/visual materials. Students will develop skills and attitudes enabling them to experience the written word and selected audio/visual media for insight and entertainment (Course not applicable to English major).

**\* LIT 230 World Literature Survey**  
**[formerly ENGL 260 World Foundations of Literature]**  
**3 cr. (F, Sp)** Surveys in translation representative works of world literature (e.g., Chinese, Indian, Russian, Latin American, European) in poetry, prose, and drama which provides a comparative basis for understanding different cultures.

**\* LIT 240 The Bible As Literature**  
**[formerly ENGL/PHIL 240 The Bible As Literature]**  
**3 cr. (Sp)** Examines the Bible as a work of literary art. Considers such topics as literary genre, plots, character development, thematic concerns, historical and cultural

contexts, and style of writings that make up the Old Testament/Hebrew Bible and the New Testament.

**\* LIT 270 Film & Literature**  
**[formerly ENGL 280 Fiction into Film]**  
**3 cr. (Sp)** Focuses on modern and contemporary novels, plays or short stories which have been adapted to film. Emphasizes written and visual literacy.

## Library Science

**\* LSCI 125 Research in the Information Age**  
**[formerly LS 125 Research in the Information Age]**  
**3 cr. (F, Sp, Su)** Introduces students to how information is organized and demonstrates how to find, evaluate, and use books, articles, web pages, and other materials in both electronic and print forms. The course also covers the steps of the research process including how to think critically about information, how to use information ethically, how to navigate ongoing changes in information sources, and how to cite sources.

## Mathematics

**M 065 Prealgebra**  
**[formerly M 061 Basic Mathematics]**  
**3 cr. (3 lec/wk)**  
 Covers pre-algebra concepts involving terminology, fractions, decimals, percent, ratio and proportion, measurement, geometry, and statistics. Credits do not apply toward graduation requirements nor fulfill General Education requirements. However, the credits do count towards enrollment status for financial aid. (This course will be offered at City College at MSU Billings to those students lacking fundamental math skills.)

**M 088 Mathematical Literacy**  
**4 cr. (4 lec/wk) Prerequisite: M 065 or equivalent placement. (F, Sp)**  
 Develops mathematical literacy through peer collaboration, problem solving, critical thinking, writing, and communicating mathematics. Students represent and solve relevant, real-world problems using various forms of numbers, equations, and graphs. Topics include proportional reasoning, algebra, introductory statistical formulas, geometry, and measurement.

**▽ M 090 Introductory Algebra**  
**[formerly MATH 101 Introductory Algebra]**  
**3 cr. (3 lec/wk) Prerequisite: M 065 or equivalent.**  
 Covers basic algebra concepts including terminology, operations on rational numbers, solving and graphing linear equations and inequalities in one and two variables, determining equations of lines, and polynomial and function operations. Credits do not

apply toward graduation requirements and do not fulfill General Education requirements. However, the credits do count towards enrollment status for financial aid.

### ▽ M 095 Intermediate Algebra

**[formerly MATH 105 Algebra for College Students]**

**4 cr. (4 lec/wk) Prerequisite: M 090 or equivalent.**

Reviews basic algebra concepts including terminology, operations on rational numbers, solving and graphing linear equations and inequalities in one and two variables, determining equations of lines, and polynomial operations. Covers function operations; operations on exponential and radical expressions; factoring; solving rational, absolute value, radical, and systems of equations; and solving and graphing quadratic equations. Credits do not apply toward graduation requirements and do not fulfill General Education requirements. However, the credits do count towards enrollment status for financial aid.

### M 098 Introductory & Intermediate Algebra

**5 cr. (5 lec/wk) Prerequisites: M 065 or equivalent COMPASS score. (F, Sp, Su)**

Covers basic algebra concepts including terminology; operations on rational numbers; solving and graphing linear equations and inequalities in one and two variables; determining equations of lines; polynomial and function operations; operations on exponential and radical expressions; factoring; solving rational, absolute value, radical, and systems of equations; solving and graphing quadratic equations. This is a modularized course based on mastery learning in which students will earn credit for each module (A, B, C, D, E) by examination.

### \* M 105 Contemporary Mathematics

**[formerly MATH 141 Contemporary Mathematics]**

**3 cr. Prerequisite: M 095 or three years of high school mathematics. (F, Sp)** Introduces the student to areas of interest in applied and pure mathematics. Content may vary.

### ▽ M 108 Business Mathematics

**[formerly MATH 104 Business Mathematics]**

**3cr. (3 lec/wk) Prerequisite: Passing M 065 or appropriate placement test scores. (F, Sp)**

Examines the mathematics of business ownership and exposes the mathematical needs of business decisions. Techniques include marketing, payroll, cash flow, simple and compound interest, credit, promissory notes, insurance financial statements, ratio analysis, depreciation, annuities, and inventory valuation.

### M 111 Technical Mathematics

**[formerly MATH 103 Essential Mathematics for the Trades]**

**3 cr. (3 lec/wk) Prerequisite: M 065 or appropriate placement scores. (F, Sp, Su)**

Applies math to problems drawn from diverse occupational fields. In addition to a review of operations on rational numbers, the topics of measurement, percent, proportion and variation, applications of algebra to the extent of solving quadratic equations, and applications of plane and solid figure geometry are developed for use in a trade or industrial setting. Course may serve as a prerequisite to M 114, but does not satisfy the prerequisite of any other math courses. Credits apply to graduation but do not fulfill General Education requirements.

### ▽ M 114 Extended Technical Mathematics

**[formerly MATH 122 College Mathematics for Technology]**

**3 cr. (3 lec/wk) Prerequisite: M 111 or M 095 or appropriate placement score. (F, Sp, Su)**

Applies math to problems drawn from diverse occupational fields. Provides college level study of measurement, algebra, geometry, and trigonometry as needed to solve mathematical applications in a trade or technical work environment.

### M 120 Mathematics with Health Care Applications

**3 cr. (3 lec/wk) (F, Sp) Offered ONLY Online.**

Provides students with a solid mathematical foundation necessary to succeed in a health care profession. This course will review algebra, systems of measurement, medication and syringe calculations, ratio and proportions, calculations for intravenous therapy, basic statistics, ionic solutions, and pH calculations.

### ▽ M 121 College Algebra

**[formerly MATH 106 College Algebra]**

**3 cr. Prerequisite: M 095 or appropriate placement score. (F, Sp, Su)** Covers the concepts of functions, complex numbers, and solving basic system of equations. Investigates linear, quadratic, polynomial, exponential, and logarithmic functions.

### \* M 122 College Trigonometry

**3 cr. Prerequisite: M 121 or appropriate placement scores. (F, Sp)** Covers trigonometric functions and their inverses, polar coordinates, graphing, vectors, and trigonometric identities. Includes sequences and series.

### \* M 131 Mathematics for Elementary Teachers II

**[formerly MATH 202 Fundamentals of Mathematics II]**

**3 cr. Prerequisite: M 130 or consent of instructor. (F, Sp)** Stresses topics in fractions, ratios, and

proportional relationships; the number system; expressions and equations; statistics and probability; and functions as defined by the Common Core State Standards for mathematics.

**M 139 Graphing Calculator Workshop**  
[formerly MATH 109 Using the HP-48G]

**1cr. (1 lec/wk)**

Introduces the use of the HP-48G (G, G+, or GX) calculator to solve mathematical problems. Included topics are Reverse Polish Notation, tick mark entry, equation editor, solver, plot, stack & memory management and more.

**\* M 143 Finite Mathematics**  
[formerly MATH 121 Finite Mathematics]

**4 cr. Prerequisite: M 095 or equivalent. (F, Sp)**

Studies applications of systems of linear equations to problems of optimization, elementary functions, logic, and mathematics of finance. Introduces differentiation.

**\* M 161 Survey of Calculus**

**3 cr. (3 lec/wk) Prerequisite: M 121 or appropriate placement test score. (F, Su)** Covers basic calculus concepts including limits, differentiation, and integration with applications to business, science, and social science problems.

**\* M 171 Calculus I**

[formerly MATH 112 Calculus I]

**4 cr. Prerequisite: M 122. (F, Sp)** Covers differentiation and presents applications to the approximation of functions, root finding, and 1-variable optimization. Introduces integration.

**M 294 Seminar/Workshop**  
[formerly CTMA 292 Seminar]

**V1-2 cr.**

Provides students an opportunity to investigate topics pertinent to the field of technical mathematics or the technology used to study mathematics.

**M 294 Seminar/Workshop**  
[formerly CTMA 293 Workshop]

**V1-2 cr.**

Provides an opportunity for experimental study in an area of technical mathematics of the technology used to study mathematics.

## Media Arts

**MART 208 Multimedia Technology**  
[formerly DSGN 208 Multimedia Technology]

**3 cr. (2 lec/2 lab/wk) Prerequisite: CAPP 120, transfer equivalent or consent of instructor. (F, Sp)**

Provides the student with an opportunity to explore hardware and software aspects of multimedia. Students

participate in a hands-on environment utilizing recordable CD media, digital cameras, scanners, image capture hardware, digital video recorders, and multimedia editing software. Relevance and application of multimedia presentations are also covered.

**\* MART 260 Computer Presentation and Animation**  
[formerly DSGN 248 Computer Presentation and Animation]

**3 cr. (2 lec/2 lab/wk) (F, Sp)**

Excites the student through immersion into the topic of 3D computer graphics and animation. Digital environments are explored using the 3D Studio Max software. Interdisciplinary projects are created utilizing digital object construction, lighting, camera, kinetic and artistic techniques. An overview of audio impact and integration is included.

## Music

**\* MUSI 101 Enjoyment of Music**

[formerly MUSC 100 Music Appreciation]

**3 cr. (F, Sp, Su)** Introduces methods of music understanding and perceptive listening. Examines the language and forms of music, plus the styles and genres of the Baroque, Classical, Romantic and Contemporary periods.

**\* MUSI 114 Band: MSUB Symphonic**  
[formerly MUSC 160 Symphonic Band I]

**1 cr. R-4. (F, Sp)** Provides members an opportunity to perform wind band literature from all periods and styles.

**\* MUSI 131 Jazz Ensemble I: MSUB**  
[formerly MUSC 168 Jazz Ensemble I]

**1 cr. R. (F, Sp)** Provides members the opportunity to perform big band jazz literature from all periods and styles.

**\* MUSI 147 Choral Ensemble: University Chorus**  
[formerly MUSC 162 Concert Choir I]

**1 cr. R-4. (formerly A Capella Choir) (F, Sp)** Provides an opportunity for members to explore and express, through performance, choral music of all periods and styles of composition.

**\* MUSI 207 World Music**  
[formerly MUSC 150 Musics of the World]

**3 cr. (F)** Introduces students to the uses and functions of music in various cultures. The style of music used and performance of music in selected cultures of Africa, Latin America, North America, Asia, the Middle East, as well as folk music of Europe will be explored.

## **Native American Studies**

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### **\* NASX 105 Introduction to Native American Studies**

**[formerly NAMS 181 Introduction to Native American Studies]**

**3 cr.** Covers the scope and concepts of American Indian Studies. Provides a general overview of Indian culture, sociology, values, and history from both a national and regional perspective. Considers the interaction between Indian and non-Indian cultures.

### **\* NASX 205 Native Americans in Contemporary Society**

**[formerly NAMS 211 Social Issues of the Native American]**

**3 cr.** Analytical and evaluative examination of the sociology of Native Americans. Emphasis on the issues raised by the interface of the Native American culture and values with the majority cultures of the United States, including problem areas such as alcoholism, alienation, education, health, crime, and intercultural relations.

## **Sustainable Energy**

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### **NRGY 101 Introduction to Sustainable Energy [formerly SET 110 Introduction to Sustainable Energy]**

**3 cr. (3 lec/wk) (Sp)**

Provides an overview of sustainable energies including solar, wind, hydro, biomass, and geothermal. Students will learn the basic principles of each technology. Students will also investigate renewable resources and their associated technologies.

### **NRGY 110 Fundamentals of Hydraulic/Pneumatic Systems**

**[formerly SET 130 Fundamentals of Hydraulic/Pneumatic Systems]**

**3 cr. (2 lec/2 lab/wk) Prerequisite: M 111.**

Introduces basic hydraulic concepts, formulas, and applications of hydraulic components used for directional, flow, and pressure control of circuits. Students will identify and explain safety rules, precautions, test procedures, common components, and operating principles for hydraulic and pneumatic systems commonly found in the energy industry.

### **NRGY 120 Industrial Safety and Rigging [formerly SET 150 Industrial Safety and Rigging]**

**3 cr. (2 lec/2 lab/wk) (Sp)**

Provides an overview of safe industrial practices and basic rigging techniques. At completion of this course, students will have earned the OSHA 10 certification.

### **NRGY 121 Climb Safety and Rigging**

**1 cr. (2 lab/wk) (F)**

Introduces students to the concept of rigging and basic skills needed for every rigging operation. The skills learned include determining the center of gravity, load balancing, operation of hoists, and use of slings to lift material. Hooks and eyebolts will also be discussed. Students will also learn climb safety and rescue techniques.

### **NRGY 130 Fundamentals of Mechanical Systems [formerly SET 120 Fundamentals of Mechanical Systems]**

**3 cr. (3 lec/wk) (Sp)**

Explains energy industry mechanical systems at the component level. Topics covered include repairing a basic mechanical system, familiarity with basic tooling, and understanding gears and rotational relationships.

### **NRGY 210 Wind Technician Safety**

**[formerly SET 250 Wind Technician Safety]**

**4 cr. (3 lec/2 lab/wk) Prerequisite: NRGY 120.**

Builds on safety topics covered in the Industrial Safety and Rigging course and focuses on safety requirements and techniques common in wind energy technician jobs.

### **NRGY 220 Wind Turbine Equipment**

**[formerly SET 252 Wind Turbine Equipment]**

**3 cr. (2 lec/2 lab/wk) Prerequisite: NRGY 120.**

Introduces common wind turbine components and equipment. The mechanical systems that make up the subsystems of wind turbines will be covered in addition to structural characteristics and aerodynamic principles.

### **NRGY 230 Wind Turbine Operations and Maintenance**

**[formerly SET 254 Wind Turbine Operations and Maintenance]**

**3 cr. (2 lec/2 lab/wk) Prerequisite: NRGY 120.**

Exposes students to real-world scenarios that may be encountered in the workplace. Practice of installation, operation, maintenance, troubleshooting, and repair of wind turbine electro-mechanical systems are included in this course.

### **NRGY 235 Building Energy Efficiency**

**3 cr. (3 lec/wk) Prerequisite: NRGY 101. (F)**

Provides an overview of energy efficiency opportunities in residential buildings and prepares the student to take the National RESNET Home Energy Rater Exam. Provides familiarity with residential construction and basic energy terminology.

### **NRGY 243 Fundamentals of Photovoltaic Design and Installation**

**3 cr. (2 lec/2 lab/wk) Prerequisite: NRGY 101 and**

**ETEC 103. (F)**

Provides students with an introduction to the fundamental principles and technologies of solar energy systems. Emphasis on system design and installation, including site and resource assessment, load analysis, trouble shooting, and cost analysis. The material covered prepares students for a career in renewable energy or for installing a renewable energy system on their own homes. Solar hydronics will also be covered.

**NRGY 291 Special Topics****V1-3 cr. (1-3 lec/wk) (F)**

Provides experimental offerings in Sustainable Energy Technology.

**NRGY 298 Internship****3 cr. (V/wk) (F)**

Provides university credit for student work experience in the area of Sustainable Energy Technology. Learning agreement must be completed prior to registration (restricted).

**NRGY 299 Senior Capstone****3 cr. (3 lec/wk) Prerequisite: NRGY 101, ETEC 103, NRGY 243, and ELCT 241. (F)**

Provides hands-on experience in which the student, under supervision, applies the skills and knowledge presented thus far in the Sustainable Energy program. Students will participate in a sustainable energy technology design, build, and testing project of their choice. The instructor will coach students as they take a project from concept to a working product.

## Nursing

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**▽ NRSNG 100 Introduction to Nursing**

**[formerly NURS 101 Introduction to Nursing]**

**1 cr. (1 lec/wk) (F, Sp, Su)**

Socializes student 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 judgement, legal/ethical/cultural issues in nursing, the need to understand human motivation and behavior, and use of the nursing process.

**NRSNG 130 Fundamentals of Nursing**

**[formerly NURS 230 Fundamentals of Nursing]**

**3 cr. (3 lec/wk) Prerequisite: Acceptance to PN**

**program. Corequisite: NRSNG 131. Offered ONLY Online. (F, Sp)**

Introduces learners to knowledge, basic clinical skills, and attitudes essential for the nursing role. The course approach presents concepts and behaviors of nursing roles within the context of the nursing process and multicultural, holistic healthcare. Emphasis is on theoretical and practical concepts of nursing skills required to meet the needs of patients in a variety of settings.

**NRSNG 131 Fundamentals of Nursing Lab**

**[formerly NURS 231 Fundamentals of Nursing Lab]**

**3 cr. (6 lab/wk) Prerequisite: Acceptance to PN program. Corequisite: NRSNG 130. (F, Sp)**

Performance of clinical skills is integrated into this lab using healthcare scenarios which focus on implementation of the nursing process, clinical decision making, and caring interventions in collaboration with the interdisciplinary team in a variety of healthcare settings.

**NRSNG 135 Pharmacology for Practical Nurses**

**[formerly NURS 232 Pharmacology]**

**3 cr. (3 lec/wk) Corequisite: NRSNG 136. Offered ONLY Online. (F, Sp)**

Introduces the student to the knowledge needed to provide safe nursing care to patients across the lifespan in the administration of medications. Content covered includes the basic principles of pharmacology such as pharmacokinetics, pharmacodynamics, medication interactions, potential adverse medication reactions, and pathophysiology of common disease processes. The emphasis is on patient-centered care utilizing the nursing process and incorporating evidence-based practice.

**NRSNG 136 Pharmacology for Practical Nurses Lab****2 cr. (4 lab/wk) Corequisite: NRSNG 135. (F, Sp)**

Integrates the knowledge of safe medication administration into a laboratory environment. This includes dosage calculation and safe administration of medications through a variety of appropriate routes, including intravenous therapy.

**NRSNG 138 Gerontology for Nursing**

**[formerly NURS 234 Gerontology]**

**1 cr. (1 lec/wk) Prerequisite: Acceptance to PN program. Corequisites: NRSNG 130, NRSNG 131, NRSNG 135, and NRSNG 139. (F, Sp)**

Provides the student with introductory skills and knowledge needed in delivering nursing care to aging clients. Topics explored include current trends (including legal and ethical issues) in gerontological nursing, developmental stages and transitions associated with aging, expected age-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.

**NRSNG 139 Gerontology for Nursing Clinical**  
[formerly NURS 235 Gerontology Clinical]  
**1 cr. (3 clinical/wk) Prerequisite:** Acceptance to PN program. **Corequisites:** NRSNG 130, NRSNG 131, NRSNG 135, and NRSNG 138. (F, Sp)

Provides the student with introductory skills and knowledge needed in delivering nursing care to aging clients. Topics explored include current trends (including legal and ethical issues) in gerontological nursing, developmental stages and transitions associated with aging, expected age-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.

**NRSNG 140 Adult Health Nursing**  
[formerly NURS 240 Core Concepts of Adult Nursing]

**4 cr. (4 lec/wk) Corequisite:** NRSNG 141. *Offered ONLY Online.* (F, Sp)

Builds upon the knowledge acquired in Fundamentals of Nursing. The focus is on safe, effective care environments, health promotion and maintenance, and psychosocial and physiological integrity of adults who are experiencing health interruptions in well-defined practice settings. Principles of pharmacology, cultural competency, gerontology, nutrition, end-of-life, and palliative care are integrated throughout the course.

**NRSNG 141 Adult Health Nursing Clinical**  
[formerly NURS 241 Core Concepts of Adult Nursing Clinical]

**3 cr. (9 clinical/wk) Corequisite:** NRSNG 140. (F, Sp)

Focuses on the implementation of the nursing process, professional behaviors, communication, clinical decision making, caring interventions, and collaboration in interdisciplinary practice to promote, maintain, and restore basic health in well-defined practice settings.

**NRSNG 142 Nursing Care of Women and Children**  
[formerly NURS 242 Core Concepts of Maternal/Child Nursing]

**3 cr. (3 lec/wk) Corequisite:** NRSNG 143. *Offered ONLY Online.* (F, Sp)

Introduces the student to the knowledge needed to provide safe nursing care for the female patient and

family with regard to reproductive issues, including perinatal. Also included is the child patient and family regarding normal growth and development as well as common and chronic disease processes. Psychosocial aspects of care, legal and ethical issues, and cultural beliefs will be incorporated throughout. The emphasis is on patient and family centered care utilizing evidence-based practice and effective interpersonal communication skills while functioning within an interdisciplinary team environment.

**NRSNG 143 Nursing Care of Women and Children Clinical**

[formerly NURS 243 Core Concepts of Maternal/Child Nursing Clinical]

**1 cr. (3 clinical/wk) Corequisite:** NRSNG 142. (F, Sp)

Integrates the knowledge of care for women, children, and families in a variety of clinical settings.

**NRSNG 144 Core Concepts of Mental Health Nursing**  
[formerly NURS 244 Core Concepts of Mental Health Nursing]

**2 cr. (2 lec/wk) Prerequisite:** Acceptance into the Practical Nursing program. (F, Sp)

Examines the physiological, psychological, sociocultural, spiritual, and environmental factors associated with mental health/illness effecting individuals and families. Focus will be placed on basic concepts of psychiatric nursing, therapeutic modalities, as well as psychiatric disorders including psychopharmacological management.

**NRSNG 148 Leadership Issues for Practical Nurses**  
[formerly NURS 246 Leadership Issues]

**2 cr. (2 lec/wk) Corequisite:** NRSNG 149. *Offered ONLY Online.* (F, Sp)

Explores the legal and ethical principles of Practical Nursing leadership in providing safe, relationship-centered care. The concepts of accountability, fiscal responsibility in relation to patient outcomes, collaboration, effective communication, conflict management skills, critical thinking, delegation, principles of human caring, and prioritization are emphasized throughout the course. Application of concepts in the rural environment is included.

**NRSNG 149 Leadership Issues for Practical Nurses Clinical**

[formerly NURS 247 Leadership Issues Clinical]

**1 cr. (3 clinical/wk) Corequisite:** NRSNG 148. (F, Sp)

Integrates theory with implementation of basic leadership skills. Preceptor experiences are based on selected nursing needs in the local and rural communities with a focus on knowledge, skills, and



attitudes of nursing leadership needed to provide high quality, holistic, safe nursing care.

**NRSG 152 Gerontology and Community Nursing**  
**2 cr. (2 lec/wk) Corequisite: NRSG 153. Offered ONLY Online. (F, Sp)**

Presents the knowledge, skills, and attitudes needed to provide high quality holistic nursing care for the geriatric client, as well as other vulnerable populations in the local and rural communities. The safe application of the nursing process in community based, patient-centered, interdisciplinary care environments is emphasized in order to promote patient well-being in regard to common acute and chronic health issues, including end-of-life and palliative care.

**NRSG 153 Gerontology and Community Nursing Clinical**

**2 cr. (6 clinical/wk) Corequisite: NRSG 152. (F, Sp)**

Integrates theory into the clinical setting. The emphasis is on promoting the highest level of health and wellness for common acute and chronic health issues for the geriatric and other vulnerable populations in local and rural communities.

**NRSG 214 Basic IV Therapy**

**[formerly NURS 214 Basic IV Therapy]**

**2 cr. (1 lec/2 lab/wk) Prerequisite: Student must be currently admitted to the Nursing program or presently an LPN or RN seeking IV certification. (F, Sp)**

Addresses administration of parenteral drugs and fluids by the intravenous route. Covers the nursing role and responsibility of intravenous therapy, the techniques of therapy, equipment selection, fluid and electrolyte balance, parenteral nutrition therapy, transfusion therapy, and special applications.

**NRSG 230 Nursing Pharmacology**

**3 cr. (3 lec/wk) Corequisite: NRSG 231. (F, Sp)**

Provides the student with an overview of pharmacology with an emphasis on the study of effects, interactions, and nursing considerations of pharmacologic agents on the client population across the lifespan. The course also explores the ethical, legal, cultural, and age implications of pharmacologic therapy across diverse populations and the lifespan.

**NRSG 231 Pharmacology for Nursing Lab**

**2 cr. (4 lec/wk) Corequisite: NRSG 230. (F, Sp)**

Focuses on the basic principles in providing safe medication administration, including intravenous therapy across diverse populations and the lifespan.

**NRSG 232 Foundations for Nursing**

**3 cr. (3 lec/wk) Corequisite: NRSG 233. (F, Sp)**

Provides opportunities to develop competencies necessary to meet the needs of individuals throughout the lifespan in a safe, legal, and ethical manner, using the nursing process. Students learn concepts and skills necessary for maintaining standard precautions and physical and psychological safety, along with skills needed in therapeutic interventions. Students are introduced to the concepts of professional nursing, patient needs, safety, communication, teaching/learning, critical thinking, ethical-legal, rural nursing, cultural and ethnic diversity, and interdisciplinary patient-centered care.

**NRSG 233 Foundations of Nursing Lab**

**3 cr. (6 lab/wk) Corequisite: NRSG 232. (F, Sp)**

Focuses on psychomotor nursing skills needed to assist individuals in meeting basic human needs. Application of the nursing process and hands-on learning experiences for nursing skills, patient assessments, and basic therapeutic skills are practiced and demonstrated.

**NRSG 234 Adult Nursing I**

**3 cr. (3 lec/wk) Corequisite: NRSG 235. (F, Sp)**

Builds upon the knowledge and skills acquired in Foundations of Nursing and places them in the context of patient-centered care. Social, cultural, ethical, rural, and legal issues, as well as end-of-life and palliative care across diverse adult populations are introduced. Health promotion and prevention throughout the adult lifespan, with specific focus on the geriatric patient, are emphasized. Normal aging, health alterations associated with aging, and their implications are addressed.

**NRSG 235 Adult Nursing I Clinical**

**2 cr. (6 lab/wk) Corequisite: NRSG 234. (F, Sp)**

Introduces the student to nursing practice in care of the stable adult patient. This includes care of the adult in a variety of health care settings. Students utilize the nursing process to develop individualized plans of care to prevent illness, promote wellness, and maintain or restore health, based on patient needs and evidence based practice.

**NRSG 236 Health and Illness of Maternity Nursing**

**2 cr. (2 lec/wk) Corequisite: NRSG 237. (F, Sp)**

Applies holistic concepts to the professional nursing care of the childbearing family, including conception, prenatal, intrapartum, postpartum, and newborn care. Content addresses health and complex alterations; reproduction and menopause; nutrition; therapeutic communication; and ethical, legal, cultural, and evidence based practice.

**NRSG 237 Health and Illness of Maternal Nursing Clinical****1 cr. (3 lab/wk) Corequisite: NRSG 236. (F, Sp)**

Introduces the student to the role of the registered nurse in the care of the childbearing family. Students will utilize the nursing process to assess and develop individualized plans of care for mother and infant. Emphasis will be placed on patient education to promote healthy mother, infant, and childbearing family bonding.

**NRSG 244 Adult Nursing II****3 cr. (3 lec/wk) Corequisite: NRSG 245. (F, Sp)**

Builds upon previous knowledge of the nursing process and care of the patient experiencing acute and chronic disease alterations. Pathophysiologic processes are discussed as related to evidence-based nursing interventions. Students apply the nursing process, nutritional therapy, and pharmacological therapy utilizing interdisciplinary practice to promote, maintain, and restore health across the adult lifespan.

**NRSG 245 Adult Nursing II Clinical****2 cr. (4 lab/wk) Corequisite: NRSG 244. (F, Sp)**

Provides clinical experiences for the student to care for individuals and families experiencing acute health alterations and those associated with chronic disease processes. Students use the nursing process to systematically analyze information to plan and implement nursing interventions which are individualized and founded on evidence-based practice.

**NRSG 246 Health and Illness of Child and Family Nursing****2 cr. (2 lec/wk) Corequisite: NRSG 247. (F, Sp)**

Applies holistic concepts to the professional nursing care of children and their families in health, illness, end-of-life, and palliative care. Emphasis is placed on incorporating growth and development principles to facilitate positive health outcomes through health promotion, nutrition, and disease prevention.

**NRSG 247 Health and Illness of Child and Family Nursing Clinical****1 cr. (3 lab/wk) Corequisite: NRSG 246. (F, Sp)**

Utilizing the nursing process, students will provide nursing care to healthy and high-risk pediatric populations and their families experiencing disruptions in biological, psychological, social, cultural, and spiritual needs. Emphasis is also placed on health promotion, health maintenance, and therapeutic communication.

**NRSG 250 LPN to RN Transition****[formerly NURS 248 Transition to Registered Nursing]****3 cr. (2 lec/2 lab/wk) Prerequisite: LPN license and out of college 3 years or more. (F, Sp)**

Integrates the components of lifelong learning, adapting to change, critical thinking, nursing process, legal and ethical issues, math for meds, IV therapy, APA format, and skill review to “socialize” the student from the LPN/LVN to the Associate Degree RN.

**NRSG 252 Complex Care Maternal/Child Client [formerly NURS 252 Complex Care Needs of the Maternal/Child Client]****2 cr. (2 lec/wk) Prerequisite: Acceptance to ASN program. Corequisites: NRSG 253, NRSG 254, and NRSG 255. (F, Sp)**

Expands the knowledge base of the student to provide care to maternal/child clients experiencing acutely changing conditions in settings where outcome is less predictable. Topics include care of the client during childbirth, high-risk pregnancies, obstetrical emergencies, neonatal emergencies, and infants and children requiring complex collaborative care.

**NRSG 253 Complex Care Maternal/Child Client Clinical****[formerly NURS 253 Complex Care Needs of the Maternal/Child Client Clinical]****1 cr. (3 clinical/wk) Prerequisite: Acceptance to ASN program. Corequisites: NRSG 252, NRSG 254, and NRSG 255. (F, Sp)**

Expands the knowledge base of the student to provide care to maternal/child clients experiencing acutely changing conditions in settings where outcome is less predictable. Topics include care of the client during childbirth, high-risk pregnancies, obstetrical emergencies, neonatal emergencies, and infants and children requiring complex collaborative care.

**NRSG 254 Mental Health Concepts****[formerly NURS 254 Complex Care Needs-Mental Health Client]****3 cr. (3 lec/wk) Prerequisite: Acceptance to ASN program. Corequisite: NRSG 255. (F, Sp)**

Utilizing the basic nursing concepts of basic human needs, developmental theory, nursing process, therapeutic communication, and nursing interventions, the student will learn to promote and maintain health for clients and families experiencing mental health issues. The student will examine client responses to stressors across the life span. Tasks of biological-behavioral concepts in psychosocial nursing care, rural, and cultural impacts will be addressed.

**NRSG 255 Mental Health Concepts Clinical**  
**[formerly NURS 255 Complex Care Needs-Mental Health Client Clinical]**

**1 cr. (3 clinical/wk) Prerequisite:** Acceptance to ASN program. **Corequisite:** NRSG 254. (F, Sp)  
Applies the knowledge of psychiatric and mental health nursing. Students will have mental health focused clinical experiences in a variety of settings.

**NRSG 256 Pathophysiology**  
**[formerly NURS 250 Pathophysiology]**

**3 cr. (3 lec/wk) Prerequisite:** Acceptance into ASN program or consent of instructor. (F, Sp)  
Introduces 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 systems will be discussed as well as the latest development in research and patient-centered nursing interventions.

**NRSG 259 Adult Nursing III**

**3 cr. (3 lec/wk) Corequisites:** NRSG 260 and NRSG 261. (F, Sp)  
Expands on the nursing role in care of patients with complex health alterations. Students utilize evidence-based, interdisciplinary interventions to meet patient and family needs.

**NRSG 260 Adult Nursing III Lab**

**1 cr. (2 lab/wk) Corequisites:** NRSG 259 and NRSG 261. (F, Sp)  
Utilizing previous knowledge, students are introduced to basic electrocardiogram interpretation, advanced concepts of perfusion, ventilation, and complex pharmacologic regimens.

**NRSG 261 Adult Nursing III Clinical**

**2 cr. (6 lab/wk) Corequisites:** NRSG 259 and NRSG 260. (F, Sp)  
Focuses on application of the nursing process and utilization of information to provide comprehensive nursing care to the acutely ill patient experiencing complex health alterations in a variety of settings. Emphasis is placed on prioritization of care and collaboration with other members of the interdisciplinary team to ensure optimal client care.

**NRSG 262 Complex Care Adult Client**  
**[formerly NURS 260 Complex Care Needs of the Adult Client]**

**2 cr. (2 lec/wk) Prerequisite:** Completion of 5<sup>th</sup>

semester ASN coursework. **Corequisites:** NRSG 263, NRSG 266, and NRSG 267. (F, Sp)

Expands previously learned concepts to prepare 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, and shock, sepsis/SIRS, complex burns, etc.

**NRSG 263 Complex Care Adult Client Clinical**  
**[formerly NURS 261 Complex Care Needs of the Adult Client Clinical]**

**2 cr. (6 clinical/wk) Prerequisite:** Completion of 5<sup>th</sup> semester ASN coursework. **Corequisites:** NRSG 262, NRSG 266, and NRSG 267. (F, Sp)  
Expands previously learned concepts to prepare 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, and shock, sepsis/SIRS, complex burns, etc.

**NRSG 265 Advanced Clinical Skills Lab**

**[formerly NURS 262 Advanced Clinical Skills]**  
**1 cr. (2 lab/wk) Corequisites:** NRSG 262 and NRSG 266. (F, Sp)

Applies concepts from previous nursing courses to carry out complex nursing interventions. Topics covered include central venous therapy, parenteral nutrition, hemodynamic monitoring, advanced airway/ventilatory support, intracranial pressure monitoring, IV medication administration, high risk IV infusions, blood/blood product administration, conscious sedation, advanced wound care, etc.

**NRSG 266 Managing Client Care for the RN**  
**[formerly NURS 264 Managing Client Care]**

**2 cr. (2 lec/wk) Corequisite:** NRSG 267. (F, Sp)  
Examines concepts of leadership and management, emphasizing prioritization, delegation, and supervision of nursing care for patients across the lifespan. Topics also include communication techniques, legal and ethical issues, care of the culturally diverse patient, and utilizing change theory. Healthcare policy, finance, and regulatory environment issues are explored and applied to planning, collaborating, and coordinating care across the continuum.

**NRSG 267 Managing Client Care for the RN Clinical****[formerly NURS 265 Managing Client Care Clinical]****2 cr. (6 clinical/wk) Corequisite: NRSG 266. (F, Sp)**

Focuses on principles of nursing leadership and management in a variety of settings. Students apply knowledge to provide culturally competent, holistic interventions within the professional nursing role for individuals, communities, and families across the lifespan in this precepted clinical.

**NRSG 291 Special Topics****[formerly NURS 292 Seminar-Special Projects]****1-3 cr.**

Provides an opportunity for experimental study in an area of Nursing or Allied Health professions.

**NRSG 294 Seminar/Workshop****[formerly NURS 293 Workshop]****1-3 cr.**

Provides an opportunity for experimental study in an area of Nursing or Allied Health professions.

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**Networking Technology Systems****NTS 104 CCNA 1: Intro to Networks****[formerly CST 170 Introduction to Internetworking and Cabling]****4 cr. (2 lec/4 lab/wk) Prerequisite: CAPP 120 or Instructor Approval.**

Provides students in the first of four semester courses with classroom and laboratory experience in current and emerging networking technology that will empower them to enter employment or further education and training in the computer networking field. Covers the following networking topics and skills: OSI model and industry standards, network topologies, IP addressing including subnet masks, networking components, basic network design, beginning router configurations, and routed and routing protocols.

**NTS 105 CCNA 2: Routing & Switching Essentials [formerly CST 172 Introduction to IP Routing]****4 cr. (2 lec/4 lab/wk) Prerequisite: NTS 104.**

Teaches students the skills they will need to design, build, and maintain small to medium size networks. The focus of this course is basic configuration of routers into small networks.

**NTS 204 CCNA 3: Scaling Networks****[formerly CST 174 Advanced Routing and Ethernet Switching]****4 cr. (2 lec/4 lab/wk) Prerequisite: NTS 105.**

Teaches students the skills they will need to design, build, and maintain small to medium size networks.

The focus of this course is the integration of routers and switches into small networks.

**NTS 205 CCNA 4: Connecting Networks****[formerly CST 176 Wide Area Networking]****4 cr. (2 lec/2 lab/wk) Prerequisite: NTS 204.**

Teaches students the skills they need to design, build, and maintain small to medium size networks. The focus of this course is configuring routers and small networks into WANs (wide area networks).

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**Nutrition****NUTR 121 Clinical Human Nutrition****[formerly BIOL 104 Nutrition for Health Careers]****2 cr. (2 lec/wk) (F, Sp, Su)**

Introduces the importance of a nutritious diet in the maintenance and promotion of health. Emphasizes clinical aspects of human nutrition and appropriate uses of diet therapy in the clinical setting. Designed for students in health care pathways. Restricted to ASN/PN majors at City College at MSU Billings.

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**Pharmacy****PHAR 100 Introduction to Pharmacy Practice for Technicians****3 cr. (3 lec/wk) Prerequisite: Admission to Pharm Tech program. (F)**

Examines general aspects of the profession, including types of pharmacy practice, pharmacy law, and regulations. Students will learn the various job duties as well as educational requirements, registration, and licensing of pharmacists and pharmacy technicians.

**PHAR 101 Pharmacy Calculations****3 cr. (3 lec/wk) Prerequisite: Admission to Pharm Tech program. (F)**

Prepares students for calculations used in pharmacy practice. This course reviews various systems of weights and measures (metric, apothecary, household), conversions between these systems, ratio/proportions, dosage determinations, percentage preparations, reducing and enlarging formulas, dilution, concentration, alligation, flow rates, international time, temperature measurements, compounding formulas, and business math.

**PHAR 102 Pharmacology for Technicians****6 cr. (6 lec/wk) Prerequisite: Admission to Pharm Tech program. (F)**

Introduces students to the general principles of pharmacology. Drugs are discussed in the context of drug classes, mechanisms of action, disease types, and body systems. The goal is to provide the student with sufficient background information so that the student will be able to play a key role in avoiding dispensing

errors. Although emphasis will be given to the approximately 200 most commonly prescribed drugs, many more drugs will be discussed during the semester.

### **PHAR 104 Pharmacy Dispensing Lab**

**3 cr. (6 lab/wk) Prerequisite: Admission to Pharm Tech program. (F)**

Provides hands-on training in medication dispensing, non-sterile compounding, and sterile product preparation, without impact or potential for impact on patients. It also continues to build upon the knowledge attained in previous courses, allowing the student to use that knowledge in a practical manner. The course explores the day-to-day operations of both retail and hospital pharmacy. Students will continue to build communication skills through various means. While each skill may be taught in isolation, by the end of the lab component, students will perform each skill in a sequential manner the way the skill is performed in a pharmacy.

### **PHAR 120 Medication Safety**

**3 cr. (3 lec/wk) Prerequisites: PHAR 100, PHAR 101, PHAR 102, PHAR 104 and second semester standing. (Sp)**

Examines why medication errors occur, what is being done about errors, and what can be done in the future. Includes medication safety, quality assurance, and quality improvement topics.

### **PHAR 121 Preparation for the PTCB Exam**

**1 cr. (1 lec/wk) Prerequisites: PHAR 100, PHAR 101, PHAR 102, PHAR 104 and second semester standing. (Sp)**

Assists students in preparing for the Pharmacy Technician Certification Board's national exam (PTCE). Students must successfully complete a national certification test to become a registered pharmacy technician in the State of Montana. The PTCE is the most recognized national certification exam in the U.S. and students must take this exam as one of the criteria for completing City College's Pharmacy Technician training program. Students will learn strategies for test taking and review topics covered on the test as outlined by the PTCB.

### **PHAR 198 Internship: Pharmacy**

**8 cr. (24 lab/wk) Prerequisites: PHAR 100, PHAR 101, PHAR 102, PHAR 104 and second semester standing. (Sp)**

Provides students the opportunity to participate in training and experience in a variety of hospital and community pharmacy settings under supervision of a pharmacist. Students' experiential activities are performed in at least two different types of contemporary pharmacy settings, one of which must be

a dispensing pharmacy (e.g., hospital, community, etc.). This experience will emphasize practical experience in outpatient dispensing, inpatient dispensing, unit-dose systems, IV admixture systems, bulk and sterile compounding, purchasing and inventory control, and effective communication. It is the final preparation for entering the workforce as a pharmacy technician.

## **Philosophy**

### **\* PHL 110 Introduction to Ethics: Problems of Good and Evil**

**[formerly PHIL 115 Ethics]**

**3 cr. (F, Sp)** Explores canonical moral theories and contemporary moral problems. Students are invited to examine a variety of moral viewpoints, including the strengths and weaknesses of each, and to critically examine their own moral commitments. Coursework explores controversial issues such as abortion, animal rights, sexism, poverty, euthanasia, environment, and capital punishment.

### **\* PHL 111 Philosophies of Life**

**[formerly PHIL 117 Philosophies of Life]**

**3 cr. (F, Sp)** Explores how philosophy shapes our lives. This course serves as an introduction to core philosophical themes and thinkers from a variety of perspectives. Things to be pondered might include the meaning of life, justice, skepticism, and our place in the world.

### **\* PHL 254 People and Politics**

**3 cr. (3 lec/wk) (F)** Examines a number of the main figures, texts, and ideas in the history of western political thought, with an emphasis on the development of democracy. Analyzes the significance of issues like rights, freedoms, equality, justice, the legitimacy of the state, and the sovereign.

### **\* PHL 271 Indian Philosophies and Religions**

**[formerly PHIL 233 Philosophies and Religions of India]**

**3 cr. (F)** Explores, through a comparative lens, the philosophies and religions of India, including such topics as Hinduism, Buddhism, mythology, art, ethics, and religious exemplars, as well as contemporary issues such as gender relations, attitudes toward nature, and the place of nonhuman animals. Interactive and rooted in critical thinking, this course invites students to compare their own worldview with philosophical and spiritual worldviews of India.

### **\* PHL 272 Chinese Philosophies and Religions**

**[formerly PHIL 234 Philosophies and Religions of China, Tibet, and Japan]**

**3 cr. (Sp)** Explores the philosophies and religions of China, including such topics as Daoism, Confucianism,

mythology, art, ethics, and religious exemplars, as well as contemporary issues such as gender relations, attitudes toward nature, and the place of nonhuman animals. Interactive and rooted in critical thinking, this course invites students to compare their own worldview with philosophical and spiritual worldviews of China.

## Physics

### \* PHSX 103 Our Physical World

[formerly PHYS 101 Earth, Air, Fire & Water]

**3 cr. Prerequisite: M 095. Corequisite: PHSX 104.**

**(F, Sp, Su)** Concentrates on fundamental ideas of physics: energy, forces, and conservation laws. Helps students understand basic principles which underlie and explain all diverse phenomena and structures of the physical world. Emphasizes conceptual rather than mathematical treatment; however, basic algebra skills are required.

### \* PHSX 104 Our Physical World Laboratory

[formerly PHYS 102 Earth, Air, Fire & Water Lab]

**1 cr. Corequisite: PHSX 103. (F, Su)** Examines and analyzes the immediate physical environment in terms of fundamental principles through data collection, analysis, and the formation of scientifically valid conclusions. Develops an appreciation for the simplicity of basic physical laws and the broad range of phenomena which can be explained by them.

### \* PHSX 105 Fundamentals of Physical Science

[formerly PSSC 101 The Physical World Around Us]

**3 cr. Prerequisite: M 095. Corequisite: PHSX 106.**

**(Sp)** Introduces students to the fundamental ideas of Chemistry, Physics and Earth Science and their roles in our understanding of the world, and explores the impact of each on our society. Emphasizes conceptual rather than mathematical treatment; however, basic algebra skills are required. Lab required.

### \* PHSX 106 Fundamentals of Physical Science Lab

[formerly PSSC 102 The Physical World Around Us Lab]

**1 cr. (Sp)** Enhances the lecture material of PHSX 105 through the usage of experiential activities.

### \* PHSX 205 College Physics I

[formerly PHYS 110 College Physics I]

**3 cr. Prerequisite: M 122. Corequisite: PHSX 206.**

**(F)** Presents an algebra-based treatment of introductory physics covering vector analysis, Newton's Laws of Motion, conservation laws, bulk properties of matter, fluid mechanics, and wave motion. This is the first semester of a two-semester sequence. Students may receive credit for only one introductory sequence: PHSX 205-207 or PHSX 220-232.

### \* PHSX 206 College Physics I Laboratory

[formerly PHYS 111 College Physics I Lab]

**1 cr. Prerequisite: M 122. Corequisite: PHSX 205.**

**(F)** Laboratory to complement the lecture in PHSX 205.

## Process Plant

### PPT 101 Fundamentals of Processing Technology

Lecture

**4 cr. (4 lec/wk)**

Introduces the student to the fundamentals of process/refinery technology. Areas covered are the mechanics of fluids, hydrocarbons, gases, heat, and chemistry. The student realizes how each plays a significant role in the refining distillation process.

### PPT 102 Fundamentals of Process Technology

Laboratory

**1 cr. (2 lab/wk) Corequisite: PPT 101.**

Provides students exposure to major concepts of industry through hands-on laboratory investigations and application of principles learned in PPT 101.

### PPT 120 Environmental Awareness

**2 cr. (2 lec/wk)**

Provides the student with the history behind certain environmental policies, the creation of OSHA, and key environmental issues. Provides learning in treatment processes, waste water units, vapor recovery systems, cleanup, and an overview of the specialty equipment necessary for an ecologically sound process plant.

### PPT 130 Process Diagrams for Process Technology

**2 cr. (1 lec/2 lab/wk)**

Provides the student with an introduction in the use of process flow and instrument drawings. Upon completion of this course, students will be familiar with using P&ID (Process and Instrument Drawings) drawings in the course of their work as process technicians. In addition, students will obtain the skills necessary to produce process flow diagrams.

### PPT 135 Instrument and Control Systems Lecture

**4 cr. (4 lec/wk) Prerequisites: PPT 101 & 130, TRID 185.**

Familiarizes the student with the vocabulary surrounding the instrument and control field as well as examining the function of each instrument. The topics of process measurements, analytical instrumentation, process controls, and instrument systems are also covered in this course.

### PPT 136 Instrument and Control Systems Laboratory

**1 cr. (2 lab/wk) Corequisite: PPT 135.**

Provides students exposure to major concepts of industry through hands-on laboratory investigations and application of principles learned in PPT 135.

**PPT 140 Brewing Process Technology****2 cr. (1 lec/2 lab/wk) (Sp)**

Introduces the student to actual brewing processes, taking an in-depth look at each process, unit variables, equipment design and function, process control methodologies, and unit specific operating and safety considerations. Various types of equipment are discussed, including heaters, coolers, pumps, filters, fermentation reactors, distillation columns, reboilers, and condensers. The course is designed to provide classroom time balanced with hands-on review of the various processes.

**PPT 151 Process Plant Safety I****2 cr. (2 lec/wk)**

Examines the regulatory safety programs instituted by OSHA and other regulatory agencies which are specific to the processing industry. Covers a variety of topics such as hazards safety, personal protective equipment, emergency response and safe work practices.

**PPT 161 Process Plant Safety II****2 cr. (1 lec/2 lab/wk) Prerequisite: PPT 151.**

Provides the student with detailed instruction in the field of safety and health within the Process industry. In this course, the student will complete an in-depth study in the use of gas detection equipment, the use of the permitting system including lock out/tag out, the use of OSHA logs, the use of advanced safety equipment, and study the importance of industrial hygiene in an industrial setting.

**PPT 175 Process Plant Sciences Lecture****4 cr. (4 lec/wk) Prerequisite: PPT 101.**

Provides the fundamentals necessary for an in-depth look at the distillation process. Examines the concepts of heat and thermodynamics, as well as the chemical bonds, organic chemistry, the periodic table and hydrocarbon concepts. Gives students the necessary tools for a better understanding of the process taking place in the refining and power industries.

**PPT 176 Process Plant Sciences Laboratory****1 cr. (2 lab/wk) Corequisite: PPT 175.**

Provides students exposure to major concepts of industry through hands-on laboratory investigations and application of principles learned in PPT 175.

**PPT 207 Boilers, Accessories and Basic Operations****3 cr. (2 lec/2 lab/wk)**

Offers an introduction to boiler equipment, controls, and systems. Instruction includes the function and

operation of all major components and control devices, common troubleshooting problems, and common maintenance concerns.

**PPT 208 Equipment and Operations Laboratory****2 cr. (4 lab/wk) Corequisite: PPT 210.**

Provides students exposure to major concepts of industry through hands-on laboratory investigations and application of principles learned in PPT 210.

**PPT 210 Equipment and Operations Lecture****4 cr. (4 lec/wk) Prerequisite: PPT 175.**

Covers the equipment necessary for the operation of a process/refining plant. A few topics of discussion include pumps, compressors, valves, heat exchangers, distillation towers, cooling towers, as well as auxiliary systems. Some of the operations principles reviewed are pneumatics, boilers, hydraulic functions, furnace processes, reactor systems, and distillation. Reading process flows and instrument diagrams is also included.

**PPT 211 Advanced Operations Lecture****2 cr. (2 lec/wk) Prerequisite: PPT 210.**

Introduces the student to actual refining processes, taking an in-depth look at each process, as well as the unit variables, equipment, critical control areas, product and unit specific safety considerations. Various types of processes are discussed, including Fluid Catalytic Cracking, Alkylation, Catalytic Reforming, De-sulfurization, Crude/Vacuum Systems, Amine, Coking, and Hydro treating. The course is also designed to provide classroom time balanced with field review of the various processes.

**PPT 212 Advanced Operations Laboratory****1 cr. (2 lab/wk) Corequisite: PPT 211.**

Provides students exposure to major concepts of industry through hands-on laboratory investigations and application of principles learned in PPT 211.

**PPT 220 Quality Control Practices****2 cr. (2 lec/wk) Prerequisites: PPT 210, BGEN 105.**

Provides the student with an overview of the field of quality within the Process industry. Within this course, students will be introduced to many industry-related quality concepts including operating consistency, continuous improvement, plant economics, team skills, and statistical process control (SPC).

**PPT 225 Plant Investigation and Troubleshooting****2 cr. (1 lec/2 lab/wk) Prerequisite: PPT 210.**

Provides the student with an overview of the various troubleshooting models used by process technicians. Process troubleshooting involves different types of troubleshooting techniques, procedures, and methods used to solve process problems. Topics include

application of data collection and analysis, cause-effect relationships, and reasoning. The student is exposed to many different trouble situations similar to those encountered in the process plant experience. The student is taught a systematic way to solve problems, using measured process variables and personal knowledge of how they affect each other (cause and effect).

### **PPT 292 Seminar**

**V1-3 cr.**

Provides students an opportunity to investigate intensively topics pertinent to the field of process plant technology.

### **PPT 293 Workshop**

**V1-3 cr.**

Provides an opportunity for experimental study in an area of process plant technology.

### **PPT 296 Cooperative Education /Internship**

**V1-9 cr. (45 hours/credit)**

Provides university credit for a sophomore experience in the area of Process Plant Technology, supervised by faculty. Learning agreement must be completed prior to registration (restricted).

## **Political Science**

### **\* PSCI 210 Introduction to American Government [formerly POLS 212 United States Government]**

**3 cr.** Covers the American Political System relative to central government and institutions. Attention is given to concepts, organizations and functions with emphasis on the political, governmental and democratic processes and problems, including the role of individual and group relationships. Provides a perspective and background for further study in Political Science.

### **\* PSCI 220 Introduction to Comparative Government**

**[formerly POLS 200 Introduction to Comparative Government]**

**3 cr.** Introduces the ideas behind the democratic and non-democratic forms of political life in the modern world; investigates the changing nature of the role of government through systematic and comparative study of political structures, functions, behavior and changes; and provides a background for the pursuance of more specialized study in the various fields of Political Science.

### **\* PSCI 230 Introduction to International Relations [formerly POLS 221 International Relations]**

**3 cr.** Considers the nature of relations among nations, various dimensions of international politics and the nature of political challenges occasioned by the

changing milieu in which international affairs are conducted.

## **Psychology**

### **\* PSYX 100 Introduction to Psychology [formerly PSYC 101 General Psychology]**

**3 cr. (F, Sp, Su)** Presents an overview of the psychological functioning of the individual, including such topics as the biological bases of behavior, learning, cognition, motivation, developmental and social processes, psychological disorders and their treatment.

### **\* PSYX 231 Human Relations**

**[formerly PSYC 271 Human Relations]**

**3 cr. (Su)** Considers the psychological nature of interpersonal relationships, including nonverbal communication, defensiveness, anger, empathy, feedback, listening, and conflict; uses role-playing to practice improving relationships.

## **Power Plant**

### **PWRP 201 Power Plant Equipment and Operations 3 cr. (2 lec/2 lab/wk)**

Provides the student with an introduction to the major systems and components that make up a modern power plant. Students learn how electric power is produced and distributed; how boilers, turbines, and condensers operate; and what the general responsibilities of plant operators are during all phases of plant operation. Specific attention is given to the flow of water and steam through the steam cycle, how combustion occurs, types of boilers and turbines, operation of steam cycle support systems, bearings and lubrication, turbine control, pollution control, and plant safety. This course covers the various types of equipment used in the production of electricity, including pumps, valves, air compressors, coal pulverizers, fans, cooling towers, condensers, and heat exchangers.

### **PWRP 203 Energy Sources and Conversion 3 cr. (2 lec/2 lab/wk)**

Allows students to study the various forms of energy and the processes used to convert chemical and potential energy into thermal, mechanical, and in some instances, electrical energy. Energy sources that will be studied include fossil fuels (coal, oil, and natural gas), hydro, wind, fuel cells, solar, derived fuel, geothermal, and nuclear. Combustion and reaction will be discussed in detail for those energy sources that require combustion to convert from one energy form to another.



**PWRP 210 Turbines, Accessories and Basic Operations****3 cr. (2 lec/2 lab/wk) Prerequisites:** PPT 135, PPT 175

Allows students to study all the elements that make up gas and steam turbines, a combined cycle unit, and associated auxiliary systems. This course also covers the safe and efficient operation of gas turbines and heat recovery steam generators and their different applications as used in combine cycle and cogeneration configurations. Students will learn how thermal energy is converted to mechanical energy as the steam passes through a typical industry steam turbine. Steam turbine start-up and shut-down procedures will also be studied.

**PWRP 214 Power Generation****4 cr. (3 lec/2 lab/wk) Prerequisite:** PPT 175.

Introduces the basic elements of generator design, protection, and operation. Students are introduced to the theoretical aspects of reactive power in power systems by analyzing the inductive and capacitive components of the system, with an emphasis on megavar loading as it is affected by the excitation system. The generator's auxiliary systems, including hydrogen cooling systems, stator cooling systems, seal oil systems, and generator degassing procedures, are also introduced and the function and types of exciters commonly found in power plants are examined.

**PWRP 216 Electrical System Components and Protections****3 cr. (2 lec/2 lab/wk) Prerequisite:** PPT 175.

Introduces typical devices used to protect personnel and prevent damage to plant equipment. Also covered are generator, bus, and line differential protection, as well as high- and low-pressure protection. The material presented includes trip and alarm logic for chemical protection, turbine protection, boiler protection, and generator protection. Devices covered include fuses over current relays and over- and under-voltage relays. The course covers practices for electrical protection of plant equipment and personnel.

**PWRP 218 Advanced Plant Operations and Troubleshooting****4 cr. (2 lec/4 lab/wk) Prerequisite:** PWRP 201.

Allows students to gain the knowledge necessary to comprehend overall power plant operations and respond to abnormal operating conditions. Students will also participate in root cause analysis exercises while troubleshooting different operating scenarios.

**PWRP 296 Cooperative Education/Internship**  
**2 cr. (45 hours/credit)**

Provides students with the opportunity to supplement coursework with practical work experience related to

their educational program. Students work under the immediate supervision of experienced personnel at the business location and with the direct guidance of the instructor.

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**Reading****RD 101 Reading Improvement for College Students**  
**3 cr. (3 lec/wk) (F, Sp)**

Provides instruction and practice in applying active reading strategies, improving comprehension in content areas, demonstrating critical thinking skills in responding to individual content area reading assignments, and increasing vocabulary to improve academic success. RD 101 prepares students for the demands of college-level reading. Course earns academic credit but does not count toward General Education, a degree, or certification.

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**Rehabilitation and Related Services****\* REHA 201 Introduction to Diversity in Counseling**

**3 cr.** Introduces counseling and the importance of multicultural knowledge, skills, awareness, and attitudes toward the clients they serve. The course focuses on counselor perspectives for understanding and interacting with diverse groups, and will examine theoretical and research literature concerning cultural characteristics and differences related to disability, gender, race/ethnicity, sexual orientation, religion, geography, advanced aging, and social class. Students will be provided the opportunity to explore scholarly as well as practical resources for interacting with diverse individuals and families.

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**Religious Studies****\* RLST 170 The Religious Quest****[formerly PHIL 105 The Religious Quest]**

**3 cr. (F, Sp)** Explores humanity's rich accumulation of thought, art, and writings from religious traditions around the world. Rooted in critical thinking, coursework compares and contrasts Daoist, Hindu, Muslim, Buddhist, Confucian, Jewish, Pagan, Jian, Sikh, and Christian traditions, with an eye to exploring and re-envisioning our own spiritual journey.

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**Integrated Sciences****\* SCIN 101 Integrated Sciences I****3 cr. Prerequisite:** M 095. **Corequisite:** SCIN 102.

**(F)** Introduces the concepts and methodology of science by integrating biology, chemistry, physics and geology to investigate specific relevant topics. In particular, the themes of organization, energy, transformation, and diversity are explored in relation to each scientific discipline. Emphasizes conceptual

rather than mathematical treatment; however, basic algebra skills are required. Lab required.

**\* SCIN 102 Integrated Sciences Lab**

**1 cr. Corequisite: SCIN 101. (F)** Enhances the lecture material of SCIN 101 through experimental activities.

**\* SCIN 103 Integrated Sciences II**

**3 cr. Prerequisite: SCIN 101. Corequisite: SCIN 104. Offered ONLY Online. (Sp)** Continues to apply the concepts and methodology biology, chemistry, geology, and physics to additional topics. Further details of the application of organization, energy, transformation, and diversity are explored.

**\* SCIN 104 Integrated Science Lab II**

**1 cr. Prerequisite: SCIN 102. Corequisite: SCIN 103. (Sp)** Enhances lecture material of SCIN 103 through experimental activities.

## Sociology

**\* SOCI 101 Introduction to Sociology**

**[formerly SOCL 101 Introduction to Sociology]**

**3 cr.** Introduces concepts and principles of sociology. Surveys the discipline's basic ideas and orientation.

**\* SOCI 201 Social Problems**

**[formerly SOCL 221 Social Problems]**

**3 cr.** Provides key sociological concepts and theoretical perspectives in the study of social problems. Examines certain selected major U.S. social problems from the perspective of cultural values and social structure. Different possible solutions to the problems will also be explored.

## Spanish

**\* SPNS 150 The Hispanic Tradition**

**[formerly SPAN 150 The Hispanic Tradition]**

**3 cr. (F)** Presents aspects of Hispanic traditions and culture across the time and geography as they have shaped current Hispanic societies. Taught in English.

## Statistics

**\* STAT 141 Introduction to Statistical Concepts**

**[formerly STAT 141 Introduction to Statistics]**

**3 cr. Prerequisite: M 095 or equivalent. (F, Sp, Su)** Introduces the basic ideas of modern statistics including descriptive statistics, probability, and statistical inference.

**\* STAT 216 Introduction to Statistics**

**[formerly STAT 241 Statistical Methods]**

**4 cr. Prerequisite: M 095 or equivalent. (F, Sp, Su)** Covers descriptive techniques, probability distributions, and statistical inference of one and two sample tests and

associated confidence intervals for means and proportions and linear regression. Introduces statistical analysis using technology.

## Technical Administrative Skills

**▽ TASK 115 Keyboard Applications/Ten Key [formerly CTBU 115 Keyboard Applications/Ten Key]**

**3 cr. (1 lec/4 lab/wk) (F, Sp)**

Applies keyboarding skills to the formatting of various kinds of business correspondence. The ten-key component develops the skill to operate the computer numeric ten-key pad by the touch method. Students will continue building speed and improving accuracy on both keyboards.

**▽ TASK 145 Records Management**

**[formerly CTBU 131 Records and Information Management]**

**3 cr. (3 lec/wk) Prerequisite: CAPP 120. (F, Sp)**

Applies concepts of file storage and retrieval and ARMA basic rules for the four most commonly used filing systems: alphabetic, numeric, subject, and geographic. Emphasis is also placed on electronic file management. The student will learn the basics of database management through design, control, organization, and accuracy.

**TASK 202 Machine Transcription**

**[formerly CTBU 113 Transcription]**

**3 cr. (1 lec/4 lab/wk) Prerequisites: TASK 115, CAPP 154. (F, Sp)**

Develops the ability to produce business correspondence using dictation/transcription equipment.

**TASK 230 Office Career Success**

**[formerly CTBU 133 Office Applications]**

**3 cr. (3 lec/wk) (F, Sp)**

Presents practical strategies to enhance job search and career management skills through the study of contemporary workplace issues including current business practices, globalization, communications, and human relations. Career-building assignments including skills and interest assessment assist students in achieving immediate and future goals.

**TASK 292 Independent Study**

**V1-8 cr.**

**TASK 294 Seminar/Workshop**

**[formerly CTBU 292 Seminar]**

**V1-3 cr.**

Provides students with the opportunity to intensely study a wide variety of topics pertinent to the field of Business and Information.

**TASK 294 Seminar/Workshop**  
**[formerly CTBU 293 Workshop]**  
**V1-3 cr.**

Provides students with the opportunity for experiential study in the varied areas of Business and Information.

**TASK 298 Internship/Cooperative Education**  
**[formerly CTBU 296 Cooperative Education/Internship]**  
**V1-9 cr. (45 hours/credit)**

Provides university credit for a sophomore work experience in the area of Business and Information Technology, supervised by faculty. Learning agreement must be completed prior to registration (restricted).

## Theatre

**\* THTR 101 Introduction to Theatre**  
**[formerly COMT 150 Introduction to Theatre and Performance]**

**3 cr.** Introduces the student to various aspects of theatre and performance with the goal of enhancing the student's enjoyment of drama and performance art. Provides the student with an understanding and an appreciation of the art of theatre.

**\* THTR 120 Introduction to Acting I**  
**[formerly COMT 250 Introduction to Acting]**  
**3 cr.** Uses theatre games and scripted material to introduce the student to basic concepts of the art of acting. Helps the student to develop an appreciation for the art of acting both from the point of view of the audience and the performer.

## Trade and Industry

**TRID 140 Automobile Sheet Metal and Structural MIG Welding**

**2 cr. (1 lec/2 lab/wk) (F)**  
Demonstrates the basic methods and techniques used in GMAW (Gas Metal Arc Welding) also referred to as MIG (Metal Inert Gas) welding. The MIG welding concentration is focused on gauges of metal used in the production of modern automobiles.

**TRID 150 Environmental and Shop Practices**  
**2 cr. (1 lec/2 lab/wk) (F, Sp)**

Informs students on safety, hazardous materials and toxic waste. Students are given a working knowledge of tool use, measuring devices, fasteners, use of shop manuals, and hazardous waste precautions and handling procedures.

**TRID 151 Welding**

**2 cr. (1 lec/2 lab/wk) (F, Sp)**

A theory and practical course designed to give students

experience in oxyacetylene welding, cutting, and arc welding processes used in the trade and industrial field applications. Various types of welders and electrodes are used for practice on weld coupons.

**TRID 152 Vehicle Heating, Ventilation and Air Conditioning**

**3 cr. (1 lec/4 lab/wk) (F, Sp)**

The auto air portion of this course is designed to help students gain an understanding and working knowledge of air conditioning systems and controls currently used in automobiles and trucks. Theory, diagnosis and service procedures, and environmental concerns are presented to give students the necessary skills to repair vehicle air conditioning systems.

**TRID 160 Hazardous Materials Technician General Training**

**3 cr. (2 lec/2 lab/wk) (Sp)**

Provides hazardous materials training needed to meet all requirements of the first responder at the awareness, operations, and technician level of emergency hazardous materials response. Technicians shall meet the training requirements in accordance with requirements of OSHA and NFPA (National Fire Protection Association).

**TRID 170 Engine Theory**

**4 cr. (4 lec/wk) Prerequisites: Eligible to enter WRIT 104 and a minimum RD 101 Compass score of 72 or appropriate transfer work. (F)**

Theory-driven introductory course that will give the student a basic understanding of compression and spark ignition engines. This course will study engine components, terminology of engine design, and will provide a basic understanding of engine design and operation. This is not an engine overhaul course.

**TRID 180 Electrical Systems**

**4 cr. (2 lec/4 lab/wk) Prerequisite: M065 or appropriate placement score. (F, Sp)**

Covers introductory material in Automotive Electrical Systems. This course is designed to give the student a strong background in the theory of operation, diagnosis, and repair of electrical and electronic systems. Theory of AC/DC electricity, Ohm's Law, magnetism, wiring, and measuring devices are discussed. Units covered include the theory of testing and/or repair of automotive and heavy-duty batteries, starters, alternators, and regulators.

**TRID 185 Introduction to Industrial Power Systems Lecture**

**2 cr. (2 lec/wk)**

Covers the fundamental principles of direct current and alternating current circuits and their use in an industrial

setting. Also includes transformers and electrical distribution systems.

**TRID 186 Introduction to Industrial Power Systems Laboratory**

**1 cr. (2 lab/wk) Corequisite: TRID 185.**

Provides students exposure to major concepts of industry through hands-on laboratory investigations and application of principles learned in TRI 185.

**TRID 190 Introduction to Residential Wiring**

**3 cr. (2 lec/2 lab/wk)**

Introduces wiring methods and materials used in single- and two-family dwellings. It covers basic installation and replacement techniques for residential electrical components.

**TRID 290 Internship**

**Credit varies.**

Integrates coursework with program-related work experience in business, industry, and/or government. Students do not receive pay. This must be coordinated through the department chairperson.

**TRID 292 Seminar**

**V1-3 cr.**

Provides students an opportunity to investigate intensively topics pertinent to the field of trade and industry.

**TRID 293 Workshop**

**V1-3 cr.**

Provides an opportunity for experimental study in an area of trade and industry.

## **Welding**

**WLDG 117 Blueprint Reading and Welding Symbols**

**[formerly METL 112 Blueprint Reading and Welding Symbols]**

**3 cr. (3 lec/wk) Prerequisite: RD 101 and WRIT 104 or compass score equivalent. (F)**

Introduces the student to structural steel, piping, and mechanical blueprint reading. Hand sketching of orthographic and isometric drawings are taught along with weld symbols and solid modeling for blueprint design.

**WLDG 124 Welding Theory, Technology and Safety [formerly METL 111 Welding Technology, Theory and Safety]**

**3 cr. (3 lec/wk) Prerequisite: RD 101 and WRIT 104 or compass score equivalent. (F)**

Examines and presents welding and shop safety, oxy-fuel safety, base metal preparation, weld quality, SMAW equipment and set-up, electrode selection, and

joint design and fit-up. Other topics introduced are air carbon arc cutting, plasma cutting, and beginning pipe welding.

**WLDG 125 Cutting and Shielded Metal Arc Welding Lab**

**[formerly METL 113 Cutting and Shielded Metal Arc Welding Lab]**

**5 cr. (10 lab/wk) Corequisite: WLDG 124. (F)**

Includes manual and semi-automated oxy-acetylene cutting processes and safety. Shielded Metal Arc Welding with 6010 electrode prepares students for the American Welding Society D1.1 and American Society of Mechanical Engineers Section IX structural certification. In addition, air carbon cutting process, plasma arc cutting process, and equipment set-up are presented. Welding shop safety and quality are emphasized.

**WLDG 126 Shielded Metal Arc Welding Lab [formerly METL 114 Shielded Metal Arc Welding Lab]**

**4 cr. (8 lab/wk) Corequisite: WLDG 124. (F)**

Continues WLDG 125 which leads the student toward American Welding Society D1.1 and American Society of Mechanical Engineers Section IX structural certification for 6010 and 7018 electrodes in all positions. Equipment set-up, operation, weld quality, and safety are emphasized.

**WLDG 153 Metal Fabrication Basics**

**[formerly METL 152 Metal Fabrication Basics]**

**3 cr. (2 lec/2 lab/wk) Prerequisites: WLDG 124, WLDG 117, WLDG 125, WLDG 126, M 111, or instructor consent. Corequisite: WLDG 154. (Sp)**

Introduces metal fabrication procedures and safe operation of fabrication equipment. Instruction covers operation of shears, press-brakes, ironworkers, punches, drill presses, CNC plasma tables, and CAD software. Common terminology, fabrication theory, material use, and equipment safety are taught.

**WLDG 154 Metal Fabrication Basics Lab [formerly METL 153 Metal Fabrication Lab]**

**3 cr. (6 lab/wk) Prerequisites: WLDG 124, WLDG 117, WLDG 125, WLDG 126, or consent of instructor. Corequisite: WLDG 153. (Sp)**

Uses techniques learned in WLDG 153 to perform layout, cutting and fabrication, fitting, and weld-out procedures applicable to fabricating a finished product or project. Includes the proper use of fabrication equipment and shop practices. Safety, accuracy, quality, and commitment to excellence are emphasized. Semester projects are assigned.

**WLDG 156 Semi-Automatic Welding**  
[formerly METL 154 Semi-Automatic Welding]  
**2 cr. (2 lec/wk) Prerequisites:** WLDG 124, WLDG 117, WLDG 125, WLDG 126, or consent of instructor. (Sp)

Prepares and teaches students basic knowledge of Gas Metal Arc Welding (GMAW), Flux Core Arc Welding (FCAW), shielded and non-shielded, and GMAW-Pulsed. Equipment needs, set-up, joint design, filler metals, shielding gasses, welding techniques, and safety will be taught.

**WLDG 157 Semi-Automatic and SMAW Lab**  
[formerly METL 155 Semi-Automatic and SMAW Lab]

**5 cr. (10 lab/wk) Prerequisites:** WLDG 124, WLDG 125, WLDG 126, or consent of instructor. **Corequisite:** WLDG 156. (Sp)

Introduces semi-automatic wire feed processes. This course leads to AWS and ASME certification of plate (all positions) with the SMAW, GMAW, GMAW-P, and FCAW-G and FCAW processes. Safe practices and weld quality are emphasized.

**WLDG 205 Applied Metallurgy**  
[formerly METL 214 Advanced Weld Technology and Theory II]

**2 cr. (2 lec/wk) Prerequisite:** Completion of first year of program or consent of instructor. (F)  
Introduces the student to weldability of metals, welding metallurgy, welding automation and robotics, and related cutting and welding processes.

**WLDG 212 Pipe Welding and Layout**  
[formerly METL 211 Pipe Welding and Layout]  
**3 cr. (1 lec/4 lab/wk) Prerequisite:** Completion of first year of program or consent of instructor. (F)  
Provides the second year welding student with an introduction to pipe layout, fitting, and welding. Instructs students in piping information, basic pipe layout practices, use of pipe layout tools, and basic pipe welding techniques for 1G rolled position, 2G, 5G, and 6G fixed position using 6010 and 7018 electrodes. Safety, quality, and proper welding techniques according to ASME SEC IX and API 1104 standards are stressed.

**WLDG 213 Pipe Welding I Lab**  
[formerly METL 212 Pipe Welding Lab I]  
**5 cr. (5 lec/10 lab/wk) Prerequisite:** Completion of first year of program or consent of instructor. **Corequisite:** WLDG 212. (F)  
Provides students with the practical application of pipe welding and fitup. Students will practice pipe layout, fitting, and welding techniques in the 1G rolled position the 2G, 5G, and 6G fixed position using 6010 and 7018

welding electrodes and semi-automatic wire processes. Quality and safety will be emphasized.

**WLDG 215 Gas Tungsten Arc Welding**  
[formerly METL 213 Gas Tungsten Arc Welding]  
**5 cr. (2 lec/6 lab/wk) Prerequisite:** Completion of first year of program or consent of instructor. (F)  
Provides an intense course in all aspects of manual gas tungsten arc welding (GTAW). Course covers welding techniques and applications, equipment setup, and procedures for ferrous and non-ferrous metals. Quality and safety will be stressed.

**WLDG 250 Metals Production**  
**2 cr. (4 lab/wk) Prerequisite:** WLDG 215. (Sp)  
Complete a project from conceptualization to final product that includes creating blueprints, developing bill of materials, and generating cost estimates. The students fabricate the project to print dimensions and tolerances. Students use CAD and other software, math skills, various welding positions, fabrication, and assembly techniques for product completion.

**WLDG 251 Specialty Welding Processes**  
[formerly METL 251 Specialty Welding Processes]  
**5 cr. (2 lec/6 lab/wk) Prerequisite:** Completion of first year of program, WLDG 213, WLDG 215, and WLDG 205 or instructor's consent. (Sp)  
Provides welding students with the practices and difficulties welding high carbon and low alloy steels, cast iron, stainless steel, and aluminum with SMAW, GTAW, GMAW, and FCAW. Welding safety will be a component of this course.

**WLDG 280 Weld Testing Certification**  
[formerly METL 253 Weld Testing and Certification]  
**2 cr. (2 lec/wk) Prerequisite:** Completion of first year of program or consent of instructor. (Sp)  
Prepares the student for weld testing and certification. Covers destructive and non-destructive testing for weld inspection. Students learn the weld certification process and welding codes governing welding.

**WLDG 281 Weld Testing Certification Lab**  
[formerly METL 254 Weld Testing and Certification Lab]  
**3 cr. (6 lab/wk) Prerequisite:** Completion of first year of program or consent of instructor. (Sp)  
Provides students with the opportunity to prepare and practice for plate and pipe tests according to AWS D1.1, API 1104, and ASME Section IX codes and standards.

**WLDG 294 Seminar/Workshop**  
**[formerly METL 292 Seminar]**  
**V1-3 cr.**

Provides students an opportunity to investigate intensively topics pertinent to the field of metal fabrication.

**WLDG 294 Seminar/Workshop**  
**[formerly METL 293 Workshop]**  
**V1-3 cr.**

Provides an opportunity for experimental study in an area of metal fabrication.

**WLDG 298 Internship/Cooperative Education**  
**[formerly METL 296 Cooperative Education/Internship]**  
**V1-9 cr. (45 hours/credit)**

Provides university credit for a sophomore work experience in the area of Welding and Metal Fabrication Technology, supervised by faculty. Learning agreement must be completed prior to registration (restricted).

## Writing

▽ **WRIT 095 Developmental Writing**  
**[formerly ENGL 100 English Essentials]**  
**3 cr. (3 lec/wk)**

Reviews basic grammar with emphasis on sentence structure and mechanics. Also presents basic writing considerations, especially paragraph organization and development of the multi-paragraph essay. Placement by student's request or by results of Writing Placement Test, SAT, or ACT and by faculty recommendation. Credits do not apply toward graduation requirements and do not fulfill General Education requirements. Credits not applicable to English major or minor. However, the credits do count towards enrollment status for financial aid.

\* ▽ **WRIT 101 College Writing I**  
**[formerly ENGL 150 College Composition]**  
**3 cr. Prerequisite: Satisfactory passing score on Placement Examination or grade of "C" or better in WRIT 095. (F, Sp)** Provides instruction in writing competencies expected of college students. Pays special attention to writing as a problem-solving process, patterns of organization in personal and informative writing, and logical thinking and style in argumentative/persuasive writing. (Course not applicable to English major or minor.)

**WRIT 104 Workplace Communications**  
**[formerly ENGL 102 English Essentials for Technical Writers]**  
**3 cr. (3 lec/wk) (F, Sp, Su)**

Designed to teach students the fundamentals of the

English language, including grammar, spelling, punctuation, and word usage, with emphasis on applying these skills in written communication for the work world.

▽ **WRIT 121 Introduction to Technical Writing**  
**[formerly ENGL 145 Technical Communication]**  
**3 cr. (3 lec/wk) Prerequisite: WRIT 095, WRIT 104, or qualifying score on placement exam and CAPP 120. (Sp)**

Introduces the student to the creation and evaluation of several kinds of written and oral technical communication.

▽ **WRIT 122 Introduction to Business Writing**  
**[formerly ENGL 140 Business Writing]**  
**3 cr. (3 lec/wk) Prerequisite: Satisfactory completion of WRIT 095, WRIT 104, or qualifying score on the placement exam. (F, Sp, Su)**

Provides instruction in the preparation of business memos, letters, reports, oral presentations, and computer assisted writing in business contexts.

**WRIT 180 Editing for Business Writing**  
**[formerly ENGL 180 Editing for Business Writing]**  
**1 cr. (1 lec/wk) Prerequisite: Satisfactory completion of one of the following: WRIT 122, WRIT 121, WRIT 101, an approved college English course, or qualifying score on the placement exam. (Sp)**

Develops three basic editing skills necessary to achieve an on-the-job level of proficiency. This includes review and instruction on grammar, usage, and style as they apply to the modern office environment.

\* **WRIT 201 College Writing II**  
**[formerly ENGL 226 Research Writing]**  
**3 cr. Prerequisite: WRIT 101. (F, Sp)** Provides opportunities for students to develop writing and thinking skills that are both relevant and adaptable to many writing situations and assignments. Includes basic research writing and information gathering skills appropriate to a variety of academic disciplines. Students will be instructed in the use of both the M.L.A. and the A.P.A. systems of documentation.

\* **WRIT 220 Business & Professional Writing**  
**[formerly ENGL 201 Business Communication]**  
**3 cr. Prerequisite: WRIT 101 or WRIT 122. (F, Sp)** Provides the study and practice of advanced writing for business and administrative settings. The student learns to write various kinds of messages (informational, bad news, persuasive, critical, sales/solicitation) and uses various formats (memos, letters, reports). Students work collaboratively on group writing assignments.

**\* WRIT 221 Intermediate Technical Writing****[formerly ENGL 210 Technical Writing]****3 cr. Prerequisite: WRIT 101 or WRIT 121. (even****Sp)** Emphasizes advanced strategies and techniques appropriate to descriptive and analytical writing in sciences and technical disciplines.

# Administration & Faculty

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## Glossary of Terms

The following is a collection of explanations and interpretations of terms commonly used in the City College at Montana State University Billings Catalog.

**Academic Probation** - Denotes that a student's academic performance is below standard as defined by the institution; the student is warned of possible suspension.

**Academic Record** - The unabridged and complete historical record of a student's academic coursework.

**Academic Year** - That period of time from the opening of Fall Semester to the closing of the next Spring Semester is the "academic year." Summer Session is specifically excluded.

**Accredited Institution** - A college or university accredited by or a candidate for accreditation from one of the recognized regional accrediting commissions. City College at Montana State University Billings is fully accredited by the Northwest Commission on Colleges and Universities.

**Admission** - The process of accepting a candidate for enrollment into college.

**Advising** - A service provided by a faculty member or designated person (academic advisor). An advisor guides students through academic questions, problems, and/or coursework to plan and complete a degree program.

**Adjunct Faculty** - A part-time faculty member.

**Academic Advisor** - A faculty member or designated person who guides students through academic questions, problems, and/or coursework to plan and complete a degree program.

**General Education/Related Instruction** - A common body of knowledge which supports every program of study for which a specialized associate degree or certificate is granted.

**Associate Degree** - A degree which generally requires two years to complete. MSU Billings offers Associate of Arts and Associate of Science degrees as well as the Associate of Applied Science degree.

**Auditor** - One who enrolls in a class for informational instruction only. No academic credit is granted for auditing a class.

**Bachelor's Degree** - A first-level degree granted upon completion of a course of study in a given field and based on at least four years of college work, or the equivalent thereof.

**Candidate for a Degree or Certificate** - A status students assume when they have completed all requirements for a degree and apply for graduation. To apply for graduation a student completes an application for graduation at the Admissions and Records Office, pays a fee, and returns the application to the Admissions and Records Office.

**Certificate** - Official recognition denoting successful completion of a technical body of knowledge.

**Class Schedule** - The list of courses and sections offered in a given semester, including days, hours, places of meeting and names of instructors.

**College** - One of five major divisions of academic areas at MSU Billings. They are the College of Allied Health Professions, the College of Arts and Sciences, the College of Business, the College of Education, and City College at MSU Billings. Each College is headed by a dean who reports to the Provost and Academic Vice Chancellor.

**Core Courses** - Courses required by the University, the College, or the department by all students in a degree program regardless of the option or concentration in which they may choose to major.

**Course** - A unit of academic work in a particular subject, normally one semester long, for which credit toward graduation is usually given.

**Course Load** - The number of semester credit hours associated with the academic work in which a student is enrolled in any given term.

**Credit Hours** - Normally one semester credit hour represents 60 minutes of classroom instruction each week for one semester. (Credit in a laboratory or studio class may require a longer period of time). A three credit class will meet for three 60-minute or two 90-minute sessions each week for the entire semester.

**Degree** - An academic title MSU Billings is authorized to confer as official recognition to those who complete an academic program. An example is a Bachelor of Applied Science Degree.

**Degree or Certificate Program** - A prescribed course of study which leads to a degree or certificate.

**Electives** - Courses which are not a required part of a degree program are electives. Some departments may insist that their majors choose between certain electives (referred to as Restricted Electives).

**Extension Class** - A special class offered through the Center for Continuing Education, Summer Session, and Community Service. A special fee is required and the course may be offered for regular college credit or it may be a noncredit course.

**Faculty Advisor** - A faculty member who helps a student plan and complete a degree program.

**Fall Start Program** – Programs which start their class rotations only in the Fall semester. Please note that some students may need a prerequisite semester of training.

**Full-time Student** - An undergraduate student registered for 12 or more semester credits, or any graduate student registered for nine or more semester credits is considered a full-time student.

**Good Standing** - Status denotes that a student is eligible to continue at or return to an institution.

**Grade Point Average (GPA)** - The grade average a student earns for each semester. It is calculated by multiplying the number of credits given for a course times the value of the grade received for the course (A=4, B=3, C=2, D=1, F=0), adding the value calculated for each class and dividing by the total number of credits. Thus, if a student has an “A” in a 4 credit course; a “B” in a 3 credit course; a “C” in a 2 credit course, and a “D” in a 2 credit course the GPA calculation would be as follows:

A=4 times 4 credits	=16 grade points
B=3 times 3 credits	= 9 grade points
C=2 times 2 credit	= 4 grade points
D=1 times 2 credits	= 2 grade points
Total=31 grade points divided by 11 total credits	=2.82 GPA.

**Grade Report** - A report of the student’s grades earned at the end of each semester.

**Graduation Check** - The determination of whether a student has met the specified minimum educational requirements necessary for the granting of a degree.

**Headcount** - The number of students enrolled in an educational institution, program, course, etc., without regard to the number of credit hours being taken by individual students.

**Hours** - Sometimes referred to as semester credit hours unless specifically stated otherwise.

**Human Services** - A broad field of human endeavor in which individuals act as agents to assist individuals, families, and communities to better cope with crisis, change, and stress; to prevent or alleviate stress; and to function effectively in all areas of life and living.

**Intersession** - An enrollment period that is held between the end of Fall term and the beginning of Spring term.

**Laboratory** - A course involving supervised experimentation or practice related to a program area. It generally requires hands-on use of equipment and materials.

**Major** - The area in which a student concentrates. An academic major is required for graduation.

**Moratorium** - The academic program remains in the catalog, but the University has temporarily suspended admission to the program.

**Part-time Student** - A student enrolled with 11 or fewer credits.

**Pre-registration** - The process by which students select courses for a succeeding term in advance of the official opening date of the semester.

**Prerequisite** - A course to be completed successfully or a condition to be met before a student may enroll in a specific course.

**Probation** - Academic probation is the result of unsatisfactory scholarship. It is not a penalty but a warning and an opportunity to improve.

**Registration** - The process by which students officially enroll in classes and pay fees. Students must be formally admitted to MSU Billings before they may register.

**Restricted Electives** - Courses where students choose between several particular classes to meet requirements of the University, College or department.

**Section** - A division of a course, as between one or more instructors, but having the same course title and the same subject matter.

**Semester** - An enrollment period of about sixteen to eighteen weeks.

**Semester Credit Hours** - Units of credit awarded for successful completion of academic work. Students' progress toward fulfilling curricular, degree and certificate requirements is measured in terms of semester credit hours.

**Spring Start Program** – Programs which start their class rotations only in the Spring semester. Please note that some students may need a prerequisite semester of training.

**Summer Session** - An enrollment period that begins after the Spring Semester ends.

**Suspension** - Academic suspension is an involuntary separation of the student from the University for unsatisfactory scholarship. Financial Aid also has suspension policies. (See Minimal Academic Progress or the Financial Aid section for details.)

**Transcript** - An Official Transcript is an unabridged and certified copy of a student's permanent academic record. A small fee is charged for each copy. (An uncertified working copy of the student's academic record is available at no charge).

**U-card** - Usually this refers to your ID card used to make purchases at the food services on campus.

**Undergraduate Student** - A student who has not yet earned a bachelor's degree or who has earned a bachelor's degree, but is a candidate for an additional bachelor's degree, or is pursuing additional undergraduate coursework.

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